STRATEGIC ENVIRONMENTAL ASSESSMENT
ENVIRONMENTAL REPORT

FOR THE

DRAFT
WIND ENERGY
DEVELOPMENT GUIDELINES 2019

for: **Department of Housing, Planning and Local Government**

Custom House

Dublin 1

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Table of Contents

List of Abbreviations ..... **v**

Glossary ..... **vii**

Section 1 SEA Introduction and Background **1**

1.1 Introduction and Terms of Reference 1
1.2 SEA Definition 1
1.3 SEA Directive and its transposition into Irish Law 1
1.4 Implications for the Draft Guidelines 1

Section 2 The Draft Guidelines **3**

2.1 Introduction 3
2.2 "Preferred Draft Approach" to the Draft Guidelines 3
2.3 Relationship with other relevant Plans and Programmes 5

Section 3 SEA Methodology **6**

3.1 Introduction to the Iterative Approach 6
3.2 Appropriate Assessment and Integrated Biodiversity Impact Assessment 7
3.3 Flood Risk Statement 7
3.4 Scoping 8
3.5 Environmental Report 8
3.6 SEA Statement 8

Section 4 Relevant Aspects of the Current State of the Environment **10**

4.1 Introduction 10
4.2 National Reporting on the Environment 10
4.3 Likely Evolution of the Environment in the Absence of the Draft Guidelines 10
4.4 Population and Human Health 11
4.5 Biodiversity and Flora and Fauna 15
4.6 Soil 23
4.7 Water 24
4.8 Air and Climatic Factors 30
4.9 Material Assets 34
4.10 Cultural Heritage 35
4.11 Landscape 38

Section 5 Strategic Environmental Objectives **41**

Section 6 Description of Alternatives **46**

6.1 Introduction 46
6.2 Need for the Review 46
6.3 Alternatives for Noise 46
6.4 Alternatives for Shadow Flicker 47
6.5 Alternatives for Visual Amenity Setback 47
6.6 Alternatives for Community Consultation 48
6.7 Alternatives for Community Dividend 48
6.8 Alternatives for Grid Connection 48

Section 7 Evaluation of Alternatives 49

7.1 Introduction 49
7.2 Methodology 49
7.3 Detailed Evaluation of Alternatives 51
7.4 Selected Alternatives and Overall Findings 62

Section 8 Evaluation of the Draft Guidelines 63

8.1 Introduction 63
8.2 Overall Evaluation (including Transboundary) 65
8.3 Appropriate Assessment and Flood Risk 70
8.4 Cumulative Effects and Interrelationships between Environmental Components 70
8.5 More Detailed Evaluation of Parts of the Guidelines 73

Section 9 Mitigation Measures 81

9.1 Introduction 81
9.2 Early work undertaken by the Department to ensure contribution towards environmental protection and sustainable development 81
9.3 Consideration of alternative approaches to key issues 82
9.4 Integration of individual measures in advance of the SEA 82
9.5 Integration of individual measures as a result of the iterative SEA/Plan -preparation process 82

Section 10 Monitoring Programme 88

10.1 Introduction 88
10.2 Indicators and Targets 88
10.3 Hierarchy of Monitoring and Sources 88
10.4 Reporting 89

Appendix I Relationship with Legislation, Plans and Programmes 94

Appendix II SEA Scoping Report 116

Appendix III: Environmental Report Non-Technical Summary..(separately bound)

List of Figures

Figure 3.1 Guidelines and Environmental Assessments: Process and Outputs Overview 6
Figure 4.1 Population Density 13
Figure 4.2 Settlements Distribution 14
Figure 4.3 Special Areas of Conservation and Special Protection Areas 20
Figure 4.4 Natural Heritage Areas, Proposed Natural Heritage Areas, Areas likely to contain Annex I Habitats and Northern Ireland Areas of Special Scientific Interest 21
Figure 4.5 UNESCO World Heritage Sites and Biosphere Reserves, Tentative List of World Heritage Sites, National Parks and Northern Ireland Areas of Outstanding Natural Beauty 22
Figure 4.6 Water Framework Directive Registers of Protected Areas 28
Figure 4.7 Water Sensitivity within River Basin Districts 29
Figure 4.8 Selected Archaeological and Architectural Heritage Designations 37
Figure 4.9 Potentially Sensitive Landcovers 40

List of Tables

Table 3.1 Checklist of Information included in this Environmental Report 9
Table 5.1 Strategic Environmental Objectives (SEO), Indicators and Targets 42
Table 7.1 Strategic Environmental Objectives 50
Table 7.2 Sample of Criteria for appraising the effect of Alternatives on SEOs 50
Table 7.3 Potentially Significant Environmental Effects Common to All Alternatives 52
Table 7.4 Comparative Evaluation of Alternatives for Approach to the Aspect of Noise against SEOs 58
Table 7.5 Comparative Evaluation of Alternatives for Approach to the Aspect of Shadow Flicker against SEOs 58
Table 7.6 Comparative Evaluation of Alternatives for Approach to the Aspect of Visual Amenity Setback against SEOs 59
Table 7.7 Comparative Evaluation of Alternatives for Approach to the Aspect of Community Consultation against SEOs 60
Table 7.8 Comparative Evaluation of Alternatives for Approach to the Aspect of Community Dividend against SEOs 60
Table 7.9 Comparative Evaluation of Alternatives for Approach to the Aspect of Grid Connection against SEOs 61
Table 7.10 Selected Alternatives 62
Table 8.1 Criteria for appraising the effect of the Guidelines on SEOs 63
Table 8.2 Strategic Environmental Objectives 64
Table 8.3 Overall Evaluation – Likely Environmental Effects arising from the Draft Guidelines, in combination with the wider planning framework 66
Table 8.4 Presence of Interrelationships between Environmental Components 72
Table 9.1 SEA/AA/FRS Recommendations integrated into the Guidelines 83
Table 10.1 Selected Indicators, Targets and Monitoring Sources 90

List of Abbreviations

AA	Appropriate Assessment
ACA	Architectural Conservation Area
AONB	Area of Outstanding Natural Beauty
ASSI	Areas of Special Scientific Interest
CAFE	Cleaner Air for Europe
CORINE	Co-ORdinated INformation on the Environment
CFRAM	Catchment Flood Risk Assessment and Management
CSO	Central Statistics Office
DAFM	Department of Agriculture, Food and Marine
DCCAE	Department of Communication, Climate Action and Environment
DCHG	Department of Culture, Heritage and the Gaeltacht
DHPLG	Department of Housing, Planning and Local Government
EIA	Environmental Impact Assessment
EPA	Environmental Protection Agency
EQS	Environmental Quality Standard
EU	European Union
FRS	Flood Risk Statement
GFC	Gross Final Consumption
GSI	Geological Survey of Ireland
LCA	Landscape Character Areas
NHA	Natural Heritage Area
NIAH	National Inventory of Architectural Heritage
NIEA	Northern Ireland Environment Agency
OPW	Office of Public Works
OREDP	Offshore Renewable Energy Development Plan
pNHA	proposed Natural Heritage Area
PAS	Priority Action Substance
POP	Persistent Organic Pollutant
RAL	Remedial Action List
RMP	Record of Monuments and Places
RPA	Register of Protected Areas
RPS	Record of Protected Structures
RPGs	Regional Planning Guidelines
RBD	River Basin District
RBMP	River Basin Management Plan
RSES	Regional Spatial and Economic Strategy
cSAC	Candidate Special Area of Conservation

SAC	Special Area of Conservation
SEA	Strategic Environmental Assessment
SEO	Strategic Environmental Objective
SI No.	Statutory Instrument Number
SPA	Special Protection Area
TPOs	Tree Preservation Orders
UNESCO	United Nations Educational, Scientific and Cultural Organisation
WHO	World Health Organisation
WFD	Water Framework Directive

Glossary

Appropriate Assessment

The obligation to undertake Appropriate Assessment derives from Article 6(3) and 6(4) of the Habitats Directive 92/43/EEC. AA is a focused and detailed impact assessment of the implications of a strategic action (such as a plan or programme) or project, alone and in combination with other strategic actions and projects, on the integrity of a European Site in view of its conservation objectives.

Biodiversity and Flora and Fauna

Biodiversity is the variability among living organisms from all sources including inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are a part; this includes diversity within species, between species and of ecosystems' (United Nations Convention on Biological Diversity 1992).

Flora is all of the plants found in a given area.

Fauna is all of the animals found in a given area.

Environmental Problems

Annex I of Directive 2001/42/EC of the European Parliament and of the Council of Ministers, of 27th June 2001, on the assessment of the effects of certain plans and programmes on the environment (the Strategic Environmental Assessment Directive) requires that information is provided on 'any existing environmental problems which are relevant to the plan or programme', thus, helping to ensure that the proposed strategic action does not make existing environmental problems worse.

Environmental problems arise where there is a conflict between current environmental conditions and ideal targets. If environmental problems are identified at the outset they can help focus attention on important issues and geographical areas where environmental effects of the plan or programme may be likely.

Environmental Vectors

Environmental vectors are environmental components, such as air, water or soil, through which contaminants or pollutants, which have the potential to cause harm, can be transported so that they come into contact with human beings.

Mitigate

To make or become less severe or harsh.

Mitigation Measures

Mitigation measures are measures envisaged to prevent, reduce and, as fully as possible, offset any significant adverse impacts on the environment of implementing a human action, be it a plan, programme or project. Mitigation involves ameliorating significant negative effects. Where there are significant negative effects, consideration should be given in the first instance to preventing such effects or, where this is not possible, to lessening or offsetting those effects. Mitigation measures can be roughly divided into those that: avoid effects; reduce the magnitude or extent, probability and/or severity of effects; repair effects after they have occurred; and compensate for effects, balancing out negative impacts with other positive ones.

In the context of Article 6 of the Habitats Directive, mitigation measures are clearly distinguished from compensatory measures. Compensatory measures are intended to offset the negative effects of the plan or project so that the overall ecological coherence of the Natura 2000 Network is maintained.

Protected Structure

Protected Structure is the term used in the Planning and Development Act 2000 (as amended) and associated Regulations (as amended) to define a structure included by a planning authority in its Record of Protected Structures. Such a structure shall not be altered or demolished in whole or part without obtaining planning permission or confirmation from the planning authority that the part of the structure to be altered is not protected.

Recorded Monument

A monument included in the list and marked on the map which comprises the Record of Monuments and Places that is set out county by county under Section 12 of the National Monuments (Amendment) Act, 1994 by the Archaeological Survey of Ireland. The definition includes Zones of Archaeological Potential in towns and all other monuments of archaeological interest which have so far been identified. Any works at or in relation to a recorded monument requires two months' notice to the Department of Culture, Heritage and the Gaeltacht under Section 12 of the National Monuments (Amendment) Act, 1994.

Scoping

Scoping is the process of determining what issues are to be addressed, and setting out a methodology in which to address them in a structured manner appropriate to the plan or programme. Scoping is carried out in consultation with appropriate environmental authorities.

Strategic Environmental Assessment (SEA)

Strategic Environmental Assessment (SEA) is the formal, systematic evaluation of the likely significant environmental effects of implementing a plan or programme before a decision is made to adopt it.

Strategic Environmental Objective (SEO)

Strategic Environmental Objectives (SEOs) are methodological measures developed from policies which generally govern environmental protection objectives established at International, Community or Member State level and are used as standards against which the provisions of the Draft Guidelines and the alternatives can be evaluated in order to help identify which provisions would be likely to result in significant environmental effects and where such effects would be likely to occur, if - in the case of adverse effects - unmitigated.

Section 1 SEA Introduction and Background

1.1 Introduction and Terms of Reference

This is the Strategic Environmental Assessment (SEA) Environmental Report for the Draft Wind Energy Development Guidelines 2019 (referred to hereafter as the "Draft Guidelines"). It has been prepared by CAAS Ltd. on behalf of Department of Housing, Planning and Local Government.

The purpose of this report is to provide a clear understanding of the likely environmental consequences of decisions regarding the adoption and implementation of the Draft Guidelines. The SEA is carried out in order to comply with the provisions of the European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004 (SI No. 435 of 2004) as amended. This report should be read in conjunction with the Draft Guidelines.

1.2 SEA Definition

Environmental assessment is a procedure that ensures that the environmental implications of decisions are taken into account before such decisions are made. *Environmental Impact Assessment*, or EIA, is generally used for describing the process of environmental assessment for individual projects, while *Strategic Environmental Assessment* or SEA is the term which has been given to the environmental assessment of plans and programmes, which help determine the nature and location of individual projects taking place. SEA is a systematic process of predicting and evaluating the likely significant environmental effects of implementing a proposed plan or programme, in order to ensure that these effects are adequately addressed at the earliest appropriate stages of decision-making in tandem with economic, social and other considerations.

1.3 SEA Directive and its transposition into Irish Law

Directive 2001/42/EC of the European Parliament and of the Council of Ministers, of 27th June 2001, on the Assessment of the Effects of Certain Plans and Programmes on the Environment, referred to hereafter as the SEA Directive, introduced the requirement that SEA be carried out on plans and programmes which are prepared for a number of sectors, including energy.

The SEA Directive was transposed into Irish Law through the European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004 (Statutory Instrument Number (SI No. 435 of 2004) and the Planning and Development (Strategic Environmental Assessment) Regulations 2004 (SI No. 436 of 2004). Both sets of Regulations became operational on 21st July 2004. The Regulations have been amended by the European Communities (Environmental Assessment of Certain Plans and Programmes) (Amendment) Regulations 2011 (SI No. 200 of 2011) and the Planning and Development (Strategic Environmental Assessment) (Amendment) Regulations 2011 (SI No. 201 of 2011).

1.4 Implications for the Draft Guidelines

Article 9(1) to (3) of S.I. No. 435 of 2004, as amended, states:

(1) Subject to sub-article (2), an environmental assessment shall be carried out for all plans and programmes:

(a) which are prepared for agriculture, forestry, fisheries, energy, industry, transport, waste management, water management, telecommunications, tourism and town and country planning or land use, and which set the framework for future development consent of projects listed in Annexes I and II to the Environmental Impact Assessment Directive, or

(b) which are not directly connected with or necessary to the management of a European site but, either individually or in combination with other plans, are likely to have a significant effect on any such site.

(2) A plan or programme referred to in sub-article (1) which determines the use of a small area at local level or a minor modification to a plan or programme referred to in sub-article (1) shall require an environmental assessment only where the competent authority determines that it is likely to have significant effects on the environment and, for this purpose, the competent authority shall make any necessary determination.

(3) *A competent authority shall determine whether plans and programmes other than those referred to in sub-article (1), which set the framework for future development consent of projects, are likely to have significant effects on the environment.*

In line with requirements under the SEA Directive and Article 9 (1) (a) of transposing Regulations (SI 435 of 2004 as amended), an SEA is being undertaken on the Draft Guidelines. The SEA process ensures that environmental considerations are fully integrated in the preparation of plans and programmes, which provide a framework for development consent or planning permission. In addition, the consideration of alternatives in the SEA process provides the opportunity to identify and explore different ways to deliver the objectives of a plan or programme while addressing environmental issues.

The findings of the SEA are expressed in this Environmental Report, which accompanies the Draft Guidelines on public display and may be altered in order to take account of recommendations contained in submissions and/or in order to take account of any changes which are made to the Draft Guidelines on foot of submissions. The Department of Housing, Planning and Local Government will take into account the findings of this report and other related SEA output during their consideration of the Draft Guidelines and before they are finalised. When the Draft Guidelines are finalised, an SEA Statement will be prepared which will summarise, inter alia, how environmental considerations have been integrated into the Guidelines.

Section 2 The Draft Guidelines

2.1 Introduction

The DHPLG is currently conducting a review of its Wind Energy Development Guidelines 2006 with the intention to produce revised Wind Energy Development Guidelines 2019. This work is being carried out in association with the Department of Communications, Climate Action and the Environment (DCCAE) which is responsible for renewable energy policy. The 2019 Guidelines will apply to future planning applications, including the repowering and renewal of existing developments, for onshore wind energy developments.

The 2006 Guidelines offer advice to planning authorities on planning for onshore wind energy through the development plan process and in determining applications for planning permission. The Guidelines are also intended to ensure a consistency of approach throughout the country in the identification of suitable locations for wind energy development and the treatment of planning applications for wind energy developments. They should also be of assistance to developers and the wider public in considering wind energy development proposals.

The review of the Guidelines is being undertaken to reflect technological developments in the wind energy sector and to strike a balance between the concerns of local communities and the need to invest in indigenous energy projects which support Ireland's renewable energy targets. The draft Guidelines have had regard to best international practice and seek to be consistent with World Health Organisation (WHO) Guidance in relation to noise emanating from wind turbines.

This review builds upon the public consultation on the targeted review of the Guidelines that commenced in late 2013. The draft revisions at that time focused on noise, proximity, and shadow flicker. The present review has been expanded to consider the strengthening of provisions relating to community consultation, community dividend, grid connections, as well as addressing a separate issue relating to the application of the Environmental Impact Assessment Directive on projects.

It is intended that once the review is complete, the 2019 Guidelines will be issued by the Minister for Housing, Planning and Local Government under Section 28 of the Planning and Development Act 2000, as amended (the Act). The Guidelines will contain some 'specific planning policy requirements' under Section 28(1C) of the Act. Planning authorities and An Bord Pleanála will be required to have regard to these Guidelines and to apply any 'specific planning policy requirements' of the Guidelines in carrying out their functions. The Guidelines include two technical appendices to assist planning authorities in relation to noise assessment, monitoring and the setting of planning conditions. The Guidelines will apply to all future wind energy development proposals.

2.2 "Preferred Draft Approach" to the Draft Guidelines

There are a wide range of community, spatial planning, energy policy, environmental, technological and industry considerations that need to be balanced within the review of the Guidelines.

The package of measures that has emerged as part of the "preferred draft approach" has been developed in the light of the commitment under the Programme for Government to strike a better balance between addressing the concerns of local communities whilst maintaining Ireland's ability to deliver on its binding energy policy obligations. The "preferred draft approach" (announced on 13 June 2017) focuses on a number of key aspects including, sound/noise, visual amenity setback, shadow flicker, consultation obligations, community dividend and grid connections.

As higher-level government policy, the "preferred draft approach" sets the broad scope of the review of the Guidelines and it is within this scope that SEA alternatives will be considered.

Sound / Noise

Noise Limits
The "preferred draft approach" proposed noise restriction limits consistent with World Health

Organisation standards, proposing a relative rated noise limit of 5dB(A) above existing background noise within the range of 35 to 43dB(A), with 43dB(A) being the maximum noise limit permitted, day or night. The noise limits will apply to outdoor locations at any residential or noise sensitive locations.

The methodology and standards set out in the 'preferred draft approach' have been reviewed to ensure that the requirements set out in the Draft Guidelines are consistent with the 2018 World Health Organisation Environmental Noise Guidelines for the European Region 2008.

Noise Monitoring
Updated noise measures are proposed in tandem with the introduction of a new noise monitoring regime in relation to wind farms with local authorities enforcing planning conditions with the potential for technical support and advice from the Environmental Protection Agency, as appropriate. Where there is evidence of non-compliance with noise limits, wind turbines will be required to be turned off until compliance with the noise limits is proven.

Detailed technical guidance has been developed in relation to noise assessment, monitoring and the setting of planning conditions to assist planning authorities and developers in this regard.

Visual Amenity Setback

The 'preferred draft approach' proposed for visual amenity comprises a setback distance, of 4 times the tip height between a wind turbine and the nearest point of the curtilage of any residential property, subject to a mandatory minimum setback of 500 metres.

The potential for visual disturbance can be considered as dependent on the scale of the proposed turbine and the associated distance. Thus, a setback which is relative to the size of the turbine should be key to setting the appropriate setback. Setback requirements would also be subject to compliance with noise limits.

Shadow Flicker

Shadow Flicker occurs when the sun is low in the sky and the rotating blades of a wind turbine casts a moving shadow which, if it passes over a window in a nearby house or other property results in a rapid change or flicker in the incoming sunlight. The time period in which a neighbouring property may be affected by shadow flicker is completely predictable.

The 'preferred draft approach' proposes that technology and appropriate modelling at design stage to eradicate the occurrence of shadow flicker must be confirmed in all planning applications for wind energy development.

Moreover, there will be clearly specified measures for automatic wind turbine shut down, where the issue arises as a condition of planning permission. In effect, no neighbouring property will experience the occurrence of shadow flicker.

Consultation Obligations

It is proposed that there will be an obligation on the developer of a wind energy project to consult with communities, prior to submitting a planning application.

Planning authorities will take into account the degree to which the proponents of wind energy projects have meaningfully and properly consulted with and facilitated public participation in developing and refining their proposals. Projects should reflect broadly-based community perspectives, should explain the potential benefits of a project and should seek to establish relationships with the community on a long-term basis.

Community Report
Planning applications must contain a Community Report prepared by the applicant and specifying, inter alia, how the final proposal reflects community consultation.

Community Dividend

Community benefit/dividend will be a core component of future wind energy development with both community ownership and part-ownership of wind energy projects by local communities being encouraged.

Wind farm developers will also be required to take steps to ensure that the proposed development will be of enduring economic benefit to the communities concerned. While the precise benefit will vary according to the nature and scale of a project and the local communities' preferred options regarding the nature of the community benefit, it is essential that applicants/developers offer a form of

community benefit that provides for a tangible long-term dividend to the community.

Community benefit may encompass a range of measures that a project can bring to local areas. For the majority of projects, this is associated with the level of economic benefit, widely defined, that a project brings to a community. Whether in the form of local jobs and training opportunities, energy efficiency measures, and contributions in kind to local assets and facilities, it is important that community benefit is a core component of future wind farm development. Models to support community participation will be implemented as part of the new Renewable Electricity Support Scheme[1] under development by the DCCAE.

The 'preferred draft approach' for the consultation obligations and community dividend proposals will be further supported by the "Code of Practice for Wind Energy Developments – Guidelines for Community Engagement", issued by the DCCAE in December 2016 for the wind industry sector.

Grid Connection

From a visual amenity aspect, undergrounding of cable connections from wind farms to the transmission and distribution system is the most appropriate solution, except where specific ground conditions or technical considerations make this impractical.

Other Elements of the Review

Two technical appendices have been developed to assist planning authorities in relation to noise assessment, monitoring and the setting of planning conditions. The review provides an opportunity to update the Guidelines in relation to EIA requirements and compliance and the incorporation of the Interim Guidelines for Planning Authorities on Statutory Plans, Renewable Energy and Climate Change (July 2017). The review also involves updating document format, references and other text.

2.3 Relationship with other relevant Plans and Programmes

The Draft Guidelines sit within a hierarchy of strategic actions such as plans and programmes, including those detailed in Appendix I, some of which are referred to elsewhere in this report. The Guidelines must comply with relevant higher-level strategic actions and may, in turn, guide lower level strategic actions.

The Guidelines are subject to a number of high level environmental protection policies and objectives that they must comply with, including those which have been identified as Strategic Environmental Objectives in Section 5. Examples of Environmental Protection Objectives include the aim of the EU Habitats Directive - which is to contribute towards ensuring biodiversity through the conservation of natural habitats and of wild fauna and flora in the European territory of Member States - and the purpose of the Water Framework Directive - which is to establish a framework for the protection of inland surface waters, transitional waters, coastal waters and groundwater which, among other things, prevents deterioration in the status of all water bodies and protects, enhances and restores all waters with the aim of achieving good status.

[1] For further information refer to: https://www.dccae.gov.ie/en-ie/energy/topics/Renewable-Energy/electricity/renewable-electricity-supports/ress/Pages/default.aspx

Section 3 SEA Methodology

3.1 Introduction to the Iterative Approach

Figure 3.1 provides an overview of the integrated Draft Guidelines preparation, SEA, Appropriate Assessment (AA) and Flood Risk Statement (FRS) processes. The preparation of the Draft Guidelines, SEA, AA and FRS are taking place concurrently and the findings of the environmental assessments will inform the Draft Guidelines. Taking into account the content of SEA scoping submissions from environmental authorities and continuous scoping of the SEA, environmental impacts have been predicted, evaluated and mitigated. The findings of this assessment is presented in this SEA Environmental Report which accompanies the Draft Guidelines on public display as part of the required statutory public consultation (this is the current stage of the process).

An AA document and an FRS accompany the Draft Guidelines on public display. The Guidelines and associated SEA, AA and FRS documents were prepared in an iterative manner whereby multiple revisions of each document were prepared, each informing subsequent iterations of the others. Any changes to the Draft Guidelines on foot of submissions will be considered by the assessments. When the Draft Guidelines are finalised, the AA, SEA and FRS documents will be finalised and an SEA Statement, which will include information on how environmental considerations were integrated into the Guidelines, will be prepared. The Guidelines will be implemented and environmental monitoring – as well as lower tiers of assessment – will be undertaken.

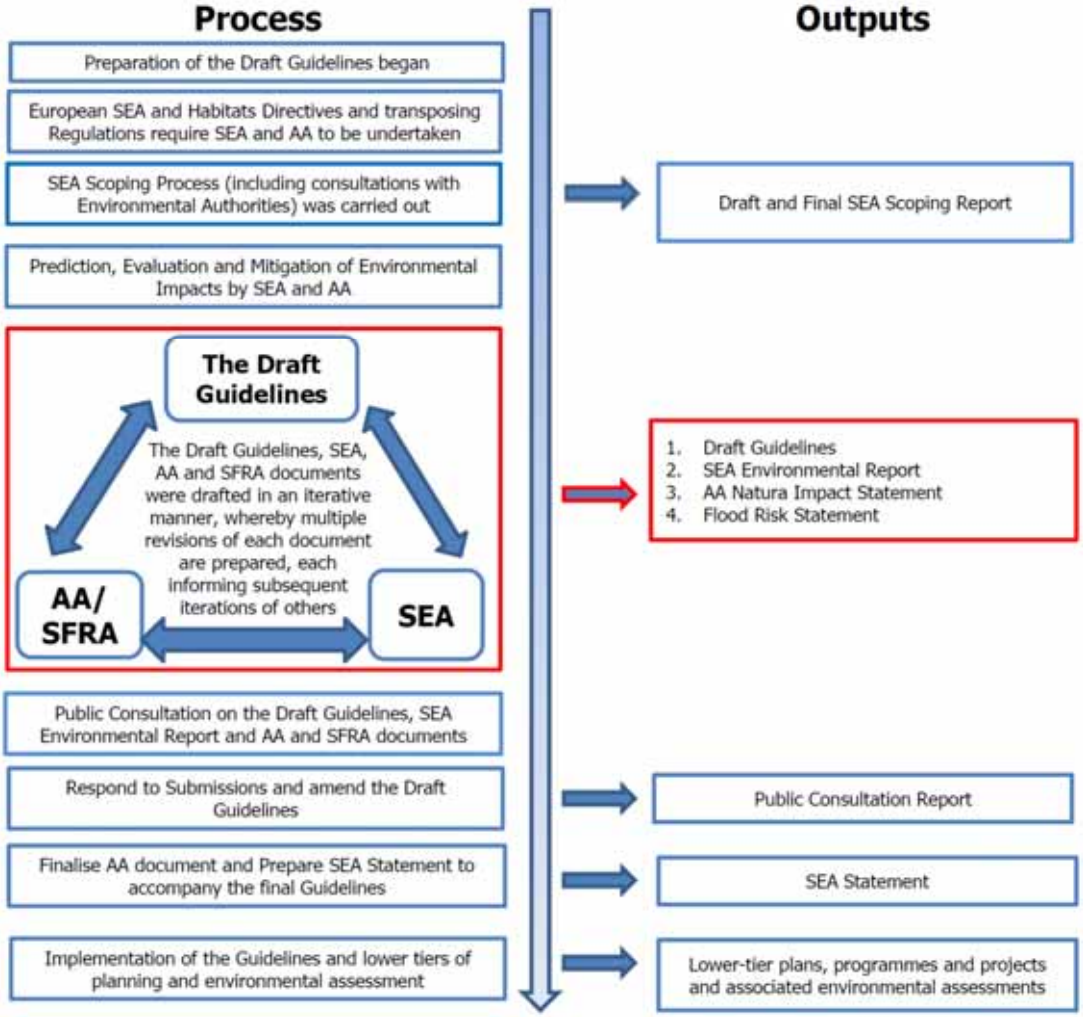


Figure 3.1 Guidelines and Environmental Assessments: Process and Outputs Overview

3.2 Appropriate Assessment and Integrated Biodiversity Impact Assessment

3.2.1 Appropriate Assessment

A Stage 2 Appropriate Assessment (AA) has been undertaken alongside preparation of the Draft Guidelines.

The requirement for AA is provided under the EU Habitats Directive (Directive 1992/43/EEC) and transposing Regulations, in this case the European Communities (Birds and Natural Habitats Regulations 2011 (S.I. No. 477 of 2011), as amended.

The conclusion of the Natura Impact Statement for the Draft Guidelines is that the Draft Guidelines will not affect the integrity of European Sites (the Natura 2000 network)[2].

The preparation of the Draft Guidelines, SEA, AA Natura Impact Statement and FRS has taken place concurrently and the findings of the AA Natura Impact Statement and FRS have informed both the Draft Guidelines and the SEA. All recommendations made by the AA were integrated into the Draft Guidelines.

3.2.2 Integrated Biodiversity Impact Assessment

Many elements of Integrated Biodiversity Impact Assessment as detailed in the EPA's (2013) Practitioner's Manual have been aligned with in the undertaking of the SEA for the Guidelines. These include:

Scoping

- Biodiversity-relevant issues were identified for consideration at scoping stage and these are now detailed in Section 4.
- Reference to a zone of influence is provided, including at Section 4.

Current State of the Environment

- Biodiversity data sources relevant for this national level assessment have been identified.
- Designated sites and other habitats and species of ecological value are identified.
- AA information has been incorporated into the SEA.

Alternatives

- Impacts upon biodiversity are considered under each of the alternatives and certain potential conflicts can be mitigated.

Impact assessment

- Effects on biodiversity are identified and assessed and the AA gives consideration to the interrelationship between biodiversity and potential effects on European Sites.

Mitigation and monitoring

- Taking into account all measures contained within the Draft Guidelines, all the proposed mitigation measures deriving from the various processes were generally consistent and compatible.
- Indicators and associated targets have been included in the SEA Environmental Report for monitoring European Sites.

Reporting

- This SEA Environmental Report addresses all biodiversity-related considerations relevant for this level of assessment.
- This SEA Environmental Report contains all biodiversity-relevant information, data, figures and maps relevant for this level of assessment.
- This SEA Environmental Report has been informed by the AA findings.

Communication and consultation

- Submissions from various environmental authorities have been taken on board.
- The preparation of the Draft Guidelines, SEA, FRS and AA has taken place concurrently and the findings of the AA have informed both the Draft Guidelines and the SEA.

3.3 Flood Risk Statement

In addition to being accompanied by SEA and AA documents, the Draft Guidelines are accompanied by a Flood Risk Statement that outlines the need for development proposals to comply with "The Planning System and Flood Risk Management Guidelines for Planning Authorities (2009) and Circular PL2/14". The Flood Risk Statement includes details on the approach to flood risk management that should be followed by prospective applicants and identifies the type of information that may be used in order to comply with the Flood Risk Management Guidelines.

[2] Except as provided for in Section 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.

3.4 Scoping

The scope of environmental issues to be dealt with by the SEA together with the level of detail to which they are addressed was decided upon taking into account the level of detail included in the Draft Guidelines, suggestions made by environmental authorities[3] at an SEA Scoping Workshop and written submissions made by environmental authorities. Scoping allowed the SEA to become focused upon key issues relevant to the environmental components which are specified under the SEA Directive[4]. A copy of the SEA Scoping Document that details the findings of the SEA scoping process is provided at Appendix II to this report.

3.5 Environmental Report

In this SEA Environmental Report, which is placed on public display alongside the Draft Guidelines, the likely significant environmental effects of the Draft Guidelines and the alternatives are predicted and their significance evaluated. The Environmental Report provides the Department, stakeholders and the public with a clear understanding of the likely environmental consequences of the Draft Guidelines.

Mitigation measures to prevent or reduce significant adverse effects posed by the Draft Guidelines are identified in Section 9 - these have been integrated into the Draft Guidelines.

The Environmental Report will be updated in order to take account of recommendations contained in submissions and in order to take account of changes which are made to the original Draft Guidelines that are being placed on public display.

The Environmental Report includes the information specified in Schedule 2 of the European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004 (SI No. 435 of 2004), as amended (see Table 3.1).

No significant difficulties have been encountered during the undertaking of the assessment to date however a potential data gap with respect to landscape was identified. There are no national datasets available for landscape and the information that is available at a county level is not consistent across all of the counties. This issue did not pose a significant difficulty for this assessment as the Guidelines did not identify specific sites for new developments and provisions were integrated into the Guidelines that will contribute towards the management and protection of landscape designations.

3.6 SEA Statement

When the Draft Guidelines are finalised, an SEA Statement will be prepared which will include information on:

- How environmental considerations have been integrated into the 2019 Guidelines, highlighting the changes to the Draft Guidelines which resulted from the SEA process;
- How the SEA Environmental Report and consultations have been taken into account, summarising the key issues raised in consultations and in the Environmental Report and indicating what action was taken in response;
- The reasons for choosing the Draft Guidelines in the light of other alternatives considered, identifying these alternatives, commenting on their potential effects and explaining why the final Guidelines were selected; and
- The measures decided upon to monitor the significant environmental effects of implementing the Guidelines.

[3] The environmental authorities for the purpose of the SEA for the Guidelines are: the Environmental Protection Agency; the Northern Ireland Environmental Agency; the Department of Culture, Heritage and the Gaeltacht; the Department of Communications, Climate Action and Environment; and the Department of Agriculture, Food and Marine.

[4] These components comprise biodiversity, fauna, flora, population, human health, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelationship between the above factors.

Table 3.1 Checklist of Information included in this Environmental Report

Information Required to be included in the Environmental Report	Corresponding Section of this Report
(A) Outline of the contents and main objectives of the plan or programme, and of its relationship with other relevant plans and programmes	Sections 2, 5 and 8
(B) Description of relevant aspects of the current state of the environment and the evolution of that environment without implementation of the plan or programme	Section 4
(C) Description of the environmental characteristics of areas likely to be significantly affected	Sections 4, 7 and 8
(D) Identification of any existing environmental problems which are relevant to the plan or programme, particularly those relating to European protected sites	Section 4
(E) List environmental protection objectives, established at international, EU or National level, which are relevant to the plan or programme and describe how those objectives and any environmental considerations have been taken into account when preparing the plan	Sections 5, 7, 8 and 9
(F) Describe the likely significant effects on the environment including on issues such as biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelationship between the above factors	Sections 7 and 8
(G) Describe any measures envisaged to prevent, reduce and as fully as possible offset any significant adverse environmental effects of implementing the plan or programme	Section 9
(H) Give an outline of the reasons for selecting the alternatives considered, and a description of how the assessment was undertaken (including any difficulties)	Sections 6, 7 and 8
(I) A description of proposed monitoring measures	Section 10
(J) A non-technical summary of the above information	Non-Technical Summary
(K) Interrelationships between each environmental topic	Addressed as it arises within each Section

Section 4 Relevant Aspects of the Current State of the Environment

4.1 Introduction

Reflecting the specifications in the SEA Directive, the relevant aspects of the current state of the environment for the following environmental components are identified in this section:

- Population and Human Health;
- Biodiversity, Flora and Fauna;
- Soil;
- Water;
- Air and Climatic Factors;
- Material Assets;
- Cultural Heritage;
- Landscape; and
- The interrelationship between the above factors.

Article 5 of the SEA Directive, in accordance with the established European principle of subsidiarity, requires that the Environmental Report includes the information that may reasonably be required taking into account, inter alia, the extent to which certain matters are more appropriately assessed at different levels in that process in order to avoid duplication of the assessment.

Taking the above into account, the information identified throughout this section is also relevant to lower tier planning and project development and associated environmental assessments.

4.2 National Reporting on the Environment

The EPA's "Ireland's Environment An Assessment 2016" provides an integrated assessment of the overall quality of Ireland's environment, the pressures being placed on it and the societal responses to current and emerging environmental issues. This report has informed various parts of the environmental baseline provided below. The key environmental challenges or messages identified by the report are:

Environment and Health and Wellbeing
Recognising the benefits of a good quality environment to health and wellbeing.

Climate Change
Accelerating mitigation actions to reduce greenhouse gas emissions and implement adaptation measures to increase resilience in dealing with adverse climate impacts.

Implementation of Legislation
Improving the tracking of plans and policies and the implementation and enforcement of environmental legislation to protect the environment.

Restore and Protect Water Quality
Implementing measures that achieve ongoing improvement in the environmental status of water bodies from source to the sea.

Sustainable Economic Activities
Integrating environmental sustainability ideas and performance accounting across economic sectors and sectoral plans should be a key policy for growth.

Nature and Wild Places
Protecting pristine and wild places that act as biodiversity hubs, contributing to health and wellbeing, and providing tourism opportunities.

Community Engagement
Informing, engaging and supporting communities in the protection and improvement of the environment.

4.3 Likely Evolution of the Environment in the Absence of the Draft Guidelines

The likely evolution of the environment in the absence of the 2019 Guidelines would correspond to the assessment of Alternative

Approach A under the various headings of aspects of noise, shadow flicker, visual amenity setback, consultation obligations, community dividend and grid connection (see Section 6 and Section 7).

4.4 Population and Human Health

4.4.1 Introduction

Data sources relating to population and human health which is relevant to the Draft Guidelines and lower tier assessments and decision making by local authorities and others include those referenced in the subsections below and the wider Central Statistics Office (CSO) database.

This environmental topic of population and human health has the potential to interact with various other topics including soils, water and air on issues such as noise, shadow flicker[5], water quality and visual amenity.

4.4.2 Population

Census 2016 results show that the population in the Republic of Ireland increased by c. 3.8% over the five years since 2011, to reach 4,761,865 persons.

Figure 4.1 shows population density (people per square km). The more densely populated areas are predominantly located within the east and midlands, including the Greater Dublin Area (i.e. Dublin City, Fingal, South Dublin, Dún Laoghaire-Rathdown, Meath, Kildare and Wicklow). Lower levels of population density are found in the north, west and the south.

The population density in the Republic of Ireland has increased to 70 persons per km^2 in 2016, up from 67 persons per km^2 in 2011 and 62 persons per km^2 recorded in 2006. The average population density in urban areas was 2,008 persons per km^2 in 2016 compared to 27 persons per km^2 in rural areas[6]. The population density of Northern Ireland (total population 1.8 million persons) is significantly higher than in the Republic (at 133 people per km^2 in 2017), as indicated on Figure 4.1.

Figure 4.2 indicates the spatial distribution of settlements across the country using the following layers of information:

- CSO Settlement Areas;
- Northern Ireland Planning Settlement Development Limits; and
- Co-ORdinated INformation on the Environment (CORINE)[7] landcover data showing continuous and discontinuous urban fabric.

A spread of settlement areas occurs throughout the country with a generally higher concentration of settlement areas in the eastern half of the country. The biggest settlements comprise Dublin, Galway, Cork, Limerick and Belfast in Northern Ireland.

4.4.3 Human Health

With regard to human health, impacts relevant to the SEA are those which arise as a result of interactions with environmental vectors (i.e. environmental components such as air, water or soil through which contaminants or pollutants, which have the potential to cause harm, can be transported so that they come into contact with human beings). Hazards or nuisances to human health can arise as a result of exposure to these vectors e.g. interactions with human health that could occur in urban locations that experience high levels of traffic congestion and associated particulate matter and noise emissions to air. Issues that present potential interactions with human health that have been addressed by the Guidelines include noise, shadow flicker[8], visual amenity disturbance to sensitive properties (which is dependent on issues including scale and distance), soil stability issues, water quality, air traffic control operation systems and flight paths and changes to drainage regimes. These issues are identified under the relevant environmental component and potential interactions have been taken into account by the provisions contained within the Guidelines. Emission limits for discharges to air, soil and water are set with regards to internationally recognised exposure limit values. These are generally set to be many times the safe exposure limit - in order to provide protection. In the event that a plan or programme began

[5] 'Shadow flicker' occurs when the sun is low in the sky and the rotating blades of a wind turbine casts a moving shadow which, if it passes over a window in a nearby house or other property results in a rapid change or flicker in the incoming sunlight.

[6] CSO (2018); *Census Results 2016*

[7] Please refer to Section 4.5.1 for further detail.

to have adverse health effects on surrounding populations it is likely that it would have been identified as being in breach of such emission standards at a very early stage - and long before the manifestation of any adverse health effects in the population.

4.4.4 Existing Problems

Various issues that present potential interactions with human health have been taken into account by the provisions contained within the Guidelines.

There have been previous complaints[9] from the public regarding noise nuisance from a number of wind farms. The Draft Guidelines contain various provisions relating to noise.

Subject to exemptions provided for by Article 4 of the Water Framework Directive (WFD), based on available water data, certain surface and groundwater bodies will need improvement in order to comply with the objectives of the WFD. The Draft Guidelines contain various provisions relating to the protection/management of water bodies.

There is historic and predictive evidence of flood risk at various locations throughout the country. The Draft Guidelines are accompanied by a Flood Risk Statement that includes details on the approach to flood risk management that should be followed by prospective applicants.

[9] On a foot of complaints from the public regarding noise nuisance from wind farms, Wexford County Council carried out extensive noise survey of the sound emitting from 4 adjacent wind farms and their wind turbines in 2016. The reports detailing the findings of the study did not identify non-compliance with planning conditions however it did identify that guidance is needed on the threshold for 'compliance' with planning conditions.

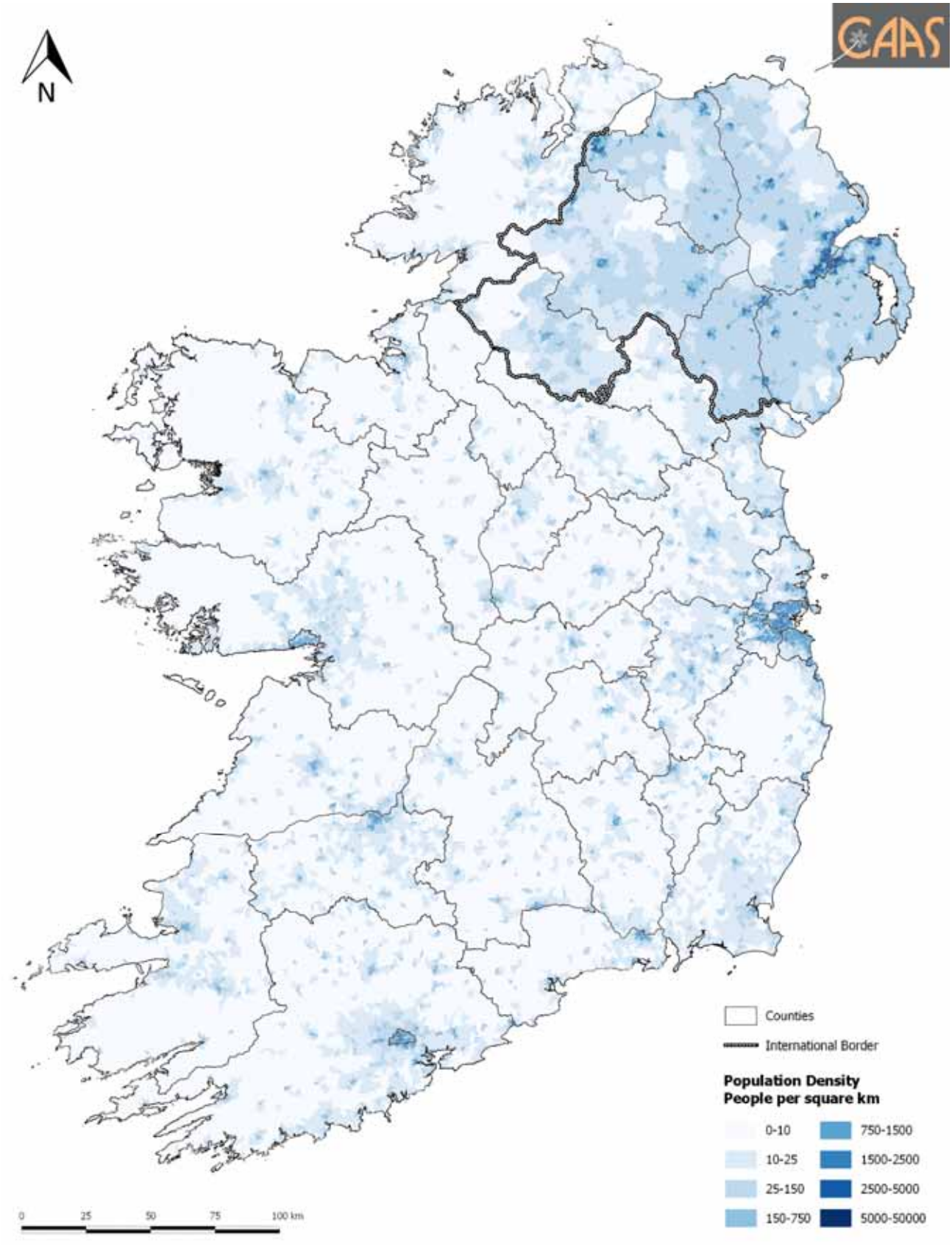


Figure 4.1 Population Density

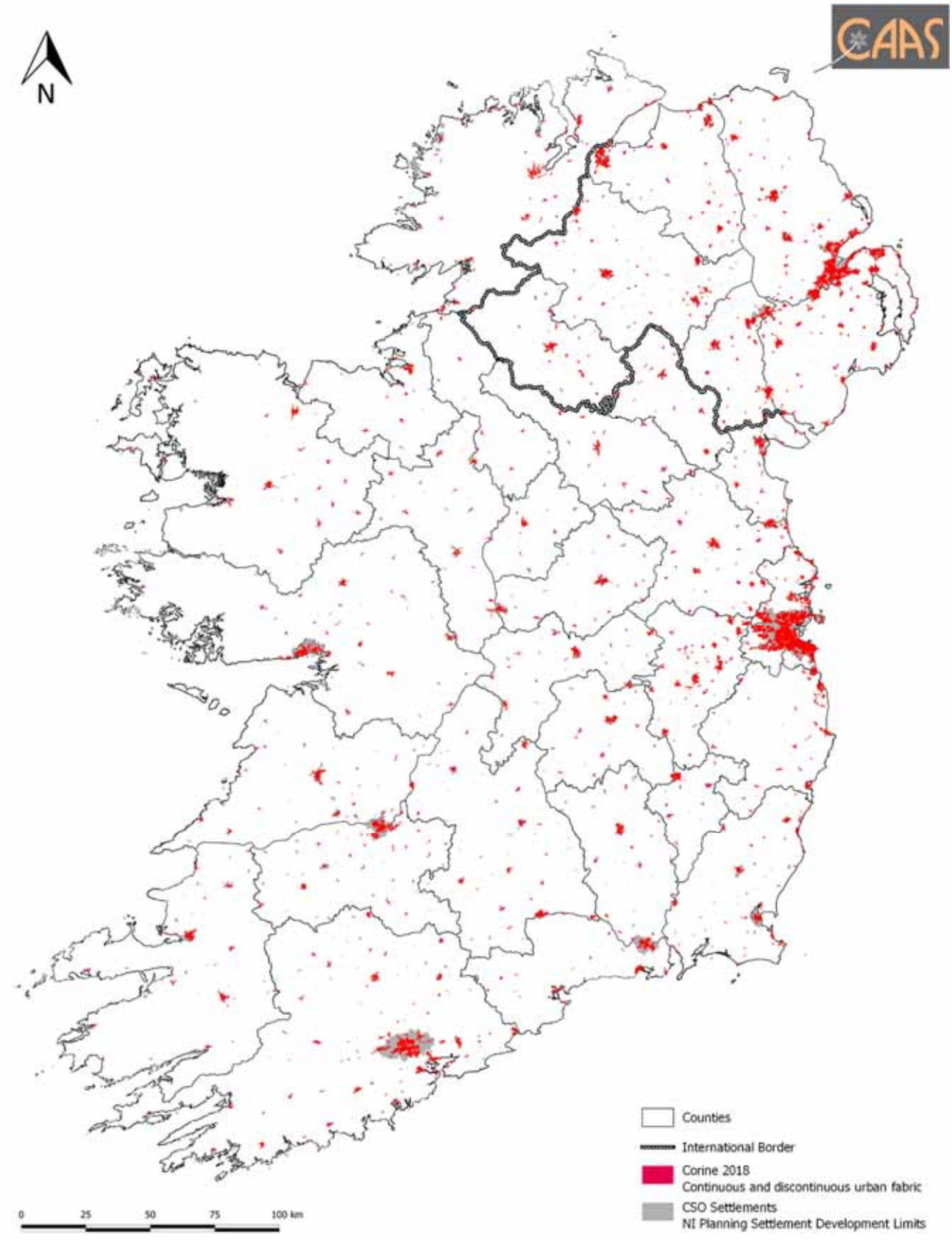


Figure 4.2 Settlements Distribution

4.5 Biodiversity and Flora and Fauna

4.5.1 Introduction

Information on biodiversity and flora and fauna which is relevant to the Draft Guidelines and lower tier assessments and decision making includes available information on:

- Designated ecological sites and protected species,
- Ecological connectivity (including stepping stones and corridors) and
- Non-designated habitats.

Sources for this information includes the following:

- National Parks and Wildlife Service online database;
- Site Management Plans;
- National Biodiversity Data Centre;
- Irelands National Biodiversity Plan;
- Invasive Species Ireland website;
- Habitat Mapping and Green Infrastructure/Ecological Corridors;
- WFD Ireland website;
- River Basin Management Plans;
- Marine Strategy Framework Directive Ireland website;
- EPA Geoportal;
- Species/habitats information from organisations such as Birdwatch Ireland and Eurobats;
- Department of Agriculture, Environment and Rural Affairs Northern Ireland: designated sites online resources;
- Review of the Impact of Onshore Wind Energy Development on Biodiversity (2014); and Onshore Renewable Electricity Action Plan SEA.

Types of habitats occurring in Ireland listed in The Heritage Council's 2000 "A Guide to Habitats in Ireland" comprise: freshwater habitats; grassland and marsh habitats; heath and dense bracken; peatlands; woodland and scrub; exposed rock and disturbed ground; cultivated and built land; coastland; littoral (intertidal); sublittoral (subtidal); and marine water body.

Ecological designations include:

- Special Areas of Conservation (SACs) and Candidate Special Areas of Conservation[10] (cSACs);
- Special Protection Areas[11] (SPAs);
- United Nations Educational, Scientific and Cultural Organisation (UNESCO) World Heritage and UNESCO Biosphere sites[12];
- Ramsar Sites[13];
- Salmonid Waters[14];
- Shellfish Waters[15];

[10] SACs have been designated for protection under the European Council Directive on the conservation of natural habitats and of wild fauna and flora (92/43/EEC) due to their conservation value for habitats and species of importance in the European Union. cSACs have not been formally designated and are *candidate* sites because they are currently under consideration by the Commission of the European Union. cSACs are afforded the same protection as SACs. The Habitats Directive seeks to establish Natura 2000, a network of protected areas throughout the EU. It is the responsibility of each member state to designate SACs to protect habitats and species, which, together with the SPAs designated under the Directive on the conservation of wild birds (2009/147/EC), form Natura 2000. Both SACs and cSACs are referred to in this report under the heading of SACs hereafter.

[11] SPAs have been selected for protection under the Directive on the conservation of wild birds (2009/147/EC) - referred to as the Birds Directive due to their conservation value for birds of importance in the European Union.

[12] UNESCO World Heritage List comprises sites of outstanding universal value: cultural, natural or mixed. The UNESCO Biosphere Reserves List comprises areas of terrestrial and coastal ecosystems promoting solutions to reconcile the conservation of biodiversity with its sustainable use.

[13] Ramsar sites are designated and protected under the Convention of Wetlands of International Importance, especially as Water Fowl Habitat, which was established at Ramsar in 1971 and ratified by Ireland in 1984. Ireland presently has 45 sites designated as Wetlands of International Importance, with surface areas of 66,994 hectares. The objective of a Ramsar site is the conservation of wetlands for wildfowl. While Ireland ratified the Ramsar Convention in 1984 there is no legal backing for Ramsar sites unless they are also Nature Reserves or SPAs and as such are protected by the Wildlife Acts 1976 and 2000 or the Birds or Habitats Directives.

[14] Salmonid waters are designated and protected as under the European Communities (Quality of Salmonid Waters) Regulations 1988 (SI No. 293 of 1988). Designated Salmonid Waters are capable of supporting salmon (Salmo salar), trout (Salmo trutta), char (Salvelinus) and whitefish (Coregonus).

[15] In order to protect existing shellfish waters and to ensure the future protection of these areas, the European Union introduced the Shellfish Waters Directive (2006/113/EC). The purpose of this Directive is to put in place concrete measures to protect waters, including shellfish waters, against pollution and to safeguard certain shellfish populations from various harmful consequences, resulting from the discharge of pollutant substances into the sea. The Directive applies to the aquatic habitat of bivalve and gastropod molluscs only (includes oysters, mussels, cockles, scallops and clams). It does not include crustaceans such as lobsters, crabs and crayfish.

- Freshwater Pearl Mussel catchments[16];
- Flora Protection Order[17] sites;
- Nature Conservation Sites[18] (including Nature Reserves);
- Certain entries to the Water Framework Directive Register of Protected Areas[19];
- Natural Heritage Areas (NHAs) and proposed Natural Heritage Areas (pNHAs)[20];
- Wildfowl Sanctuaries (see S.I. 192 of 1979)[21]; and
- Tree Preservation Orders (TPOs)[22].

Relevant ecological designations in Northern Ireland include:

- European Sites (see description above);
- Areas of Special Scientific Interest (ASSIs)[23];
- Nature Reserves[24]; and
- Ramsar Sites (see description above).

Protected Species include:

- Annex IV (Habitats Directive) species of flora and fauna, and their key habitats (i.e. breeding sites and resting places), which are strictly protected wherever they occur, whether inside or outside the above sites, e.g. Otter and bats;
- Other species of flora and fauna and their key habitats which are protected under the Wildlife Acts, 1976-2000, wherever they occur; and
- 'Protected species and natural habitats' as defined in the European Liability Directive (2004/35/EC) and European Communities (Environmental Liability) Regulations, 2008, including: Birds Directive – Annex I species and other regularly occurring migratory species, and their habitats (wherever they occur) and Habitats Directive – Annex I habitats, Annex II species and their habitats, and Annex IV species and their breeding sites and resting places (wherever they occur).

The following information is relevant to ecological networks and connectivity and non-designated habitats:

- Land cover mapping (including areas likely to contain a habitat listed in Annex I of the Habitats Directive)[25];

[16] Freshwater pearl mussel is a globally threatened, long-lived and extremely sensitive species that can be impacted by many forms of pollution, particularly sediment and nutrient pollution and by hydrological and morphological changes, which may arise from developments, activities or changes in any part of the catchment.

[17] The current list of plant species protected by Section 21 of the Wildlife Act, 1976 (as amended) is set out in the Flora (Protection) Order, 2015.

[18] The Act defines a 'Nature Conservation Site' as:
(a) a European site,
(b) an area proposed as a natural heritage area and the subject of a notice made under section 16(1) of the Wildlife (Amendment) Act 2000,
(c) an area designated as a natural heritage area by a natural heritage area order made under section 18 of the Wildlife (Amendment) Act 2000,
(d) a nature reserve established under an establishment order made under section 15 (amended by section 26 of the Wildlife (Amendment) Act 2000) of the Wildlife Act 1976,
(e) a nature reserve recognised under a recognition order made under section 16 (amended by section 27 of the Wildlife (Amendment) Act 2000) of the Wildlife Act 1976, or
(f) a refuge for fauna or flora designated under a designation order made under section 17 (amended by section 28 of the Wildlife (Amendment) Act 2000) of the Wildlife Act 1976.

[19] In response to the requirements of the Water Framework Directive a number of water bodies or parts of water bodies which must have extra controls on their quality by virtue of how their waters are used by wildlife have been listed on Registers of Protected Areas (RPAs). RPAs include those for Protected Habitats or Species, Shellfish, Salmonid, Nutrient Sensitive Areas, Recreational Waters and Drinking Water.

[20] NHAs are designated due to their national conservation value for ecological and/or geological/geomorphological heritage. They cover nationally important semi-natural and natural habitats, landforms or geomorphological features, wildlife plant and animal species or a diversity of these natural attributes. NHAs are designated under the Wildlife (Amendment) Act 2000. pNHAs were published on a non-statutory basis in 1995, but have not since been statutorily proposed or designated. These sites are of significance for wildlife and habitats.

[21] Wildfowl Sanctuaries are areas that have been excluded from the 'Open Season Order' so that game birds can rest and feed undisturbed. There are 68 sanctuaries in the State. Shooting of game birds is not allowed in these sanctuaries.

[22] TPOs are a planning mechanism whereby individual trees or groups of trees can be identified as important and protected by a TPO.

[23] Areas of Special Scientific Interest (ASSIs) are protected areas that represent the best of Northern Ireland's wildlife and geological sites that make a considerable contribution to the conservation of Northern Ireland's most valuable natural places.

[24] Nature reserves are chosen from among the very best examples of Northern Ireland's wildlife, habitats and geology. They contain a wide range of species, communities and geology and their designation is a public recognition of their importance.

[25] CORINE land cover mapping classifies land cover under various headings. This dataset allows for the identification of lands that are likely to be most valuable to biodiversity including those which are likely to contain a habitat listed in Annex 1 of the Habitats Directive e.g. natural grasslands, peat bogs, salt marshes. CORINE Land Cover is a map of the European environmental landscape based on interpretation of satellite images. Land cover is the observed physical cover, as seen from the ground or through remote sensing, including for example natural or

- Watercourses, wetlands and peatlands;
- Other relevant County Development Plan designations;
- The EPA's Framework National Ecological Network for Ireland[26]; and
- Other sites of high biodiversity value or ecological importance as identified by, for example, the Department of Agriculture, Food and the Marine (badger sets), relevant datasets from the National Biodiversity Data Centre and BirdWatch Ireland's 'Important Bird Areas' (Crowe et al., 2009).

Ecological networks are important in connecting areas of local biodiversity with each other and with nearby designated sites so as to prevent islands of habitat from being isolated entities. They are composed of linear features, such as treelines, hedgerows and rivers/streams, which provide corridors or stepping stones for wildlife species moving within their normal range. They are important for the migration, dispersal and genetic exchange of species of flora and fauna particularly for mammals, especially for bats and small birds and facilitate linkages both between and within designated ecological sites, the non-designated surrounding countryside and urban areas.

Article 10 of the Habitats Directive recognises the importance of ecological networks as corridors and stepping stones for wildlife, including for migration, dispersal and genetic exchange of species of flora and fauna. The Directive requires that ecological connectivity and areas of ecological value outside the Natura 2000 network of designated ecological sites are maintained.

Ecological islands or areas of habitat that are not connected to surrounding ecologically valuable habitats can also be important.

The Zone of Influence of the Guidelines under this environmental component is considered to be all biodiversity and flora in Ireland and all connected – hydrologically or otherwise – biodiversity and flora and fauna beyond the boundary with Northern Ireland.

4.5.2 Further Detail

4.5.2.1 European Sites

Additional information on European Sites is provided in the AA Natura Impact Statement which accompanies the Draft Guidelines and this Environmental Report on public display. Figure 4.3 maps Special Areas of Conservation (SACs) and Special Protection Areas (SPAs). River Basin Districts are also shown on this map. The Habitats Directive lists certain habitats and species that must be protected within SACs. Irish habitats for which SACs may be designated include raised bogs, blanket bogs, turloughs, sand dunes, machair, heaths, lakes, rivers, woodlands, estuaries and sea inlets.

Ireland's SPAs include productive intertidal zones and estuaries that provide vital food resources for various bird species. They cover inland wetland sites, blanket bog, agricultural land and marine and coastal habitats.

In general, and on a national level, ecological sensitivities occur in the greatest concentrations in the western half of the country and in particular along the western seaboard (including north-western and south-western coasts). Designated inland areas are generally concentrated around water bodies, bogs and upland areas. Other areas of significant extent designated include estuaries, islands and mountain areas, including those at the Wicklow Mountains to the south of Dublin. Please refer to Figure 4.3 for more details.

4.5.2.2 Potential Habitat Sensitivity

Potential Habitat Sensitivity is mapped on Figure 4.4 and includes Natural Heritage Areas, Proposed Natural Heritage Areas, Areas likely to contain Annex I Habitats and Areas of Special Scientific Interest (in Northern Ireland only).

Areas likely to contain Annex I Habitats comprise areas such as: broad-leaved forest, peat bog, natural grassland, water bodies, coastal lagoons, mixed forests, moors and heaths, intertidal flats, beaches, dunes, sand, inland marshes, stream courses, estuaries, sparsely vegetated areas, burnt areas, salt marshes, bare rocks, transitional woodland

planted vegetation, water and human constructions which cover the earth's surface.

[26] The EPA's Framework National Ecological Network provides a classification of the relative importance of areas by virtue of the biodiversity and flora that they contain and the connectivity they provide. Many of the areas identified are corridors.

scrub and land principally occupied by agriculture with areas of natural vegetation.

Where they occur, NHA and pNHA designations often overlap with European Sites boundaries. Greater concentrations of these sites occur in the western half of Ireland (including counties of Kerry, Clare, Galway, Mayo, Sligo and Donegal) and elsewhere in the country around lakes, bog areas, the Grand and Royal Canals, Shannon Estuary, Wicklow uplands, and coastal areas including islands and marine waters.

Areas of Special Scientific Interest (ASSIs) are protected areas that represent the best of Northern Ireland's wildlife and geological sites that make a considerable contribution to the conservation of Northern Ireland's most valuable natural places. There are a number of Areas of Special Scientific Interest located within Northern Ireland. These sites are also mapped on Figure 4.4.

4.5.2.3 Other Designations

Figure 4.5 illustrates other important designations, on both national and international level, including UNESCO World Heritage Sites and Biosphere Reserves, Tentative List of World Heritage Sites, National Parks and Northern Ireland Areas of Outstanding Natural Beauty. These designations are important on both a national and international basis and they often coincide with international natural and cultural heritage designations.

UNESCO's World Heritage List[27] comprises sites of outstanding universal value: cultural, natural or mixed. UNESCO Biosphere Reserves List comprises areas of terrestrial and coastal ecosystems promoting solutions to reconcile the conservation of biodiversity with its sustainable use. The Tentative List of World Heritage Sites[28] is an inventory of those properties which each State Party intends to consider to be cultural and/or natural heritage of outstanding universal value and therefore suitable for inscription on the World Heritage List.

National Parks are specially designated protected areas of unspoilt beauty and there are six located in Ireland. The primary purpose of the National Parks is the conservation of biodiversity and landscape; however, they also provide for recreational space for locals and visitors. Five of the National Parks[29] are found in the west of Ireland, while the Wicklow Mountains National Park is the only one located in the east of the country.

Areas of Outstanding Natural Beauty (AONB[30]) in Northern Ireland were designated originally under the Amenity Lands (NI) Act 1965 and subsequently under the Nature Conservation and Amenity Lands (NI) Order 1985. It protects the land to conserve and enhance its natural beauty.

4.5.3 Existing Problems

Soil stability issues have the potential to impact upon biodiversity.

Previous changes in land uses arising from human development have resulted in a loss of biodiversity and flora and fauna. However legislative objectives governing biodiversity and fauna were not identified as being conflicted with.

Ireland's Article 17 report on the Status of EU Protected Habitats and Species in Ireland (DCHG, 2019) identifies various Irish, EU-protected habitats and species to be of unfavourable status and many to be still declining, although it also identifies that a range of positive actions are underway. Categories for pressures and threats on Ireland's habitats and species identified by the report comprise:

- Agriculture;
- Forestry;
- Extraction of resources (minerals, peat, non-renewable energy resources);
- Energy production processes and related infrastructure development;
- Development and operation of transport systems;

[27] There are two UNESCO sites in Ireland, Brú na Bóinne (UNESCO World Heritage Site) and Sceilg Mhichíl (UNESCO Biosphere Reserve).

[28] Sites on this list include the Burren, the Historic City of Dublin, the Céide Fields and North West Mayo Boglands, Western Stone Forts, the Monastic City of Clonmacnoise and its Cultural Landscape, Early Medieval Monastic Sites and the Royal Sites of Ireland (Cashel, Dún Ailinne, Hill of Uisneach, Rathcroghan Complex and Tara Complex).

[29] These comprise Wicklow Mountains National Park, The Burren National Park, Killarney National Park, Glenveagh National Park, Connemara National Park and Ballycroy National Park.

[30] AONBs include Antrim Coast and Glens, Binevenagh, Causeway Coast, Lagan Valley, Mourne, Ring of Gullion, Shared Horizons, Sperrin, Strangford and Lecale.

- Development, construction and use of residential, commercial, industrial and recreational infrastructure and areas;
- Extraction and cultivation of biological living resources (other than agriculture and forestry);
- Military action, public safety measures, and other human intrusions;
- Alien and problematic species;
- Mixed source pollution;
- Human-induced changes in water regimes;
- Natural processes (excluding catastrophes and processes induced by human activity or climate change);
- Geological events, natural catastrophes;
- Climate change; and
- Unknown pressures, no pressures and pressures from outside the Member State.

Robust measures to contribute towards the protection of biodiversity and flora and fauna have been integrated into the Draft Guidelines – further detail on these are provided within Section 9 "Mitigation Measures".

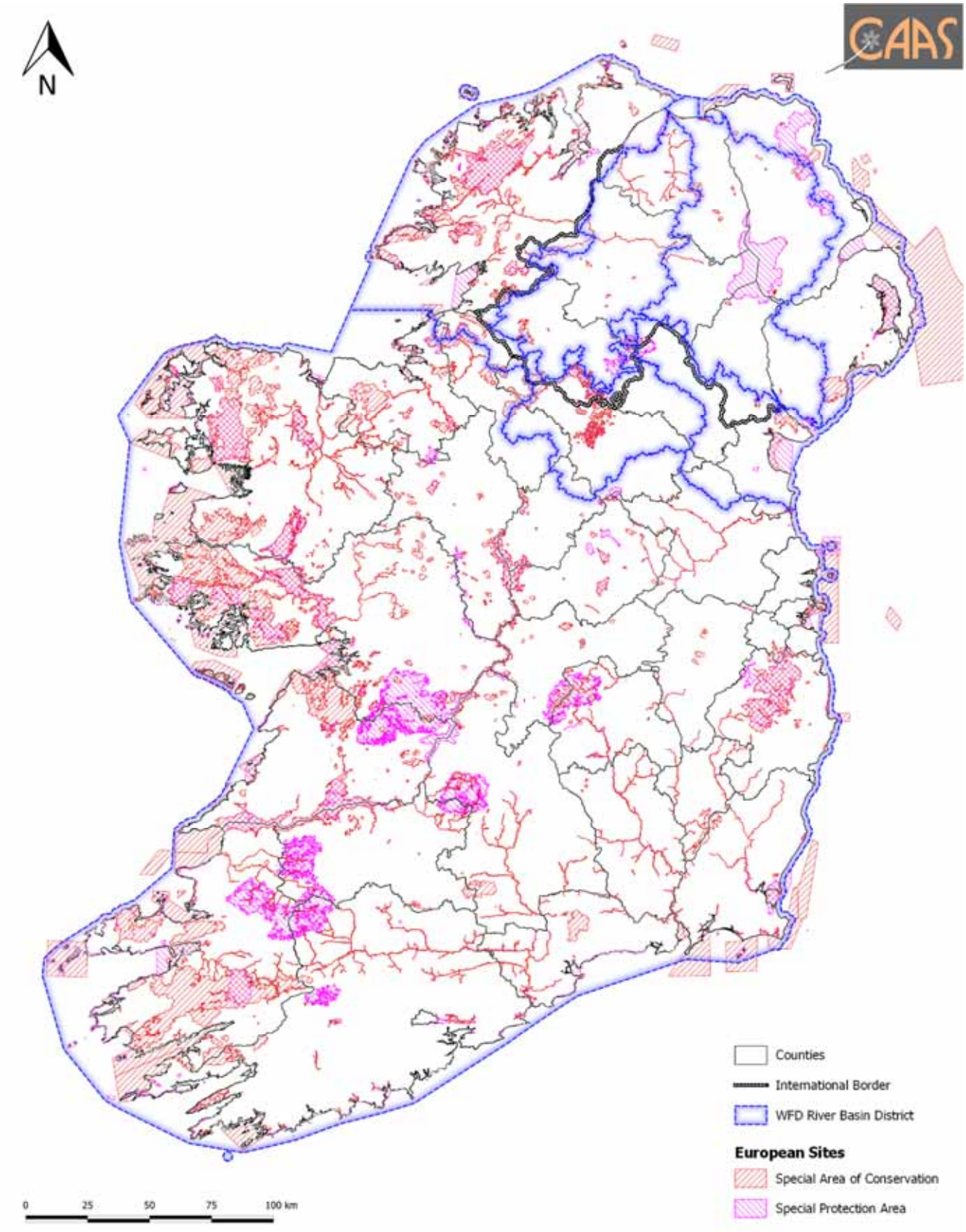


Figure 4.3 Special Areas of Conservation and Special Protection Areas

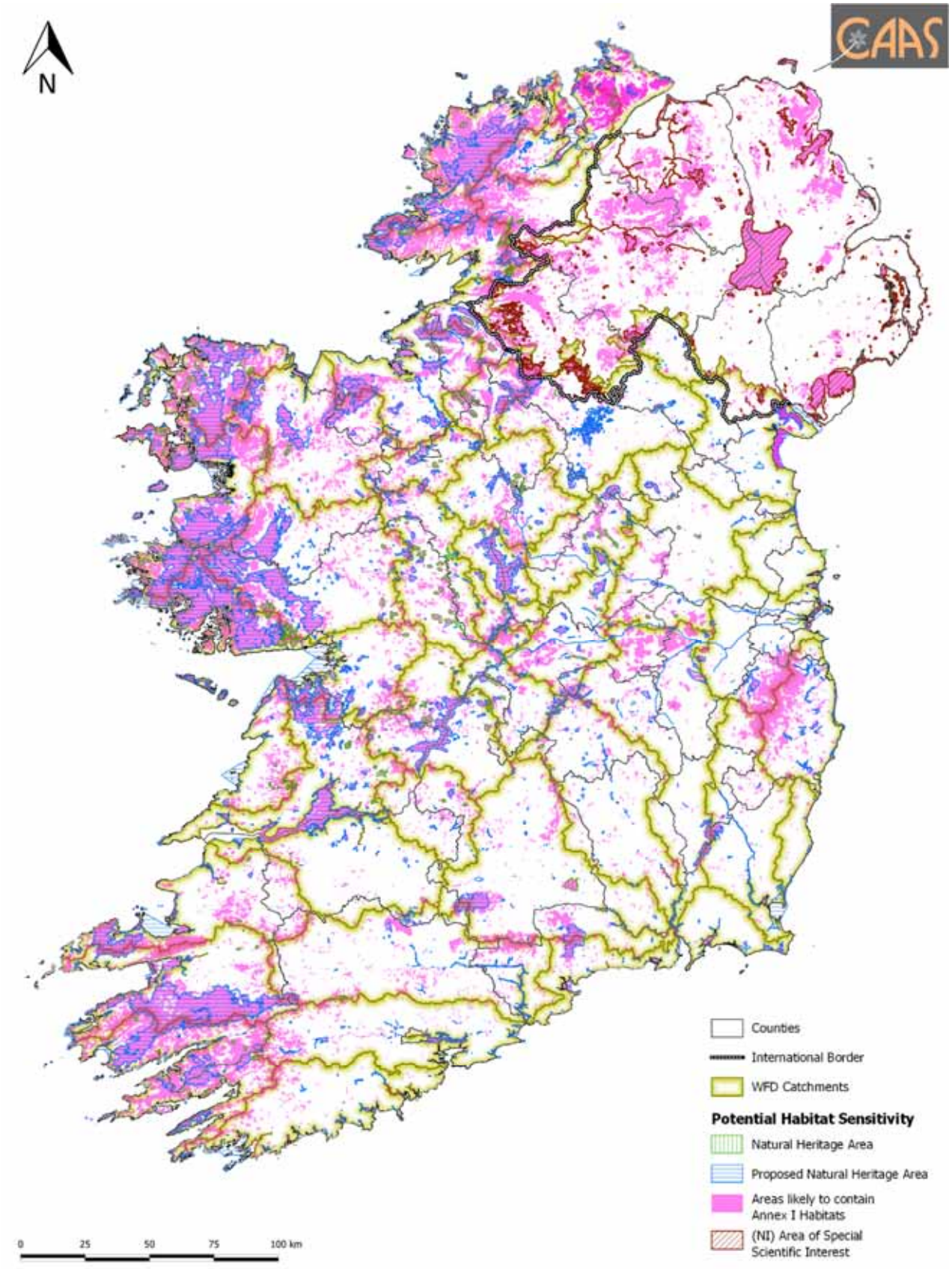


Figure 4.4 Natural Heritage Areas, Proposed Natural Heritage Areas, Areas likely to contain Annex I Habitats and Northern Ireland Areas of Special Scientific Interest

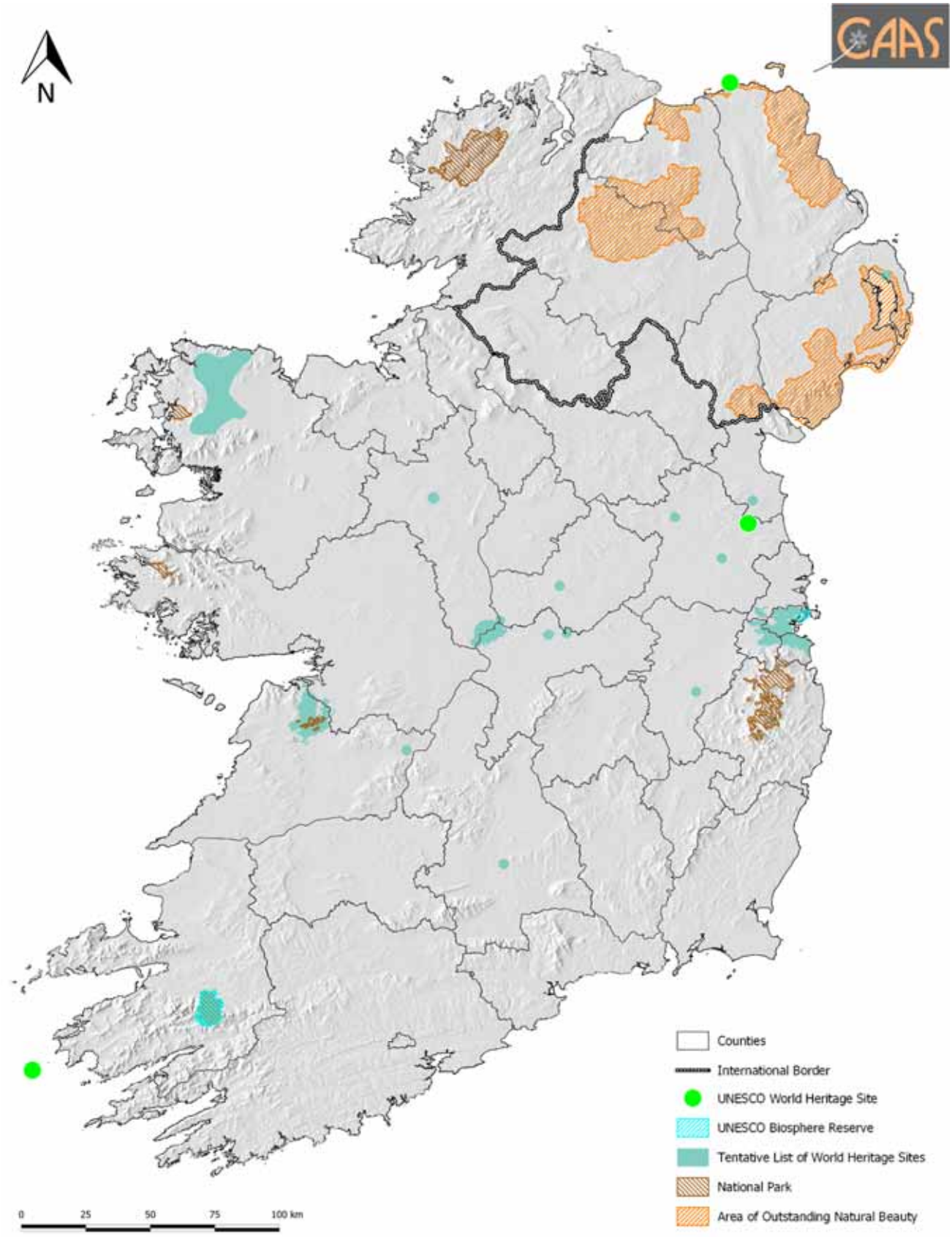


Figure 4.5 UNESCO World Heritage Sites and Biosphere Reserves, Tentative List of World Heritage Sites, National Parks and Northern Ireland Areas of Outstanding Natural Beauty

4.6 Soil

4.6.1 Introduction

Soil is the top layer of the earth's crust. It is formed by mineral particles, organic matter, water, air and living organisms. Soil can be considered as a non-renewable natural resource because it develops over very long timescales. It is an extremely complex, variable and living medium and performs many vital functions including: food and other biomass production, storage, filtration and transformation of many substances including water, carbon, and nitrogen. Soil has a role as a habitat and gene pool, serves as a platform for human activities, landscape and heritage and acts as a provider of raw materials. Such functions of soil are worthy of protection because of their socio-economic as well as environmental importance. Soils in any area are the result of the interaction of various factors, such as parent material, climate, vegetation and human action.

Information sources relevant to the environmental component of soil which may be used in lower tier planning and environmental assessments include:

- Soil types (2006) published by Teagasc, Geological Survey of Ireland (GSI), Forest Service & EPA;
- Soils and Subsoils Class (2006) published by Teagasc, GSI, Forest Service & EPA (2006);
- Sites of Geological Interest[31] which have been published for some counties and provisional information on same for other counties (both available from GSI);
- Other datasets published by and available from GSI including those relating to Bedrock Geology, Quaternary Geology, Mineral deposits, Groundwater Resources and Landslides (Landslide Events and Landslide Susceptibility Mapping); and
- Datasets on contaminated soils which may be kept by planning authorities (these occur most often in urban areas).

4.6.2 Existing Problems

Issues such as existing ground conditions, slope stability and storage of excavated material have the potential to influence susceptibility to soil stability issues.

Other issues that can occur include erosion during construction, stockpiling and dewatering.

[31] Note that geological heritage is taken into account in the designation of certain sites, including Natural Heritage Areas and Areas of Special Scientific Interest (in Northern Ireland).

4.7 Water

4.7.1 The Water Framework Directive

Since 2000, Water Management in the EU has been directed by the Water Framework Directive 2000/60/EC (WFD). The WFD requires that all Member States implement the necessary measures to prevent deterioration of the status of all waters - surface, ground, estuarine and coastal - and protect, enhance and restore all waters with the aim of achieving *good status*. All public bodies are required to coordinate their policies and operations so as to maintain the *good status* of water bodies which are currently unpolluted and improve polluted water bodies to *good status.*

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 (RBMPs).

The EU's Common Implementation Strategy Guidance Documents No. 20 and 36 provide guidance on exemptions to the environmental objectives of the WFD.

Following a review of the first cycle of RBMPs, the DHPLG determined that, in the interest of efficiency, there would be a single national approach to the development of RBMPs for the second cycle. This resulted in the merging of the Eastern, South Eastern, South Western, Western and Shannon River Basin Districts to form one national River Basin District. In relation to the North Western and Neagh Bann International River Basin Districts, a single administrative area is being established in the south for the purpose of coordinating water management with authorities in Northern Ireland.

Within each river basin district - for the purpose of assessment, reporting and management - water has been divided into groundwater, rivers, lakes, estuarine waters and coastal waters which are in turn divided into specific, clearly defined water bodies.

Wind energy development has the potential to result in changes to both surface and groundwater status and drainage.

4.7.2 Catchment Characterisation

4.7.2.1 Surface and ground water

WFD Monitoring Programmes are undertaken in Ireland by the EPA and in Northern Ireland by the Department of the Environment's Northern Ireland Environmental Agency. Overviews of the status for monitored waterbodies are published and made available online.

The WFD defines surface water status as the general expression of the status of a body of surface water, determined by the poorer of its ecological status and its chemical status. For example, if the ecological status is "good" and the chemical status "moderate" the overall status of the surface water body is identified as the poorer of the two i.e. as "moderate" status. Thus, to achieve "good" surface water status both the ecological status and the chemical status of a surface water body need to be at least "good".

Ecological status is an expression of the structure and functioning of aquatic ecosystems associated with surface waters. Such waters are classified as of "good" ecological status when they meet Directive requirements.

Chemical Status is a pass/fail assignment with a failure defined by a face-value exceedance of an Environmental Quality Standards (EQS) for one or more Priority Action Substances (PAS) listed in Annex X of the Water Framework Directive (WFD). The EQS values for individual PAS substances are set at European level. "Good" surface water chemical status means that concentrations of pollutants in the water body do not exceed the environmental limit values specified in the Directive.

The most recent EPA assessment of water quality monitoring data in Ireland was undertaken for 2013-2015[32]. The 2013-15 status information shows 57% of river water

[32] Other sources of information from the EPA that are available for use in lower tier assessments include the Geoportal and Envision websites and reports including Water Quality in Ireland (various), Integrated Water Quality

bodies, 46% of lakes, 31% of transitional waters and 79% of coastal waters achieving "good" or "high" status. For groundwater, 91% of water bodies are at "good" status. Nationally the number of monitored river water bodies and lakes at "good" or "high" status appears to have declined by 4% since 2007-2009. However, this decline also masks an underlying trend of improvement and dis-improvement across monitored river water bodies and lakes since 2009[33].

Figures from the EPA show that over 1,000 river water bodies and lakes have changed status over the first cycle of River Basin Management Planning (2009-2015). The findings also show that high-status waters remain under continued pressure — with 10% of monitored river sites having high-status in 2013–15 compared to 13% in 2007–2009. For protected areas, 93% of bathing waters met the required standards in 2015. For shellfish waters, the most recent information for 2015 shows 75% of sites meeting the microbiological guide value. For SACs with water dependency, approximately 60% of river water bodies and almost 70% of lakes achieved their required status. However, the situation for SACs in transitional waters was less positive — with 37% of such areas meeting their required standard by achieving good status.

The Department of Agriculture, Environment and Rural Affairs (Northern Ireland) publish an annual Northern Ireland Environmental Statistics Report which includes information on the status of waterbodies. The 2018 report identifies that:

- In 2015, 32.7% of NI river waterbodies were classified as "high" or "good" quality;
- In 2015, five of the 21 lake waterbodies in Northern Ireland were classified as having a "good" status and 16 lake waterbodies were classified as having a less than "good" status; and
- In 2015, 9 marine water bodies were classified as "high" or "good" status whilst the remaining 16 were at "moderate", "poor" or "bad" status.

4.7.2.2 Bathing Waters

For bathing waters, Mandatory and Guide Values are set out for bathing waters in the 2006 EU Bathing Water Directive and transposing Regulations. Mandatory Values are values which must be observed if the bathing area is to be deemed compliant with the Directive. Compliance with Guide Values exceeds guidance with Mandatory Values and can be regarded as quality objectives which bathing sites should endeavour to achieve.

The most recent available data from the EPA for 2018[34] identifies that:

- 137 (or 94%) of Ireland's 145 identified bathing waters met the minimum required standard of 'Sufficient' water quality; and
- 125 (86%) bathing waters were classed as being either 'Excellent 'or 'Good' quality.

2018 data from the Northern Ireland Department of Agriculture, Environment and Rural Affairs[35] identifies that all of Northern Ireland's 21 designated bathing waters achieved 'Sufficient' water quality in 2019, with 17 achieving either 'Excellent 'or 'Good' quality.

4.7.2.3 WFD Registers of Protected Areas

The WFD requires that Registers of Protected Areas (RPAs) are compiled for a number of water bodies or part of water bodies which must have extra controls on their quality by virtue of how their waters are used by people and by wildlife.

The WFD requires that these RPAs contain: areas from which waters are taken for public or private water supply schemes; designated shellfish production areas; bathing waters; areas which are affected by high levels of substances most commonly found in fertilizers, animal and human wastes - these areas are considered nutrient sensitive; and areas designated for the protection of habitats or species e.g. Salmonid areas, Special Areas of Conservation (SACs) and Special Protection Areas (SPAs).

Reports (various) and Quality of Estuarine and Coastal Waters (various).

[33] Department of Housing, Planning and Local Government (2018) River Basin Management Plan for Ireland 2018 - 2021

[34] EPA (2019) Bathing Water Quality in Ireland – A report for the year 2018

[35] Source: https://www.nidirect.gov.uk/articles/bathing-water-quality

Entries to the RPAs in Ireland shown on Figure 4.6 include those in Ireland and those with information available for them in Northern Ireland:

- Drinking Water Rivers and Lakes (in Ireland);
- Nutrient Sensitive Rivers, Lakes and Estuaries (in Ireland);
- Shellfish Areas (in Ireland);
- Salmonid Rivers (in Ireland);
- Bathing Areas (in Ireland and Northern Ireland);
- Groundwater for Drinking Water (in Ireland and Northern Ireland); and
- Marine Economically Significant Species (in Northern Ireland).

For presentation purposes, SACs and SPAs (although entries on the RPAs) are not included on this map – these are shown separately on Figure 4.3.

4.7.2.4 Groundwater Productivity and Vulnerability

The Geological Survey of Ireland (GSI) rates groundwaters according to both their vulnerability to pollution and their productivity. Groundwater vulnerability is a term used to represent the intrinsic geological and hydrogeological characteristics that determine the ease with which groundwater may be contaminated by human activities. Groundwater vulnerability maps are based on the type and thicknesses of subsoils (sands, gravels, glacial tills (or boulder clays), peat, lake and alluvial silts and clays), and the presence of karst features. Groundwater is most at risk where the subsoils are absent or thin and, in areas of karstic limestone, where surface streams sink underground at swallow holes[36].

The GSI also rates aquifers based on the hydrogeological characteristics and on the value of the groundwater resource. This is referred to as aquifer productivity.

4.7.2.5 Water Sensitivity Map

Using information on the WFD Status of water bodies, WFD Registers of Protected Areas and groundwater vulnerability, a water sensitivity map (see Figure 4.6) has been prepared as part of the SEA process. This indicates where the main concentrations of water sensitivities might occur. The Draft Guidelines recommended that planning authorities contribute towards the protection of existing and potential water resources, subject to exemptions provided for by Article 4 of the Water Framework Directive, and support the implementation of the relevant recommendations and measures as outlined in the relevant River Basin Management Plan.

The map is prepared at a national scale and different layers or weightings would produce different map outputs. Where the sensitivity mapping shows a concentration of water sensitivities there is an increased likelihood that development will conflict with this sensitivity and cause environmental deterioration, if mitigation is not applied. It is emphasised that the occurrence of water sensitivities does not preclude development; rather it flags at a strategic level that mitigation measures will need to be adhered to at lower tiers of decision making in order to ensure that the implementation of the Draft Guidelines contributes towards the objectives of the Water Framework Directive. It is emphasised that the map is a high scale, national map and additional, local water sensitivities may become apparent during the consideration of projects at local level.

The water sensitivity map has been prepared by weighting layers relating to water sensitivity and overlaying them using GIS software. The map shows that water sensitivities occur across all water bodies.

4.7.3 Flooding

Flooding is an environmental phenomenon which, as well as causing economic and social impacts, could in certain circumstances pose a risk to human health. The existence of flood risk across the country is illustrated by various sources of information on historical flooding events – including those available from the Office of Public Works. In addition to this historic mapping there is predictive, modelled Preliminary Flood Risk Assessment and Flood Risk and Hazard mapping available from the OPW, including through the National Catchment Flood Risk Management Programme (CFRAM). These mapping sources identify flood risk from various sources, including fluvial, pluvial, coastal and groundwater.

Flood risk mapping in Northern Ireland is available from the Northern Ireland and the Department of Infrastructure.

[36] Source: Geological Survey of Ireland (2014) Metadata

The Flood Risk and Hazard mapping has informed the preparation of Flood Risk Management Plans.

In addition to being accompanied by SEA and AA documents, the Draft Guidelines are accompanied by a Flood Risk Statement that outlines the need for development proposals to comply with "The Planning System and Flood Risk Management Guidelines for Planning Authorities (2009) and Circular PL2/14". The Flood Risk Statement includes details on the approach to flood risk management that should be followed by prospective applicants and identifies the type of information that may be used in order to comply with the Flood Risk Management Guidelines

4.7.4 Existing Problems

Subject to exemptions provided for by Article 4 of the WFD, based on available water data, certain surface and groundwater bodies will need improvement in order to comply with the objectives of the WFD.

There are various bathing water locations across the country that do not meet mandatory bathing water values.

There is historic and predictive evidence of flooding in locations across the country.

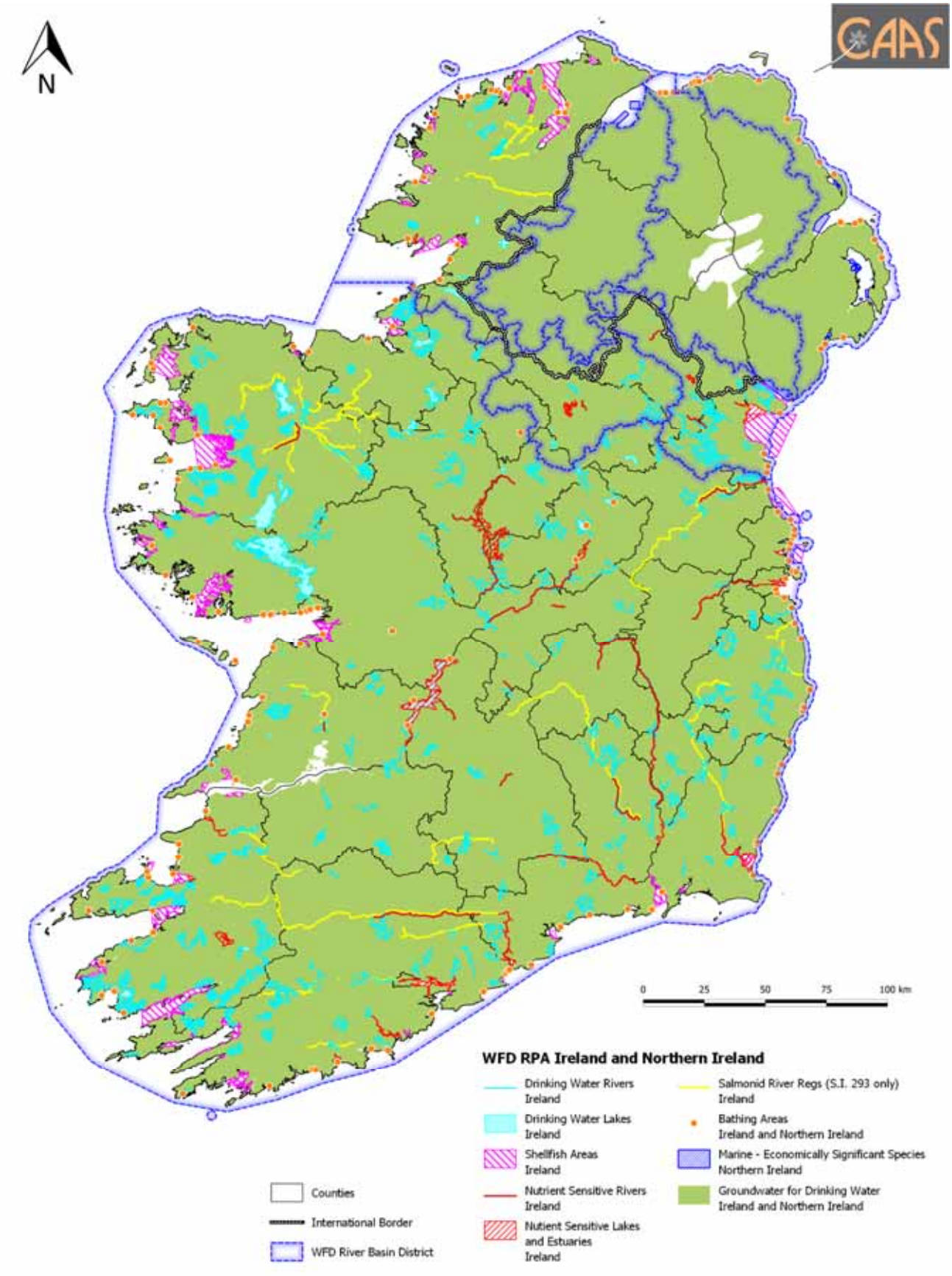


Figure 4.6 Water Framework Directive Registers of Protected Areas

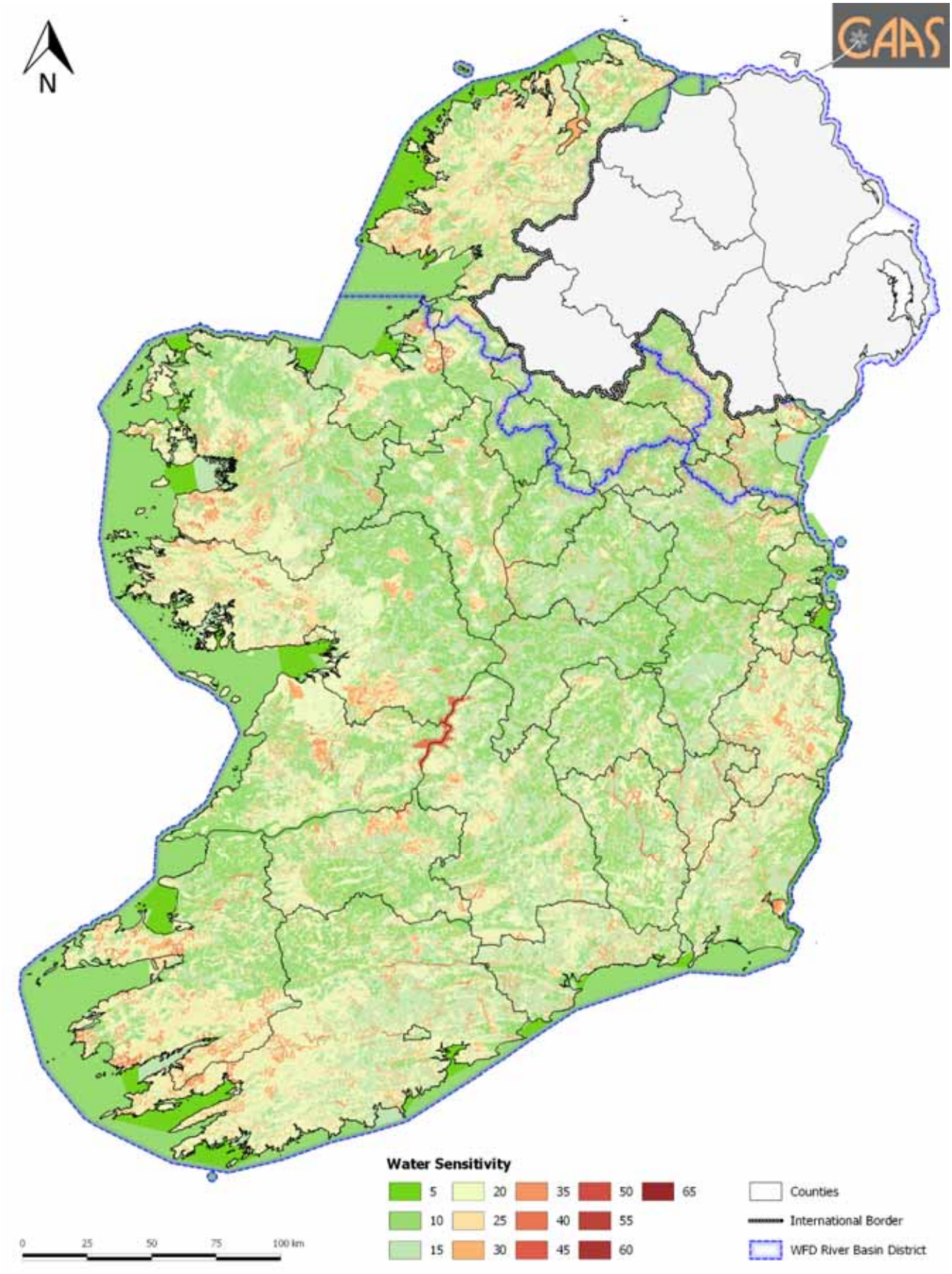


Figure 4.7 Water Sensitivity within River Basin Districts

4.8 Air and Climatic Factors

4.8.1 Climatic Factors

4.8.1.1 Greenhouse Gas Emissions

Wind energy contributes towards, and has the potential to further contribute towards, reductions in greenhouse gas emissions and associated achievement of legally binding greenhouse gas emissions targets[37].

The EPA 2019 publication *Ireland's Greenhouse Gas Emission Projections 2018-2040* provides an assessment of Ireland's total projected greenhouse gas emissions out to 2040 which includes an assessment of progress towards achieving its emission reduction targets out to 2020 and 2030 set under the EU Effort Sharing Decision (Decision No 406/2009/EU) and Effort Sharing Regulation (Regulation (EU) 2018/842). Ireland's 2020 target is to achieve a 20% reduction of non-Emission Trading Scheme (non-ETS) sector emissions (i.e. agriculture, transport, the built environment, waste and non-energy intensive industry) on 2005 levels with annual limits set for each year over the period 2013-2020. Ireland's 2030 target under the Effort Sharing Regulation is a 30% reduction of emissions compared to 2005 levels by 2030. There will be binding annual limits over the 2021-2030 period to meet that target. Key Insights identified as part of the report's package of documents are that:

- There is a long-term projected decrease in greenhouse gas emissions as a result of inclusion of new climate mitigation policies and measures that formed part of the 2018-2027 National Development Plan, which was published in 2018. This is evident in the With Additional Measures scenario which assumes full implementation of the programmes, policies and measures included in the National Development Plan.
- Fossil fuels such as coal, peat and gas continue to be key contributors to emissions from the power generation sector. However, a significant reduction in emissions over the longer term is projected as a result of the expansion of renewables (e.g. wind), assumed to reach 41-54% by 2030, with a move away from coal and peat.
- A growth in emissions from the transport sector continues to be projected which is largely attributed to fuel consumption from diesel cars and diesel freight. A decrease in emissions over the longer term, most notably in the With Additional Measures scenario, is largely attributed to assumed accelerated deployment of 500,000 electric vehicles and the impact of greater biofuel uptake.
- Agriculture emissions are projected to continue to grow steadily over the period which is mainly a result of an increase in animal numbers particularly for the dairy herd.
- The implementation of additional energy efficiency measures included in the National Development Plan will see a significant reduction in emissions in the residential, commercial/public services and manufacturing sectors over the projected period.

The projections reflect plans to bring Ireland onto a lower carbon trajectory in the longer term. However, Ireland still faces significant challenges in meeting EU 2030 reduction targets in the non-ETS sector and national 2050 reduction targets in the electricity generation, built environment and transport sectors. Progress in achieving targets is dependent on the level of implementation of current and future plans.

The 2019 emission projections do not consider the impact of new policies and measures that are in the Government's 2019 Climate Action Plan. It is anticipated that emission projections prepared later in 2019 to inform the preparation of Ireland's final National Energy and Climate Plan (due by 31st December 2019) will include the additional impact of the Government Climate Plan.

The Climate Change Advisory Council's Annual Review 2019 identifies that the most recent projections demonstrate that, under different assumptions, Ireland will not meet its emissions reduction targets, even with the additional policies and measures included in the National Development Plan. The projections also show

[37] Notwithstanding this, wind energy developments sited on peatlands, which hold large stocks of carbon, have the potential to greatly increase overall carbon losses, which would undermine the expected carbon savings associated with the wind energy developments as well as damage rare habitats of European importance. The Guidelines recommends that a consideration of carbon emissions balance is demonstrated when the development of wind energy developments requires peat extraction.

that progress on reducing emissions is sensitive to the future path of fuel prices. A significant and sustained rate of emissions reduction of approximately -2.5% per year is required to meet our objectives for 2050. However, it must be noted that additional measures within the recent Climate Action Plan are not included in the analysis to date.

DCCAE, along with other Government Departments, is developing of Ireland's first National Energy and Climate Plan, as provided for in the Clean Energy for all Europeans package. This Plan will set out the policies and measures to reach Ireland's 2030 targets, goals, and contributions to renewable energy and energy efficiency. A Draft of the National Energy and Climate Plan has been prepared, undergone public consultation and submitted to the European Commission. A final version of the Plan is due to be submitted by end 2019.

The first National Mitigation Plan 2017, prepared by the Department of Communications, Climate Action and Environment, represents an initial step to set Ireland on a pathway to achieve the level of decarbonisation required. It is a whole-of-Government Plan, reflecting in particular the central roles of the key Ministers responsible for the sectors covered by the Plan – Electricity Generation, the Built Environment, Transport and Agriculture, as well as drawing on the perspectives and responsibilities of a range of other Government Departments.

The 2018 National Adaptation Framework sets out the national strategy to reduce the vulnerability of the country to the negative effects of climate change and to avail of positive impacts. The National Adaptation Framework outlines a whole of government and society approach to climate adaptation. On Tuesday 22 October 2019, the Government approved adaptation plans for the 12 key sectors (seven Departments) fulfilling an action in the Climate Action Plan, the Government's Plan to ensure Ireland meets its 2030 climate commitments.

The Climate Action Plan sets out an ambitious course of action over the coming years to address this issue. The Climate Action Plan 2019 covers various emission sectors including Electricity, Transport, Built Environment, Industry and Agriculture. The Plan includes various provisions that seek to contribute towards decarbonisation targets. The Plan sets out governance arrangements including carbon-proofing of policies, establishment of carbon budgets, a strengthened Climate Change Advisory Council and greater accountability to the Oireachtas.

4.8.1.2 Renewable and Wind Electricity Generation Targets

Wind energy contributes towards, and has the potential to further contribute towards, reductions in consumption from non-renewables and associated achievement of legally binding renewable energy targets, including sectoral targets for electricity.

The original Renewable Energy Directive (Directive 2009/28/EC) requires each Member State to adopt a national renewable energy action plan (NREAP) to set out Member States' national targets for the share of energy from renewable sources consumed in transport, electricity and heating in 2020 that will ensure delivery of the overall renewable energy target. These sectoral targets are referred to as RES-E (electricity), RES-T (transport) and RES-H (heat).

The target for Ireland in Directive 2009/28/EC is a 16% share of renewable energy in Gross Final Consumption (GFC) by 2020. The contribution from renewables in 1990 in Ireland was 2.3%, rising to 9.5% of GFC in 2016.

To achieve the overall 16% target, Irish national sub-targets have also been set for heat (12%, RES-H) and electricity (40%, RES-E). The sub-target for electricity (RES-E) is most relevant for this SEA for Wind Energy Development Guidelines.

Ireland has met the interim target set by the Directive for 2015-2016, reporting an average final energy consumption of 9.5% over that two-year period, against a target level of 8.92%. RES-E increased by 1.9 percentage points in 2016 to 27.2% towards the 40% 2020 target. The share of electricity from renewable energy has increased fivefold between 1990 and 2016 - from 5.3% to 27.2% - an increase of over 21% over 26 years. Most of this increase has taken place since 2000 and the vast majority has been attributable to wind energy. In 2017, 84% of renewable electricity, or 25% of electricity demand (normalised), was generated from wind[38].

[38] Government of Ireland (2018) *Draft National Energy and Climate Plan 2021-2030*

The revised Renewable Energy Directive (Directive 2018/2001/EU) is part of the Clean energy for all Europeans package, aimed at keeping the EU a global leader in renewables and helping the EU to meet recent emissions reduction commitments. The 2018 Directive establishes a new binding renewable energy target for the EU for 2030 of at least 32%, with a clause for a possible upwards revision by 2023.

4.8.1.3 Energy Security

Wind energy contributes towards, and has the potential to further contribute towards, energy security.

Indigenous production accounted for 32% of Ireland's energy requirements in 1990. However, since the mid-1990s import dependency had grown significantly, due to the increase in energy use together with the decline in indigenous natural gas production at Kinsale since 1995 and decreasing peat production. Ireland's overall import dependency reached 90% in 2006. It varied between 85% and 90% until 2016 when it fell to 69% and further to 66% in 2017. It is estimated that in 2015 the cost of all energy imports to Ireland was approximately €4.6 billion; this fell to €3.4 billion in 2016 due mainly to reduced gas imports but increased again in 2017 to €4 billion[39].

4.8.2 Ambient Air Quality

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

The principles to this European approach are set out in the Ambient Air Quality and Cleaner Air for Europe (CAFE) Directive (2008/50/EC) (which replaces the earlier Air Quality Framework Directive 1996 and the first, second and third *Daughter Directives*; the fourth *Daughter Directive* will be included in CAFE at a later stage).

In order to comply with the Directives mentioned above, the EPA measures the levels of a number of atmospheric pollutants. For the purposes of monitoring in Ireland, four zones are defined in the Air Quality Standards Regulations 2002 (SI No. 271 of 2002).

The EPA's (2019) *Air Quality in Ireland 2018* identifies that:

- Levels at monitoring sites in Ireland were below the EU legislative limit values in 2018;
- Ireland was above World Health Organization (WHO) air quality guideline value levels at a number of monitoring sites for fine particulate matter, ozone and nitrogen dioxide;
- Ireland was above the European Environment Agency reference level for PAH, a toxic chemical, at three monitoring sites;
- Problem pollutants include particulate matter from burning of solid fuel and nitrogen dioxide from transport emissions in urban areas; and
- Indications are that Ireland will exceed EU limit values for nitrogen dioxide in the near future.

With regards to solutions, the report identifies that:

- To tackle the problem of particulate matter, clean ways of heating homes and improve energy efficiency of homes can be progressed; and
- To reduce the impact of nitrogen dioxide, transport options in the Government's Climate Action Plan can be implemented and transport choices can be considered by individuals.

The most recent air quality report for Northern Ireland "Air Pollution in Northern Ireland 2017" (Department of Agriculture, Environment and Rural Affairs, 2019) identifies that EU limit values, target values and corresponding Air Quality Strategy objectives, have been met by the due dates for the following pollutants: particulate matter as PM_{10} and $PM_{2.5}$; carbon monoxide; benzene; sulphur dioxide; and, metallic pollutants lead, arsenic, cadmium and nickel.

The Second Assessment of the State of Northern Ireland's Environment states that air

[39] Sustainable Energy Authority of Ireland (2018) *Energy in Ireland 2018 Report*

quality in Northern Ireland continues to improve. Problems remain on nitrogen dioxide emissions due to transport, and ammonia emissions, mostly due to livestock, which pose a risk to sensitive habitats and ecosystems.

4.8.3 Noise

The Noise Directive - Directive 2002/49/EC relating to the assessment and management of environmental noise - is part of an EU strategy setting out to reduce the number of people affected by noise in the longer term and to provide a framework for developing existing EU policy on noise reduction from source. The Directive requires competent authorities in Member States to:

- Draw up *strategic noise maps* for major roads, railways, airports and agglomerations, using harmonised noise indicators[40] and use these maps to assess the number of people which may be impacted upon as a result of excessive noise levels;
- Draw up action plans to reduce noise where necessary and maintain environmental noise quality where it is good; and,
- Inform and consult the public about noise exposure, its effects, and the measures considered to address noise.

The Directive does not set any limit value, nor does it prescribe the measures to be used in the action plans, which remain at the discretion of the competent authorities.

There have been previous complaints[41] from the public regarding noise nuisance from a number of wind farms. The Draft Guidelines contain various provisions relating to noise.

The approach to the assessment and control of noise generated by wind turbines, as required by the Guidelines, seeks to achieve a balance between the protection of the amenity of communities in the vicinity of wind energy developments and meeting renewable energy targets in a cost-effective manner while providing security of future supply for the country.

The Guidelines are based on best international practice on wind turbine noise control including the Institute of Acoustics good practice guides, World Health Organisation (WHO) Guidelines and include a procedure for the assessment of low frequency noise complaints. The text of the Guidelines, including Technical Appendices 1 and 2, sets out the requirements in relation to the noise limits to apply, the noise assessment and measurement methodology to be used and is definitive in all matters of interpretation.

All planning applications for wind energy development will be required to include an acoustic report prepared by a qualified and competent person. Where appropriate this can be incorporated as part of an Environmental Impact Assessment Report.

4.8.4 Existing Problems

As is further detailed above:

- Ireland faces significant challenges in meeting EU 2030 reduction targets in the non-ETS sector and national 2050 reduction targets in the electricity generation, built environment and transport sectors. Progress in achieving targets is dependent on the level of implementation of current and future plans.
- The Climate Change Advisory Council's Annual Review 2019 identifies that the most recent projections demonstrate that, under different assumptions, Ireland will not meet its emissions reduction targets, even with the additional policies and measures included in the National Development Plan. The projections also show that progress on reducing emissions is sensitive to the future path of fuel prices. A significant and sustained rate of emissions reduction of approximately -2.5% per year is required to meet our objectives for 2050. However, it must be noted that additional measures within the recent Climate Action Plan are not included in the analysis to date.
- The EPA's (2019) *Air Quality in Ireland 2018* identifies that: Ireland was above World Health Organization (WHO) air

[40] [Lden (day-evening-night equivalent level) and Lnight (night equivalent level)]

[41] On a foot of complaints from the public regarding noise nuisance from wind farms, Wexford County Council carried out extensive noise survey of the sound emitting from 4 adjacent wind farms and their wind turbines in 2016. The reports detailing the findings of the study did not identify non-compliance with planning conditions however it did identify that guidance is needed on the threshold for 'compliance' with planning conditions.

quality guideline value levels at a number of monitoring sites for fine particulate matter, ozone and nitrogen dioxide; Ireland was above the European Environment Agency reference level for PAH, a toxic chemical, at three monitoring sites; problem pollutants identified by the EPA include particulate matter from burning of solid fuel and nitrogen dioxide from transport emissions in urban areas; and indications are that Ireland will exceed EU limit values for nitrogen dioxide in the near future.

4.9 Material Assets

4.9.1 Introduction

Resources that are valued and that are intrinsic to specific places are called 'material assets'.

Material assets other than those detailed below that are covered by this SEA include archaeological and architectural heritage (see Section 4.10) natural resources of economic value, such as water and air (see Sections 4.7 and 4.8).

4.9.2 Existing Infrastructure and Wind Farms

Where infrastructural assets such as sub-stations, powerlines and roads already exist, they provide opportunities for sustainable use by new wind farm developments, where the assets are found to have capacity to absorb the new development and where other requirements are met.

Detailed consideration of existing assets may be undertaken at project level including by project level environmental assessments.

4.9.3 Waste Management

Any construction waste arising from the development of infrastructure is required to be dealt with in compliance with relevant EU and National waste management policy, including that relating to the waste hierarchy of prevention, recycling, energy recovery and disposal.

For the purposes of waste management planning, Ireland is divided into three regions: Southern, Eastern-Midlands and Connacht-Ulster. Waste management plans for each waste management region were published in 2015.

The 2016 EPA Report "Irelands Environment-an Assessment" identifies that 11.91 Mt of waste was generated in Ireland during 2014. Of this total, 23% was generated by municipal sources, 28% by construction and demolition sources and 49% by other sources such as industry and agriculture. The bulk of construction and demolition waste is made up of uncontaminated soil and stones, with the remainder segregated wastes such as rubble, concrete, bricks, glass, plastic, wood, metals and mixed construction and demolition waste.

4.9.4 Aircraft Travel, Roads and Railways, Powerlines and Communication Infrastructure

The siting of wind turbines may have implications for air traffic control operation systems and flight paths for the separation and safety of aircraft. Wind turbine siting may also have implications for the flight paths of aircraft.

Adequate clearance between structures and overhead power lines as specified by the electricity undertaker should be provided. Although wind turbines erected in accordance with standard engineering practice are stable structures, best practice indicates that it is advisable to achieve a safety set back from National and Regional roads and railways of a distance equal to the height of the turbine to the tip of the blade plus 10%.

Wind turbines, like all electrical equipment, produce electro-magnetic radiation, and this can interfere with broadcast communications. Wind turbines also have the potential to affect weather radar data.

These issues have been addressed by provisions integrated into the Guidelines.

4.9.5 Existing Problems

Conflicts with legislative objectives governing material assets have not been identified.

4.10 Cultural Heritage

4.10.1 Archaeological Heritage

4.10.1.1 Introduction

Archaeology is the study of past societies through the material remains left by those societies and the evidence of their environment. Archaeological sites and monuments vary greatly in form and date; examples include earthworks of different types and periods, (e.g. early historic ringforts and prehistoric burial mounds), megalithic tombs from the Prehistoric period, medieval buildings, urban archaeological deposits and underwater features.

Archaeological sites may have no visible surface features; the surface features of an archaeological site may have decayed completely or been deliberately removed but archaeological deposits and features may survive beneath the surface.

In addition to including provisions relating to the protection of archaeological monuments, the Guidelines include a provision relating to intervisibility and interrelationships between these monuments within the wider landscape, including cross-border.

4.10.1.2 Recorded Monuments

The National Monument Acts 1930-2004 are the primary legislative framework for the protection of archaeological heritage in Ireland. Through the definition of monuments, historic monuments, and national monuments a wide range of structures and features fall under the remit of these Acts.

The Record of Monuments and Places (RMP) was established under Section 12 of the National Monuments (Amendment) Act 1994 and structures, features, objects or sites listed in this Record are known as Recorded Monuments. The term Monument refers to any artificial or partly artificial building or structure, that has been carved, sculptured or worked upon or which appears to have been purposely put or arranged in position. It also includes any, or part of any prehistoric or ancient tomb, grave or burial deposit, or ritual, industrial or habitation site. Monuments that predate 1700 AD are automatically accorded the title Historic Monument. A 'National Monument' is defined in the National Monuments Acts (1930-2004) as a monument or the remains of a monument, the preservation of which is of national importance by reason of the historical, archaeological, traditional, artistic or architectural interest.

As well as extending protection to all known sites, now identified as Recorded Monuments, the National Monuments Acts 1930 – 2004 extend protection to all previously unknown archaeological items and sites that are uncovered through ground disturbance or the accidental discovery of sites located underwater. Where necessary, the Minister with responsibility for Heritage will issue preservation orders to ensure protection is afforded to sites believed to be under threat. There are thousands of known Recorded Monuments in Ireland.

Archaeological heritage designations in Northern Ireland include entries to the Northern Ireland Sites and Monuments Record and Areas of Significant Archaeological Interest and Archaeological Potential.

Figure 4.8 shows the spatial distribution of recorded monuments in Ireland and Northern Ireland. Clusters of monuments are indicated within already developed urban and suburban areas and in other locations.

4.10.1.3 UNESCO World Heritage Sites

Please refer to Section 4.5.2.3 of this report for information relating to UNESCO World Heritage Sites.

4.10.2 Architectural Heritage

4.10.2.1 Introduction

The term architectural heritage is defined in the Architectural Heritage (National Inventory) and Historic Monuments Act 1999 as meaning all: structures and buildings together with their settings and attendant grounds, fixtures and fittings; groups of structures and buildings; and, sites which are of technical, historical, archaeological, artistic, cultural, scientific, social, or technical interest.

Records of Protected Structures are legislated for under Section 12 and Section 51 of the Act. Protected Structures are defined in the Act as structures, or parts of structures that are of special interest from an architectural, historical, archaeological, artistic, cultural, scientific, social or technical point of view.

In relation to a protected structure or proposed protected structure, the following are encompassed:

(i) The interior of the structure;
(ii) The land lying within the curtilage[42] of the structure;
(iii) Any other structures lying within that curtilage and their interiors; and,
(iv) All fixtures and features which form part of the interior or exterior of any structure or structures referred to in subparagraph (i) or (iii).

In addition to including provisions relating to the protection of architectural structures, the Guidelines include a provision relating to intervisibility and interrelationships between these structures within the wider landscape, including cross-border.

4.10.2.2 Architectural Conservation Areas

In addition to Protected Structures, the Planning and Development Act, 2000 provides the legislative basis for the protection of Architectural Conservation Areas (ACAs). An ACA is a place, area or group of structures or townscape which is of special architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest or value, or contributes to the appreciation of protected structures, whose character it is an objective to preserve in a Development Plan. The ACA designation requires that planning permission must be obtained before significant works can be carried out to the exterior of a structure in the ACA which might alter the character of the structure or the ACA.

In Northern Ireland, Conservation Areas (areas of special architectural or historic interest) are designated by the Department under Article 50 of the Planning Order (Northern Ireland) 1991.

4.10.2.3 National Inventory of Architectural Heritage

The National Inventory of Architectural Heritage (NIAH) is a State initiative under the administration of the Department of Culture, Heritage and the Gaeltacht and was established on a statutory basis under the provisions of the Architectural Heritage (National Inventory) and Historic Monuments (Miscellaneous Provisions) Act 1999.

The purpose of the NIAH is to identify, record, and evaluate the post-1700 architectural heritage of Ireland, uniformly and consistently as an aid in the protection and conservation of the built heritage. NIAH surveys provide the basis for the recommendations of the Minister of Culture, Heritage and the Gaeltacht to the local authorities for the inclusion of particular structures in their Record of Protected Structures (RPS). The NIAH encompasses a survey of Historic Gardens and Designed Landscapes.

Figure 4.8 shows entries to NIAH in Ireland and Listed Buildings in Northern Ireland. Similar to the general spatial spread of archaeological heritage, clusters of architectural heritage are indicated within already developed urban and suburban areas.

Additional data sources available for lower tier assessments in Northern Ireland, include the Department for Communities datasets on Historical Parks and Gardens.

4.10.3 Existing Problems

No environmental problems relevant to the Guidelines have been identified with respect to archaeological and architectural heritage.

[42] Curtilage is normally taken to be the parcel of ground immediately associated with the Protected Structure, or in use for the purposes of the structure. Protection extends to the buildings and land lying within the curtilage. While the curtilage sometimes coincides with the present property boundary, it can originally have included lands, features or even buildings now in separate ownership, e.g. the lodge of a former country house, or the garden features located in land subsequently sold off. Such lands are described as being attendant grounds, and the protection extends to them just as if they were still within the curtilage of the Protected Structure.

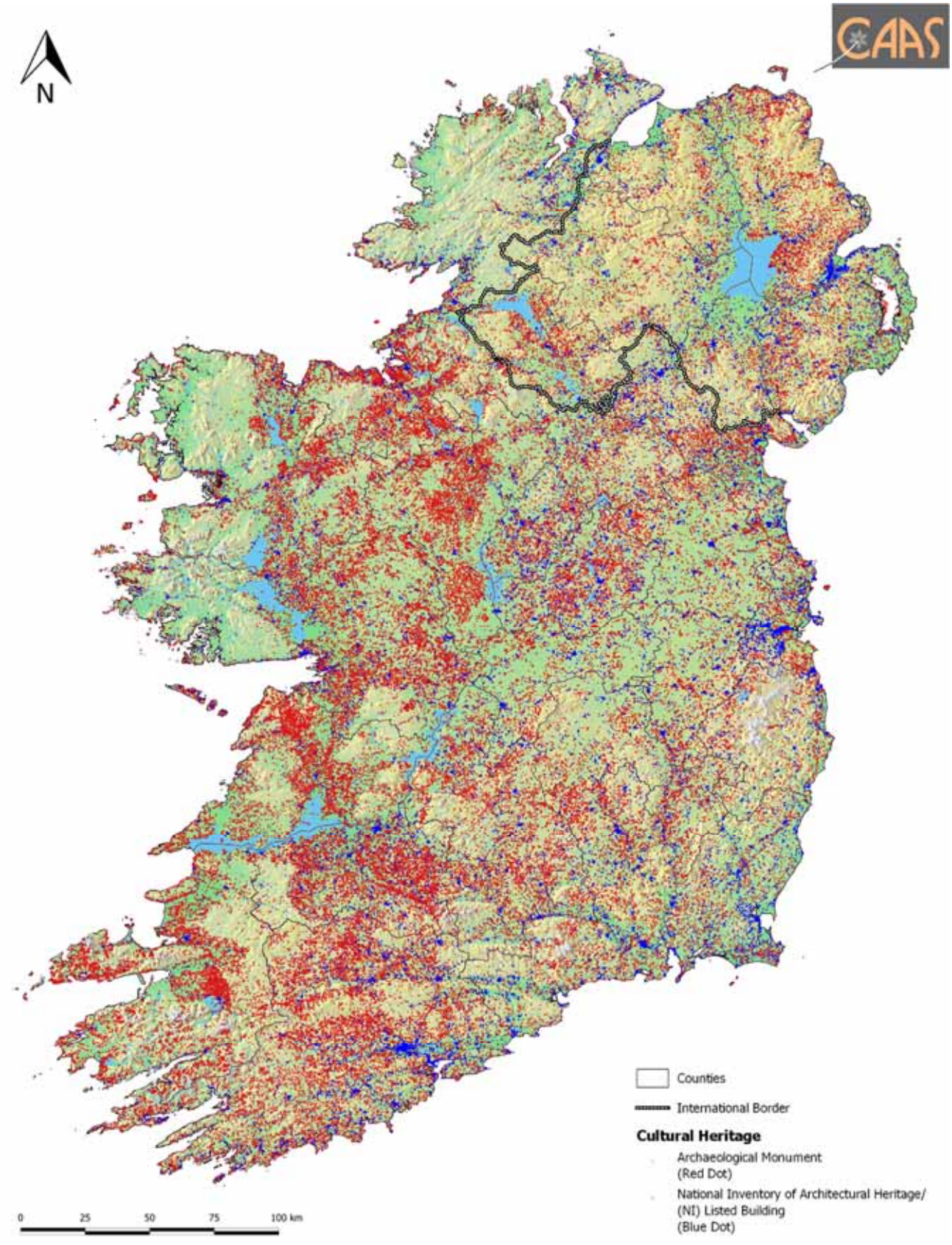


Figure 4.8 Selected Archaeological and Architectural Heritage Designations

4.11 Landscape

4.11.1 Introduction

Landscapes are areas which are perceived by people and are made up of a number of layers: landform, which results from geological and geomorphological history; landcover, which includes vegetation, water, human settlements, and; human values which are a result of historical, cultural, religious and other understandings and interactions with landform and landcover.

The European Landscape Convention - also known as the Florence Convention, - promotes the protection, management and planning of European landscapes and organises European co-operation on landscape issues. The Convention defines landscape as *'an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors'.* As a signatory of the Convention, Ireland has prepared and adopted a National Landscape Strategy 2015-2025.

4.11.2 Protection and Management of the Landscape

All areas are 'landscape', not just those areas identified as being of higher value or sensitivity. The importance of landscape and visual amenity and the role of its protection are recognised in the Act as amended, which requires that Development Plans include objectives for the preservation of the landscape, views and the amenities of places and features of natural beauty. These objectives and associated plan content often designate different aspects of the landscape such as the following:

- Landscape character areas;
- Landscape sensitivity and value areas;
- High amenity zones;
- Scenic views and prospects; and
- Land use objectives relating to landscape protection.

These designations vary from local authority to local authority and change over time.
In addition to the aforementioned landscape designations, planning authorities are empowered (under Section 202 of the Act), to make a Special Amenity Area Order for reasons of outstanding natural beauty or an area's special recreational value and having regard to any benefits for nature conservation. The purpose of these Orders is to preserve/enhance landscape character and to manage development.

Such areas should also be taken into account by lower tier planning and environmental assessments where/if relevant. Landscape is a consideration that has been integrated into the Guideline's proposed approach to planning authorities on to the identification key areas where there are good wind energy resources capable of exploitation in a manner consistent with proper planning and sustainable development. This approach involves a sieve mapping analysis of the key environmental, landscape and technical criteria which must be balanced in order to identify the most suitable location for wind energy development.

4.11.3 Landcover

CORINE land cover mapping classifies land cover under various headings. This dataset allows for the identification of areas that are likely to be most visually sensitive and robust.

Land cover is the observed physical cover, as seen from the ground or through remote sensing, including for example natural or planted vegetation, water and human constructions which cover the earth's surface. The CORINE land cover map is based on interpretation of satellite images.

Three categories of typical landcover sensitivity to development have been identified on Figure 4.9 by combining the following landcover layers:

Category 1 Robust Landcover

- Sport and leisure facilities
- Continuous urban fabric
- Discontinuous urban fabric
- Industrial or commercial units
- Road and rail networks
- Sea ports
- Airports
- Mineral extraction sites
- Dump
- Construction sites

Category 2 Normal Landcover

- Non-irrigated land

- Coniferous forest
- Complex cultivation patterns
- Pasture
- Transitional woodland scrub
- Land principally occupied by agriculture with areas of natural vegetation

Category 3 Sensitive Landcover

- Fruit trees and berry
- Green urban sites
- Broad-leaved forest
- Peat bog
- Natural grassland
- Water bodies
- Coastal lagoons
- Mixed Forests
- Moors and Heaths
- Intertidal Flats
- Beaches Dunes Sand
- Inland marshes
- Stream Courses
- Estuaries
- Sparsely Vegetated Areas
- Burnt Areas
- Salt Marshes
- Bare Rocks

Figure 4.9 illustrates the landcover categories, as summarised below:

- **Normal landcover** is the main landcover type and is generally found throughout the island of Ireland;

- **Robust landcover** is found within and surrounding already developed urban and suburban areas including the Greater Dublin Area, Cork, Limerick and Belfast, and elsewhere within and surrounding urban settlements; and

- **Sensitive landcover** are the most predominant in the western and northern parts of the island of Ireland, and in smaller pockets elsewhere within upland, foothills, parklands, bog areas and coastal areas.

4.11.4 Other Factors Influencing Visual Sensitivity

Other factors influencing visual sensitivity, other than landcover, that are relevant to lower tier assessments and decision making by local authorities and others include elevation and slope[43].

4.11.5 Data Sources

In addition to the data sources referred to above, the following data sources are available for use in lower tier assessments:

- National Landscape Character Assessment (LCA) mapping the preparation of which is provided for by the National Landscape Strategy; and
- Department of Agriculture, Environment and Rural Affairs Northern Ireland: Regional Landscape Character Areas and land use plan designations; and Onshore Renewable Electricity Action Plan SEA.

4.11.6 Existing Environmental Problems

New developments have resulted in changes to the visual appearance of lands over time however conflicts with legislative objectives governing landscape and visual appearance were not identified.

[43] Landscape Constraints and Opportunities Mapping included in the SEA for EirGrid's GRID25 Implementation Programme identifies certain areas (depending on landcover) with elevation in excess of 200m and slopes of greater than 30 degrees as being particularly sensitive.

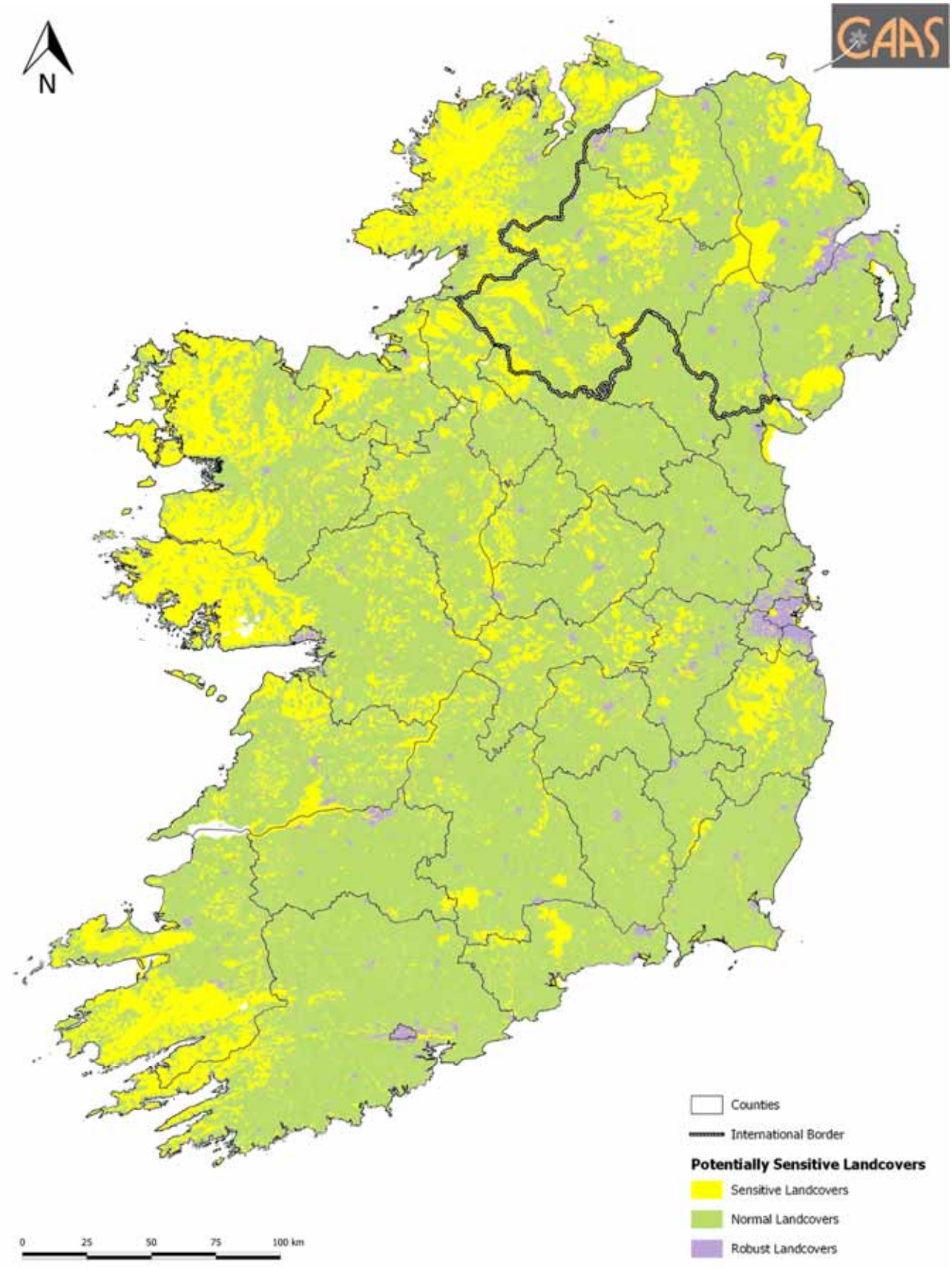


Figure 4.9 Potentially Sensitive Landcovers

Section 5 Strategic Environmental Objectives

Strategic Environmental Objectives (SEOs) are methodological measures developed from policies which generally govern environmental protection objectives established at international, Community or Member State level e.g. the environmental protection objectives of various European Directives which have been transposed into Irish law and which are required to be implemented.

The SEOs are set out under a range of topics and are used as standards against which the provisions of the Draft Guidelines and the alternatives are evaluated in order to help identify which provisions would be likely to result in significant environmental effects and where such effects would be likely to occur, if - in the case of adverse effects - unmitigated.

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

All SEOs, indicators and targets are provided on Table 5.1 overleaf while background to these measures is provided in the subsections below.

Further detail on legislation, plans and programmes are provided under Section 2.3 (and associated Appendix I "Relationship with Legislation, Plans and Programmes") and Section 4.

Table 5.1 Strategic Environmental Objectives (SEO), Indicators and Targets

Environmental Component	SEO Code	Strategic Environmental Objectives	Indicators	Targets
Population and Human Health	**PHH1 (and AC2)**	To protect populations and human health from exposure to incompatible wind energy development such as that which may arise from, for example, noise, shadow flicker, visual amenity disturbance, water quality, air quality, flood events or soil stability issues	Number of instances of deterioration in human heath resulting from noise, shadow flicker, visual amenity disturbance, water quality, air quality, flood events or soil stability issues arising from wind energy development (including associated development) permitted by planning authorities adhering to the Guidelines	Avoid wind energy developments which would be likely to result in deterioration in human health arising from environmental factors, such as noise, shadow flicker, visual amenity disturbance, water quality, air quality, flood events or soil stability issues
	PHH2 (and L2)	To protect use of and access to amenities including rights of way, parks, playing fields and walk and cycle ways	PHH2 (and L2): Disruption to use of and access to amenities including rights of way, parks, playing fields and walk and cycle ways resulting from wind energy development (including associated development) permitted by planning authorities adhering to the Guidelines	PHH2 (and L2): Avoid and minimise disruption to use of and access to amenities including rights of way, parks, playing fields and walk and cycle ways
Biodiversity, Flora and Fauna	**BFF1**	To ensure compliance with the Habitats and Birds Directives with regard to the protection of European Sites and Annexed habitats and species[44]	BFF1: Conservation status of habitats and species as assessed under Article 17 of the Habitats Directive	BFF1: Maintenance of favourable conservation status for all habitats and species protected under National and International legislation to be unaffected by implementation of the Guidelines[45]
	BFF2	To ensure compliance with Article 10 of the Habitats Directive with regard to the management of features of the landscape which - by virtue of their linear and continuous structure or their function act as stepping stones (designated or not) - are of major importance for wild fauna and flora and essential for the migration, dispersal and genetic exchange of wild species	BFF2: Percentage change in functional connectivity without remediation resulting from wind energy development (including associated development) permitted by planning authorities adhering to the Guidelines	BFF2: No significant ecological networks or parts thereof which provide functional connectivity to be lost without remediation resulting from development provided for by the Guidelines

[44] 'Annexed habitats and species' refer to those listed under Annex I, II & IV of the EU Habitats Directive and Annex I of the EU Birds Directive.

[45] Except as provided for in Section 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/project to proceed; and (c) adequate compensatory measures in place.

Environmental Component	SEO Code	Strategic Environmental Objectives	Indicators	Targets
	BFF3	To avoid significant impacts on relevant habitats, species, environmental features or other sustaining resources in designated sites including Nature Conservation Sites and Areas of Special Scientific Interest and to ensure compliance with the Wildlife Acts 1976-2010 with regard to the protection of listed species	BFF3i: Number of significant impacts on relevant habitats, species, environmental features or other sustaining resources in designated sites including Nature Conservation Sites and Areas of Special Scientific Interest resulting from wind energy development (including associated development) permitted by planning authorities adhering to the Guidelines BFF3ii: Number of significant impacts on the protection of listed species resulting from wind energy development (including associated development) permitted by planning authorities adhering to the Guidelines	BFF3i: Avoid significant impacts on relevant habitats, species, environmental features or other sustaining resources in designated sites including Nature Conservation Sites and Areas of Special Scientific Interest resulting from development provided for by the Guidelines BFF3ii: No significant impacts on the protection of listed species
Soil	**S1**	To avoid significant damage to the stability of soil	S1i: Consideration of soil stability assessments by the development management process at planning authorities, where relevant	S1i: For grants of permission to consider the findings of soil stability assessments, where relevant
	S2	To minimise significant damage to the hydrogeological and ecological function of the soil resource	S2: Development management process by planning authorities to ensure that changes in soil extent and hydraulic connectivity are minimised	S2: To minimise reductions in soil extent and hydraulic connectivity
Water	**W1**	To contribute towards maintaining and improving, where possible, the quality and status of surface waters	W1: 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 wind energy development (including associated development) permitted by planning authorities adhering to the Guidelines	W1: 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[46] , where applicable
	W2	To contribute towards maintaining and improving, where possible, the chemical and quantitative status of groundwaters	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, where applicable

[46] 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	SEO Code	Strategic Environmental Objectives	Indicators	Targets
	W3	To comply as appropriate with the provisions of the Planning System and Flood Risk Management: Guidelines for Planning Authorities (DEHLG, 2009)	W3: Number of incompatible developments which are at elevated risk of flooding or would significantly increase flood risk elsewhere resulting from permission by planning authorities adhering to the Guidelines	W3: Avoid wind energy developments which are at elevated risk of flooding or would significantly increase flood risk elsewhere
Air and Climatic Factors	**AC1**	To contribute towards the achievement of targets relating to renewable energy and greenhouse gas emissions	AC1i: Percentage electricity consumption from renewable energy AC1ii: Percentage of renewable energy electricity from wind energy	AC1: Increase in proportion of electricity generated from wind energy development to contribute towards achievement of targets relating to renewable energy and greenhouse gas emissions in line with rolling Government targets
	AC2 (and PHH1)	To protect populations and human health from exposure to incompatible wind energy development such as that which may arise from, for example, noise, shadow flicker, visual amenity disturbance, water quality, air quality, flood events or soil stability issues	Number of instances of deterioration in human heath resulting from noise, shadow flicker, visual amenity disturbance, water quality, air quality, flood events or soil stability issues arising from wind energy development (including associated development) permitted by planning authorities adhering to the Guidelines	Avoid wind energy developments which would be likely to result in deterioration in human health arising from environmental factors, such as noise, shadow flicker, visual amenity disturbance, water quality, air quality, flood events or soil stability issues
Material Assets	**MA1**	To maximise the use of existing infrastructure and services	MA1: Addressing of reasonable alternatives (within SEA Environmental Reports for land use plans containing wind energy development provisions and Environmental Impact Assessment Reports, where relevant) for the location of new wind energy developments within areas that already accommodate turbines, sub-stations, powerlines and roads until these areas reach capacity	MA1: All lower tier assessments to address reasonable alternatives for the location of new wind energy developments, and where existing infrastructural assets such as sub-stations, powerlines and roads already exist within proposed development areas, then such assets should be considered for sustainable use by the proposed development where the assets have capacity to absorb the new development
	MA2	To reduce waste volumes, minimise waste to landfill and increase recycling and reuse	MA2: Preparation and implementation of construction and environmental management plans to include provisions relating to waste minimisation and recycling	MA2: For construction and environmental management plans to include provisions relating to waste minimisation and recycling

Environmental Component	SEO Code	Strategic Environmental Objectives	Indicators	Targets
Cultural Heritage	**CH1**	To contribute towards the protection of archaeological heritage (including entries to the Record of Monuments and Places) and its context within the surrounding landscape	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 wind energy development (including associated development) permitted by planning authorities adhering to the Guidelines	CH1: No significant adverse effects on archaeological heritage (including entries to the Record of Monuments and Places) and its context within the surrounding landscape
	CH2	To contribute 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)	CH2: Percentage of entries to the Record of Protected Structures and Architectural Conservation Areas (including their setting) protected from significant adverse effects resulting from wind energy development (including associated development) permitted by planning authorities adhering to the Guidelines	CH2: No significant adverse effects on architectural heritage (including entries to the Record of Protected Structures, entries to the National Inventory of Architectural Heritage and Architectural Conservation Areas))
Landscape	**L1**	To avoid or, where infeasible, minimise significant adverse effects on statutory designations relating to the landscape, including those included in the land use plans of planning authorities	L1: Number of significant adverse effects on statutory designations relating to the landscape, resulting from wind energy development (including associated development) permitted by planning authorities adhering to the Guidelines	L1: No significant adverse effects on statutory designations relating to the landscape
	L2 (and PHH2)	To protect use of and access to amenities including rights of way, parks, playing fields and walk and cycle ways	L2 (and PHH2): Disruption to use of and access to amenities including rights of way, parks, playing fields and walk and cycle ways	L2 (and PHH2): Avoid and minimise disruption to use of and access to amenities including rights of way, parks, playing fields and walk and cycle ways

Section 6 Description of Alternatives

6.1 Introduction

One of the critical roles of the SEA is to facilitate an evaluation of the likely environmental consequences of a range of alternatives for advice to planning authorities on planning for wind energy through the development plan process and in determining applications for planning permission.

These alternatives must be realistic, capable of implementation, and should represent a range of different approaches within the statutory and operational requirements of the Guidelines.

This section identifies and describes different alternatives, taking into account higher level strategic actions as well as the non-spatially constrained/specific nature of the Guidelines beyond their application at the national level.

The alternatives are evaluated in Section 7 resulting in the identification of potential effects and informing the preparation of the revised Draft Guidelines.

Further evaluation of the detailed parts of the Guidelines is provided at Section 8. Parts of the Guidelines that will facilitate the avoidance of adverse effects arising from wind energy development are identified at Section 9.

6.2 Need for the Review

The Draft Guidelines 2019 provide a targeted review of the 2006 Wind Energy Guidelines in relation to noise, shadow flicker, visual amenity setback, environmental assessment, consultation obligations, community dividend and grid connections.

The 2006 Guidelines reflect an industry far removed from that of today and it is therefore necessary to update these Guidelines to reflect the developments made in the intervening years and to be responsive to future changes also. As wind energy technology is continually evolving the Guidelines must also be responsive to industry development and community concerns.

The review began with a draft document issued by the then Department of the Environment, Community and Local Government for public consultation in December 2013. The public consultation resulted in a considerable level of public response (some 7,500 responses) highlighting the need to adequately balance the concerns of local communities while maintaining a stable investment environment for renewable energy.

The 2016 Programme for Government recognises the need to offer a better balance between investing in indigenous energy projects and the concerns of local communities.

The review of the 2006 Guidelines follows on from the Government's "Preferred Draft Approach", jointly announced in 2017 by the DHPLG and the DCCAE.

The Preferred Draft Approach was outlined to update the general public, stakeholders and planning authorities on the progress made and timetable for conclusion of the review of the 2006 Guidelines, in the light of the elapse of time since the review commenced in 2013.

It is within the policy context described above that the review has been developed.

Available alternatives are identified below under the aspects of noise, shadow flicker, visual amenity setback, consultation obligations, community dividend and grid connection. A comparative evaluation of likely significant environmental effects is provided under Section 7.

6.3 Alternatives for Noise

Noise Approach A, provided for within the 2006 Guidelines

The 2006 Guidelines set a night-time noise limit of 43 dB(A) (unrated) and a day-time limit of 45 dB(A) (unrated), or a maximum increase of 5 dB above background.

Noise Approach B, proposed in 2013

Under the noise limits as proposed in 2013, a 'flat' absolute outdoor noise limit of 40 dB(A) (unrated) for application on a 24-hour basis. This resulted in noise levels considerably higher than background levels arising in quiet locations.

Noise Approach C, finalised for public display in 2019

Under the noise limits as developed from 2016 to 2019, a relative rated noise limit of 5 dB above the existing background noise level to a maximum of 43 dB, within upper and lower fixed limits, as the most appropriate method to control noise impacts from wind energy developments.

The approach takes account of special audible characteristics (tonal, low frequency and amplitude modulation components) by including penalties for amplitude modulation and tonal noise and a threshold for low frequency noise which if breached will result in turbine shut down.

6.4 Alternatives for Shadow Flicker

Shadow Flicker Approach A, provided for within the 2006 Guidelines

Shadow Flicker Approach A would provide for a condition (where shadow flicker calculations indicate that occupied dwelling houses would be significantly affected) requiring the non-operation of turbines at times when predicted shadow flicker might adversely impact on any inhabited dwelling within 500m of a turbine. Such conditions provided for in this approach may also address limits on the number of hours per year or minutes per day that the shadow flicker should affect an inhabited dwelling, i.e. 30 hours per annum or 30 minutes per day

Shadow Flicker Approach B, finalised for public display in 2019

Shadow Flicker Approach B would provide for a condition to be attached to all planning permissions for wind farms to ensure that there will be no shadow flicker at any sensitive property and that the necessary measures, such as turbine shut down during the associated time periods, should be taken by the wind energy developer or operator to eliminate the shadow flicker.

6.5 Alternatives for Visual Amenity Setback

Visual Amenity Setback Approach A, 2006 Guidelines

The 2006 Guidelines did not provide for a visual amenity setback from individual properties, although they identified that, in general, noise is unlikely to be a significant problem where the distance from the nearest turbine to any noise sensitive property is more than 500 metres.

Visual Amenity Setback Approach B, proposed in 2013

Visual Amenity Setback Approach B would use a fixed 500 metre setback from dwellings.

Visual Amenity Setback Approach C, as has been called for in the past

Visual Amenity Setback Approach C uses a setback proportional to the tip height, ten times the tip height and/or in excess of 750m as a minimum.

Visual Amenity Setback Approach D, finalised for public display in 2019

Visual Amenity Setback Approach D uses a setback proportional to the tip height (four times the tip height) subject to a mandatory minimum setback of 500 meters.

6.6 Alternatives for Community Consultation

Community Consultation Approach A, provided for within the 2006 Guidelines

Community Consultation Approach A recommends that the developer of a wind energy project should engage in active consultation and dialogue with the local community at an early stage in the planning process, ideally prior to submitting a planning application.

Community Consultation Approach B, finalised for public display in 2019

Community Consultation Approach B proposes that there will be an obligation on the developer of a wind energy project to consult with communities, prior to submitting a planning application. Planning applications must contain a Community Report prepared by the applicant which will specify how the final proposal reflects community consultation.

6.7 Alternatives for Community Dividend

Community Dividend Approach A, provided for within the 2006 Guidelines

Community Dividend Approach A recommends that information is provided directly to the immediate population by way of formal letter on, inter alia, social gain and planning gain for the local community.

Community Dividend Approach B, finalised for public display in 2019

Community Dividend Approach B provides that wind energy developers should take steps to ensure that the proposed development will be of enduring economic or social benefit to the communities concerned. The Community Report provided as part of the application must set out the means by which the developer intends to provide an opportunity for the local community to benefit from the development, whether by facilitating community investment/ownership in the project or by other types of benefits/dividends, or a combination of the two.

6.8 Alternatives for Grid Connection

Grid Connection Approach A, provided for within the 2006 Guidelines

Grid Connection Approach A identifies that: power line connections between turbines and from turbines to the control building should be underground; and connection from the compound to the national grid can be above ground in all but the most sensitive landscapes.

Grid Connection Approach B, finalised for public display in 2019

Grid Connection Approach B identifies that, from a visual amenity aspect, undergrounding of cable connections from wind farms to the transmission and distribution system is the most appropriate solution, except where specific ground conditions or technical considerations make this impractical.

Section 7 Evaluation of Alternatives

7.1 Introduction

This section provides a comparative evaluation of the environmental effects of implementing the alternatives described in Section 6. This determination sought to understand whether each alternative was likely to improve, conflict with or have a neutral interaction with environmental components.

7.2 Methodology

The relevant aspects of the current state of the environment (see Section 4) and the Strategic Environmental Objectives (SEO) (see Section 5 and Table 7.1) are used in the evaluation of alternatives.

The alternatives are evaluated using compatibility criteria (see sample of these criteria at Table 7.2 below) in order to determine how they would be likely to affect the status of the SEOs. The SEOs and the alternatives are arrayed against each other to identify which interactions - if any - would cause effects on specific components of the environment. Where the appraisal identifies a likely conflict with the status of an SEO the relevant SEO code is entered into the conflict column - e.g. B1 which stands for the SEO likely to be affected - in this instance '*To ensure compliance with the Habitats and Birds Directives with regard to the protection of European Sites and Annexed habitats and species*[47]'.

The interactions identified are reflective of likely significant environmental effects[48].

The degree to which effects can be determined is limited as the revised Guidelines will be implemented through the lower tier environmental assessments and decision making of planning authorities and An Bord Pleanála. Nonetheless a comparative evaluation of the various alternatives can be provided.

[47] 'Annexed habitats and species' refer to those listed under Annex I, II & IV of the EU Habitats Directive and Annex I of the EU Birds Directive.

[48] These effects include secondary, cumulative, synergistic, short, medium and long-term permanent and temporary, positive and negative effects.

Table 7.1 Strategic Environmental Objectives

Environmental Component	SEO Code	Strategic Environmental Objectives
Population and Human Health	**PHH1 (and AC2)**	To protect populations and human health from exposure to incompatible wind energy development such as that which may arise from, for example, noise, shadow flicker, visual amenity disturbance, water quality, air quality, flood events or soil stability issues
	PHH2 (and L2)	To protect use of and access to amenities including rights of way, parks, playing fields and walk and cycle ways
Biodiversity, Flora and Fauna	**BFF1**	To ensure compliance with the Habitats and Birds Directives with regard to the protection of European Sites and Annexed habitats and species[49]
	BFF2	To ensure compliance with Article 10 of the Habitats Directive with regard to the management of features of the landscape which - by virtue of their linear and continuous structure or their function act as stepping stones (designated or not) - are of major importance for wild fauna and flora and essential for the migration, dispersal and genetic exchange of wild species
	BFF3	To avoid significant impacts on relevant habitats, species, environmental features or other sustaining resources in designated sites including Nature Conservation Sites and Areas of Special Scientific Interest and to ensure compliance with the Wildlife Acts 1976-2010 with regard to the protection of listed species
Soil	**S1**	To avoid significant damage to the stability of soil
	S2	To minimise significant damage to the hydrogeological and ecological function of the soil resource
Water	**W1**	To contribute towards maintaining and improving, where possible, the quality and status of surface waters
	W2	To contribute towards maintaining and improving, where possible, the chemical and quantitative status of groundwaters
	W3	To comply as appropriate with the provisions of the Planning System and Flood Risk Management: Guidelines for Planning Authorities (DEHLG, 2009)
Air and Climatic Factors	**AC1**	To contribute towards the achievement of targets relating to renewable energy and greenhouse gas emissions
	AC2 (and PHH1)	To protect populations and human health from exposure to incompatible wind energy development such as that which may arise from, for example, noise, shadow flicker, visual amenity disturbance, water quality, air quality, flood events or soil stability issues
Material Assets	**MA1**	To maximise the use of existing infrastructure and services
	MA2	To reduce waste volumes, minimise waste to landfill and increase recycling and reuse
Cultural Heritage	**CH1**	To contribute towards the protection of archaeological heritage (including entries to the Record of Monuments and Places) and its context within the surrounding landscape
	CH2	To contribute 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)
Landscape	**L1**	To avoid or, where infeasible, minimise significant adverse effects on statutory designations relating to the landscape, including those included in the land use plans of planning authorities
	L2 (and PHH2)	To protect use of and access to amenities including rights of way, parks, playing fields and walk and cycle ways

Table 7.2 Sample of Criteria for appraising the effect of Alternatives on SEOs

Likely to **Improve** status of SEOs			**Potential Conflict** with status of SEOs - likely to be mitigated by complying with other measures included within the Guidelines			Probable **Conflict** with status of SEOs- unlikely to be fully mitigated
to the **Greatest** degree	to a **Moderate** degree	to a **Lesser** degree	to a **Lesser** degree	to a **Moderate** degree	to a **Greater** degree	

[49] 'Annexed habitats and species' refer to those listed under Annex I, II & IV of the EU Habitats Directive and Annex I of the EU Birds Directive.

7.3 Detailed Evaluation of Alternatives

7.3.1 Effects Common to Alternatives

The Draft Wind Energy Guidelines 2019 provide sectoral advice to planning authorities on planning for wind energy through the development plan process and in determining applications for planning permission. Such processes are subject to their own environmental assessment (SEA, AA and EIA) processes as relevant.

As detailed in the National Planning Framework, the forthcoming Renewable Electricity Policy and Development Framework will aim to provide guidance for the sustainable development of renewable electricity projects of scale, in a sustainable manner, compatible with environmental and cultural heritage, landscape and amenity considerations. The development of the Renewable Electricity Policy and Development Framework will also facilitate informed decision making in relation to onshore renewable energy infrastructure. This Framework will be subject to its own environmental assessment (SEA and AA) processes as relevant.

Although the Draft Guidelines do not provide for the spatial location of wind energy development, they include various measures (including those identified at Section 9 "Mitigation Measures") that will, in combination with the selected alternatives, contribute towards environmental protection and management and will form part of the wider sectoral planning framework[50] in relation to wind energy development. Consequently, each of the alternatives, if selected, would contribute towards the wider sectoral planning framework in relation to wind energy development. Table 7.3 identifies the likely significant adverse environmental effects (if unmitigated) of wind energy development under the Draft Guidelines, in combination with the wider sectoral planning framework.

[50] Further details are provided on this wider sectoral planning framework under Section 2.3 (and associated Appendix I "Relationship with Legislation, Plans and Programmes") and Section 4.

Table 7.3 Potentially Significant Environmental Effects Common to All Alternatives

Environmental Component	Potentially Significant Environmental Effects of wind energy development, common to all alternatives in combination with the wider planning framework		Neutral Effects
	Adverse, if unmitigated	Positive Effect, likely to occur	
Population and Human Health	• Potential human health interactions with environmental vectors, including with respect to issues including noise, shadow flicker, visual amenity disturbance, water quality, air quality, flood events and soil stability issues • Loss of amenity usage and access		• Contributes towards protection of human health • Contributes towards protection of human health by protecting environmental vectors, including soil, water and air • Contributes towards the protection of amenity usage and access
Biodiversity, Flora and Fauna	Arising from both construction and operation of wind energy development and associated infrastructure (such as access routes, grid connections and substations): • Loss of/damage to biodiversity in designated sites (including European Sites and Nature Conservation Sites) and Annexed habitats and species, listed species, 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; and • Disturbance and displacement of protected species such as birds and bats.		• Contributes towards protection of biodiversity in designated sites (including European Sites and Nature Conservation Sites) and Annexed habitats and species (including birds and bats), listed species, ecological connectivity and non-designated habitats; and disturbance to biodiversity and flora and fauna. • Contributes towards protection of ecology as a result of contributing towards the protection of environmental vectors, such as water and soil.
Soil	• Adverse effects on designated geological heritage sites • Loss of soil/subsoil/geological stability • Erosion of peatlands as a result of wind farm and ancillary infrastructure (e.g. roads) development, alone and in combination with forestry • Damage to the hydrogeological and ecological function of the soil resource • Loss of potential in mineral/aggregate areas		• Contributes towards protection of designated sites of geological heritage, soil stability, peatlands, areas of significant mineral or aggregate potential and the hydrogeological and ecological function of the soil resource
Water	• Adverse effects on the status of water bodies arising from changes in quality, flow and/or morphology • Adverse effects on entries to the WFD Register of Protected Areas (ecological and human value) • Increase in the risk of flooding arising from wind farms and any ancillary infrastructure such as access roads • Drainage issues, including quality of run-off, arising from wind farms and any ancillary infrastructure such as access roads		• Contributes towards hydrological and hydrogeological regime, including water quality and supply • Contributes towards the protection of water-based designations • Requires appropriate of site drainage • Contributes towards flood risk management
Air and Climatic Factors	• Noise emissions from wind energy developments and potential interactions with human health • Pollution as a result of construction emissions, back-up generators • Carbon emissions occur when the development of wind farms requires peat extraction	• Contributions towards reductions in greenhouse gas and other emissions to air and associated achievement of legally binding targets (in combination with plans and programmes from all sectors, including energy, transport and land use planning) as a result of facilitating wind energy development • Contributions towards reductions in consumption from non-renewables and associated achievement of legally binding renewable energy targets, including sectoral targets for electricity (in	• Requires consideration of carbon emissions balance when the development of wind farms requires peat extraction – may be positive in some cases but occurrence depends on the merits of the particular application

Environmental Component	Potentially Significant Environmental Effects of wind energy development, common to all alternatives in combination with the wider planning framework		Neutral Effects
	Adverse, if unmitigated	Positive Effect, likely to occur	
		combination with plans and programmes from all sectors, including energy, transport and land use planning) as a result of facilitating wind energy development • Contributions towards reducing emissions of pollutants to air • Positive interactions with human health (see neutral effects) arising from taking into account noise emissions	
Material Assets	• Potential effects on road networks as result of the movement of the component parts of turbines at construction and decommissioning stages • Residual wastes from construction and wastes post-decommissioning		• Facilitates reuse of existing infrastructure • Contributions towards energy security (in combination with plans and programmes from all sectors, including energy, transport and land use planning) as a result of facilitating wind energy development • Makes recommendations on management of traffic • Residual wastes from construction and wastes post-decommissioning to be disposed of in line with higher level waste management policies
Cultural Heritage	• Potential effects on designated and unknown archaeological heritage including entries to the Record of Monuments and Places, underwater archaeology, entries to the Northern Ireland Sites and Monuments Record and Northern Ireland Areas of Significant Archaeological Interest and Archaeological Potential • Potential effects on architectural heritage as designated or included within the National Inventory of Architectural Heritage, Records of Protected Structures, Architectural Conservation Areas and Northern Ireland's Listed Buildings, Conservation Areas and Historical Parks and Gardens • Potential effects on context of archaeological and architectural heritage • Potential effects on intervisibility and interrelationships between monuments and structures within the wider landscape, including cross-border intervisibility and interrelationships		• Contributes towards protection of cultural heritage by facilitating compliance with legislation and recommending planning authorities to take account of a variety of designations in their decision making • Contributes towards ensuring intervisibility and interrelationships between monuments and structures within the wider landscape, including cross-border intervisibility and interrelationships
Landscape	• Occurrence of adverse visual impacts on landscape designations such as landscape character areas (including Northern Ireland Regional Landscape Character Areas), landscape sensitivity and value areas, high amenity zones, scenic views and prospects and land use objectives relating to landscape protection, National Parks, Special Amenity Order Areas and UNESCO World Heritage Sites • Occurrence of adverse visual impacts in marine and island areas where there may be limited assimilative capacity		• Contributes towards protection of landscape and landscape designations • Contributes towards the protection of amenity usage and access

7.3.2 Alternatives for Noise

All of the alternative approaches are compliant with the following two World Health Organisation (WHO) standards[51]:

- The WHO Guidelines for Community Noise (1999); and
- WHO Night Noise Guidelines for Europe (2009).

While not specifically mentioning wind energy developments, both of these publications suggest long-term indoor noise levels should not exceed 30 dB to avoid disturbing sleep.

The alternative approaches limit wind turbine noise on the basis of full power output and in practice, noise levels will be below this for the majority of the time. In that way the average sound level will meet the WHO target.

Only Noise Approach C is fully consistent with the WHO's Regional Office for Europe's *Environmental Noise Guidelines for the European Region* (WHO, 2018).

Noise Approach A sets a night-time noise limit of 43 dB and a day-time limit of 45 dB, or a maximum increase of 5 dB above background. These noise limits are less restrictive than those that are provided for by **Noise Approach C**.

Noise Approach B proposes a 40-dB absolute outdoor noise limit (to apply on a 24-hour basis). This limit takes no account of background noise and would in effect be a 'one-size fits all' approach. As such, it would prove too restrictive in some locations and too generous in others. For example, it made no distinction to low noise environments, where the same 40 dB limit would have applied.

Absolute limits establish a fixed numeric value that must be complied with regardless of the specific ambient noise environment at the property. Sounds containing tonality and amplitude modulation[52] are known to be more intrusive. Therefore, it is appropriate to lower the permitted sound limit when they are present. The result is a 'Rated' noise measure, which is the sum of the measured level and any penalties for certain types of special audible characteristics. Adopting a rated noise level is a better way to gauge the impact of a noise level on the listener, give additional protection to local residents and incentivise best industry practice.

Noise Approach C sets a noise limit of 5 dB above background to a maximum of 43 dB, within upper and lower fixed limits, as the most appropriate method to control noise impacts from wind energy developments. **Noise Approach C** takes account of certain noise characteristics specific to wind energy projects i.e. tonal, amplitude modulation and low frequency noise.

Under **Noise Approach C**, and using a rated noise measure, Ireland would be one of the first countries in Europe to introduce noise penalties for breaches of limits on tonal and amplitude modulation criteria with a zero-tolerance approach for low frequency noise. However, **Noise Approaches A and B** would provide for unrated approaches and would fail to incentivise wind developers to address certain noise characteristics known to cause particular disturbance, namely tonal, amplitude modulation and low frequency noise.

Taking into account all of the above, **Noise Approach C** would benefit the protection of populations and human health the most from exposure to noise, followed by **Noise Approach B**, with **Noise Approach A** benefitting the protection of populations and human health the least from exposure to noise.

[51] Both documents suggest that long-term indoor noise levels should not exceed 30 dB(A) to avoid negative effects on sleep. The WHO Night Noise Guidelines state: '*A value for an arbitrary single night will, except in extreme cases, bear no relationship to an individual's long-term health status, whereas a sustained sufficiently high level over a long period may'.*

The Night Noise Guidelines suggest a target of 40 dB(A) $L_{night,\ outside}$ as defined in the Environmental Noise Directive (2002/49/EC). The Environmental Noise Directive (2002/49/EC) defines the night-time noise indicator L_{night} as the A-weighted long-term average sound level as defined in ISO 1996-2: 1987, determined over all the night periods of a year.

The WHO accepts that noise levels can exceed the average level provided the long-term target is achieved.

In practice noise levels are below wind turbine noise at full power for the majority of the time so that the average sound level determined over all the periods of a year meets the WHO target.

[52] For example, the characteristic noise of a wind turbine might be described by the listener as a regular 'swish' sound. This recurring noise relates to the turbine turning speed and is referred to as amplitude modulation. Such a noise frequently causes annoyance at lower levels than sounds without such a character.

Noise Approach C would have the potential to conflict with the achievement of targets relating to renewable energy and greenhouse gases the most. By restricting the area available for wind energy development the least, **Noise Approach A** would have the potential to conflict with the achievement of targets relating to renewable energy and greenhouse gases the least.

A comparative evaluation of these alternatives against SEOs is provided in Table 7.4.

7.3.3 Alternatives for Shadow Flicker

Shadow Flicker Approach A would benefit the protection of human health, however; as there would be risk for shadow flicker to occur, there would be scope for residual adverse effects on human health to occur.

As there would be no scope for shadow flicker to occur under **Shadow Flicker Approach B**, there would be no scope for adverse effects on residential amenity and human health to occur as a result of shadow flicker. The zero-tolerance approach to shadow flicker which is taken by **Shadow Flicker Approach B** would benefit the protection of residential amenity and human health to a greater degree than would be the case with **Shadow Flicker Approach A**. **Shadow Flicker Approach B** would lead international standards in avoiding shadow flicker.

A comparative evaluation of these alternatives against SEOs is provided in Table 7.5.

7.3.4 Alternatives for Visual Amenity Setback

Visual Amenity Setback Approach A (2006 Guidelines) would not provide for a visual amenity setback from individual properties. This would provide least protection of visual amenity and the most amount of adverse impacts on visual amenity would be likely to occur under this alternative. This alternative would not, however, limit the land area potentially available for wind energy projects.

Visual Amenity Setback Approach B uses a fixed 500 metre setback which would benefit the protection of visual/residential amenity up to a certain height of tip. Regardless of the height of the tip, there would be no visual amenity protection provided under this approach in areas beyond the 500-metre setback.

By using a setback proportional to the height (four times the height, consistent with application in countries such as Denmark, subject to a mandatory minimum setback of 500 metres), **Visual Amenity Setback Approach D** reflects the impact of the turbine on the visual environment and provides a level of protection to visual amenity commensurate with any tip height. In this way, **Visual Amenity Setback Approach D** is responsive, providing for the safeguarding of visual amenity into the future where there may be increases in the height of turbines. With higher turbines having a greater visual impact, it is therefore apt that they require greater setback distances to prevent visual intrusion.

Setbacks of greater size provided for by **Visual Amenity Setback Approach C** (ten times the tip height and/or in excess of 750m as a minimum) would have the effect of seriously diminishing the land area potentially available for wind energy projects as a result of prevailing Irish rural development patterns where greater than 37% of Irish people were identified as living in rural areas in 2016 (Census 2016, CSO), many in one-off housing units, with consequent implications for the non-attainment of binding emissions and energy obligations, including fines. This approach could also put pressure on the development of environmentally sensitive upland and wilderness areas that can be less suited to wind energy development (for ecological and landscape reasons) and less well served by existing infrastructure and services.

Visual Amenity Setback Approach C would benefit the protection of visual amenity to a greater degree, followed by **Visual Amenity Setback Approach D** with **Visual Amenity Setback Approach B** benefitting the protection of visual amenity to a lesser degree. **Visual Amenity Setback Approach A** would benefit the protection of visual amenity the least.

Taking into account all of the above, the broader project and landscape design parameters being integrated into the Guidelines (including those relating to siting, spatial extent and scale, cumulative effect and spacing, layout and height of turbines) and the noise approach being adopted for the Guidelines, it is considered that **Visual Amenity Setback**

Approach D would provide adequate protection for visual amenity while not compromising contributions towards renewable energy and emissions targets.

A comparative evaluation of these alternatives against SEOs is provided in Table 7.6.

7.3.5 Alternatives for Community Consultation

Community involvement can help to facilitate a greater degree of certainty in project preparation by allowing for potential issues to be addressed at an early stage. This can contribute towards: avoiding wasting unnecessary community, developer and planning authority resources; avoiding unnecessary delays; and reducing the proportion of unsuccessful projects while increasing the proportion of successful projects. Successful projects will further contribute towards the meeting of renewable energy generation and greenhouse gas emission targets.

Community Consultation Approach B proposes that there will be an obligation on the developer to consult with communities, prior to submitting a planning application, and to provide a Community Report specifying how the final proposals reflect community consultation, thereby increasing the likelihood of such beneficial outcomes occurring. **Community Consultation Approach A** provides a more flexible approach that could also benefit the success of wind energy development projects somewhat.

Taking into account all of the above, **Community Consultation Approach B** would have the greatest positive impact on the community and therefore the sustainable development of onshore wind farms and the achievement of Ireland's renewable energy targets.

A comparative evaluation of these alternatives against SEOs is provided in Table 7.7.

7.3.6 Alternatives for Community Dividend

Community dividend or benefit can help to reduce opposition to new developments thereby contributing towards a greater number of successful projects and the meeting of renewable energy generation and greenhouse gas emission targets.

Community Dividend Approach B would provide a comprehensive set of measures with regard to community dividend, including on issues such as financial support for community-led projects, a Community Benefit Fund, a National Community Benefits Register and other project supports. In comparison, **Community Dividend Approach A** only recommends that information is provided directly to the immediate population by way of formal letter on, inter alia, social gain and planning gain for the local community.

Taking into account all of the above, **Community Dividend Approach B** would have the greatest positive impact on the community and therefore the sustainable development of onshore wind farms and the achievement of Ireland's renewable energy targets.

A comparative evaluation of these alternatives against SEOs is provided in Table 7.8.

7.3.7 Alternatives for Grid Connection

Grid Connection Approach A (provided for within the 2006 Guidelines) provides for grid connections between the compound and the national grid to be above ground in all but the most sensitive landscapes whereas **Grid Connection Approach B** (finalised for public display in 2019) provides for these connections to be underground, except where specific ground conditions or technical considerations make this impractical.

Therefore **Grid Connection Approach B** would benefit the protection of visual amenity to a greater degree in the long term, provided adequate reinstatement is carried out, when compared with **Grid Connection Approach A. Grid Connection Approach B** would also reduce potential adverse impacts upon: flight paths, such as those of birds and bats; and the context of cultural heritage that is situated above ground.

Undergrounding cables has the potential, if unmitigated, to result in greater: habitat loss as a result of removal of field boundaries and hedgerows (right of way preparation) followed by topsoil stripping to ensure machinery does not destroy soil structure and drainage

properties; short to medium term impacts on the landscape where, for example, hedgerows are encountered; impacts on underground archaeology; impacts on soil structure and drainage; impacts on rivers as a result of sedimentation. The Guidelines require assessment of likely impacts of undergrounding cables to be considered and appropriate mitigation measures to be adopted or, where specific ground conditions or technical considerations make this impractical, the use of above ground cables will be adopted, in which case the visual impact must be considered.

A comparative evaluation of these alternatives against SEOs is provided in Table 7.9.

7.3.8 Comparative Evaluation against SEOs

Table 7.4 to Table 7.9 provide a comparative evaluation of all alternatives against the SEOs that are identified in Table 7.1.

Table 7.4 Comparative Evaluation of Alternatives for Approach to the Aspect of Noise against SEOs

The selected alternative for the review of the Guidelines is **emboldened** below	Likely to **Improve** status of SEOs			**Potential Conflict** with status of SEOs - **likely to be mitigated** by complying with other measures included within the Guidelines			Probable **Conflict** with status of SEOs- unlikely to be fully mitigated
	to the **Greatest** degree	to a **Moderate** degree	to a **Lesser** degree	to a **Lesser** degree	to a **Moderate** degree	to a **Greater** degree	
	Direct interactions (see Section 7.3.2) are **emboldened**, indirect and cumulative/in-combination (see Section 7.3.1) are not.						
Noise Approach A, provided for within the 2006 Guidelines	**AC1**	BFF1 BFF2 BFF3 S1 S2 W1 W2 W3 MA1 CH1 CH2 L1 L2	**PHH1 AC2** PHH2	**AC1**	BFF1 BFF2 BFF3 S1 S2 W1 W2 W3 MA1 CH1 CH2 L1 L2	**PHH1 AC2** PHH2	
Noise Approach B, proposed in 2013		**PHH1 AC1 AC2** PHH2 BFF1 BFF2 BFF3 S1 S2 W1 W2 W3 MA1 CH1 CH2 L1 L2			**PHH1 AC1 AC2** PHH2 BFF1 BFF2 BFF3 S1 S2 W1 W2 W3 MA1 CH1 CH2 L1 L2		
Noise Approach C, finalised for public display in 2019	**PHH1 AC2** PHH2	BFF1 BFF2 BFF3 S1 S2 W1 W2 W3 MA1 CH1 CH2 L1 L2	**AC1**	**PHH1 AC2** PHH2	PHH2 BFF1 BFF2 BFF3 S1 S2 W1 W2 W3 MA1 CH1 CH2 L1 L2	**AC1**	

Table 7.5 Comparative Evaluation of Alternatives for Approach to the Aspect of Shadow Flicker against SEOs

The selected alternative for the review of the Guidelines is **emboldened** below	Likely to **Improve** status of SEOs			**Potential Conflict** with status of SEOs - **likely to be mitigated** by complying with other measures included within the Guidelines			Probable **Conflict** with status of SEOs- unlikely to be fully mitigated
	to the **Greatest** degree	to a **Moderate** degree	to a **Lesser** degree	to a **Lesser** degree	to a **Moderate** degree	to a **Greater** degree	
	Direct interactions (see Section 7.3.3) are **emboldened**; indirect and cumulative/in-combination interactions (see Section 7.3.1) are not.						
Shadow Flicker Approach A, provided for within the 2006 Guidelines	**AC1**	BFF1 BFF2 BFF3 S1 S2 W1 W2 W3 MA1 CH1 CH2 L1 L2	**PHH1 AC2** PHH2	**AC1**	BFF1 BFF2 BFF3 S1 S2 W1 W2 W3 MA1 CH1 CH2 L1 L2	**PHH1 AC2** PHH2	
Shadow Flicker Approach B, finalised for public display in 2019	**PHH1 AC2** PHH2	BFF1 BFF2 BFF3 S1 S2 W1 W2 W3 MA1 CH1 CH2 L1 L2	**AC1**		PHH1 PHH2 AC2 BFF1 BFF2 BFF3 S1 S2 W1 W2 W3 MA1 CH1 CH2 L1 L2	**AC1**	

Table 7.6 Comparative Evaluation of Alternatives for Approach to the Aspect of Visual Amenity Setback against SEOs

The selected alternative for the review of the Guidelines is **emboldened** below	Likely to **Improve** status of SEOs					**Potential Conflict** with status of SEOs - **likely to be mitigated** by complying with other measures included within the Guidelines					Probable **Conflict** with status of SEOs- unlikely to be fully mitigated
	to the **Greatest** degree	to the **Greater** degree	to a **Moderate** degree	to a **Lesser** degree	to the **Least** degree	to the **Least** degree	to a **Lesser** degree	to a **Moderate** degree	to a **Greater** degree	to a **Greatest** degree	
	Direct interactions (see Section 7.3.4) are **emboldened**; indirect and cumulative/in-combination interactions (see Section 7.3.1) are not.										
Visual Amenity Setback Approach A, 2006 Guidelines	**AC1**		BFF1 BFF2 BFF3 S1 S2 W1 W2 W3 MA1 CH1 CH2 L1		**PHH2 L2** PHH1 AC2	**AC1**		BFF1 BFF2 BFF3 S1 S2 W1 W2 W3 MA1 CH1 CH2 L1		**PHH2 L2** PHH1 AC2	
Visual Amenity Setback Approach B, proposed in 2013		**AC1**	BFF1 BFF2 BFF3 S1 S2 W1 W2 W3 MA1 CH1 CH2 L1	**PHH2 L2** PHH1 AC2			**AC1**	BFF1 BFF2 BFF3 S1 S2 W1 W2 W3 MA1 CH1 CH2 L1	**PHH2 L2** PHH1 AC2		
Visual Amenity Setback Approach C, as has been called for in the past	**PHH2 L2** PHH1 AC2		S1 S2 W1 W2 W3 CH1 CH2	**AC1** BFF1 BFF2 BFF3 L1 MA1		**PHH2 L2** PHH1 AC2		S1 S2 W1 W2 W3 CH1 CH2	BFF1 BFF2 BFF3 L1 MA1		**AC1**
Visual Amenity Setback Approach D, finalised for public display in 2019			**PHH2 L2 AC1** PHH1 AC2 BFF1 BFF2 BFF3 S1 S2 W1 W2 W3 MA1 CH1 CH2 L1 L2					**PHH2 L2 AC1** PHH1 AC2 BFF1 BFF2 BFF3 S1 S2 W1 W2 W3 MA1 CH1 CH2 L1			

Table 7.7 Comparative Evaluation of Alternatives for Approach to the Aspect of Community Consultation against SEOs

The selected alternative for the review of the Guidelines is **emboldened** below	Likely to **Improve** status of SEOs			**Potential Conflict** with status of SEOs - **likely to be mitigated** by complying with other measures included within the Guidelines			Probable **Conflict** with status of SEOs- unlikely to be fully mitigated
	to the **Greatest** degree	to a **Moderate** degree	to a **Lesser** degree	to a **Lesser** degree	to a **Moderate** degree	to a **Greater** degree	
	Direct interactions (see Section 7.3.5) are **emboldened**; indirect and cumulative/in-combination interactions (see Section 7.3.1) are not.						
Community Consultation Approach A, provided for within the 2006 Guidelines		PHH1 PHH2 AC2 BFF1 BFF2 BFF3 S1 S2 W1 W2 W3 MA1 CH1 CH2 L1 L2	**AC1**		PHH1 PHH2 AC2 BFF1 BFF2 BFF3 S1 S2 W1 W2 W3 MA1 CH1 CH2 L1 L2	**AC1**	
Community Consultation Approach B, finalised for public display in 2019	**AC1**	PHH1 PHH2 AC2 BFF1 BFF2 BFF3 S1 S2 W1 W2 W3 MA1 CH1 CH2 L1 L2		**AC1**	PHH1 PHH2 AC2 BFF1 BFF2 BFF3 S1 S2 W1 W2 W3 MA1 CH1 CH2 L1 L2		

Table 7.8 Comparative Evaluation of Alternatives for Approach to the Aspect of Community Dividend against SEOs

The selected alternative for the review of the Guidelines is **emboldened** below	Likely to **Improve** status of SEOs			**Potential Conflict** with status of SEOs - **likely to be mitigated** by complying with other measures included within the Guidelines			Probable **Conflict** with status of SEOs- unlikely to be fully mitigated
	to the **Greatest** degree	to a **Moderate** degree	to a **Lesser** degree	to a **Lesser** degree	to a **Moderate** degree	to a **Greater** degree	
	Direct interactions (see Section 7.3.6) are **emboldened**; indirect and cumulative/in-combination interactions (see Section 7.3.1) are not.						
Community Dividend Approach A, provided for within the 2006 Guidelines		PHH1 PHH2 AC2 BFF1 BFF2 BFF3 S1 S2 W1 W2 W3 MA1 CH1 CH2 L1 L2	**AC1**		PHH1 PHH2 AC2 BFF1 BFF2 BFF3 S1 S2 W1 W2 W3 MA1 CH1 CH2 L1 L2	**AC1**	
Community Dividend Approach B, finalised for public display in 2019	**AC1**	PHH1 PHH2 AC2 BFF1 BFF2 BFF3 S1 S2 W1 W2 W3 MA1 CH1 CH2 L1 L2		**AC1**	PHH1 PHH2 AC2 BFF1 BFF2 BFF3 S1 S2 W1 W2 W3 MA1 CH1 CH2 L1 L2		

Table 7.9 Comparative Evaluation of Alternatives for Approach to the Aspect of Grid Connection against SEOs

The selected alternative for the review of the Guidelines is **emboldened** below	Likely to **Improve** status of SEOs			**Potential Conflict** with status of SEOs - **likely to be mitigated** by complying with other measures included within the Guidelines			Probable **Conflict** with status of SEOs- unlikely to be fully mitigated
	to the **Greatest** degree	to a **Moderate** degree	to a **Lesser** degree	to a **Lesser** degree	to a **Moderate** degree	to a **Greater** degree	
	Direct interactions (see Section 7.3.6) are **emboldened**; indirect and cumulative/in-combination interactions (see Section 7.3.1) are not.						
Grid Connection Approach A (provided for within the 2006 Guidelines)	**CH1** (underground) **BFF1 BFF2 BFF3** (apart from flight paths) **S1 S2 W1 W2 W3 MA2**	**AC1** MA1 PHH1 AC2	**L1 L2 PHH2** **CH1** (above ground) **CH2** **BFF1 BFF2 BFF3** (flight paths)	**CH1** (underground) **BFF1 BFF2 BFF3** (apart from flight paths) **S1 S2 W1 W2 W3 MA2**	**AC1** MA1 PHH1 AC2	**L1 L2 PHH2** **CH1** (above ground) **CH2** **BFF1 BFF2 BFF3** (flight paths)	
Grid Connection Approach B (finalised for public display in 2019)	**L1 L2 PHH2** **CH1** (above ground) **CH2** **BFF1 BFF2 BFF3** (flight paths)	**AC1** MA1 PHH1 AC2	**L1 L2 PHH2** **CH1** (underground) **BFF1 BFF2 BFF3** (apart from flight paths) **S1 S2 W1 W2 W3 MA2**	**L1 L2 PHH2** **CH1** (above ground) **CH2** **BFF1 BFF2 BFF3** (flight paths)	**AC1** MA1 PHH1 AC2	**CH1** (underground) **BFF1 BFF2 BFF3** (apart from flight paths) **S1 S2 W1 W2 W3 MA2**	

7.4 Selected Alternatives and Overall Findings

Selected alternatives for the Draft Guidelines under each of the approaches considered are identified on Table 7.10 below.

The selected alternatives provide a balance between:

- Developing sufficient wind energy capacity to facilitate contributions towards meeting renewable energy generation and greenhouse gas emission targets set in binding EU requirements; and
- Ensuring environmental protection and management, including with respect to the issues of noise/sensitive locations, shadow flicker/human health and visual amenity.

Table 7.10 Selected Alternatives

Aspect Considered	Selected Alternative
Noise	Noise Approach C, finalised for public display in 2019
Shadow Flicker	Shadow Flicker Approach B, finalised for public display in 2019
Visual Amenity Setback	Visual Amenity Setback Approach D, finalised for public display in 2019
Community Consultation	Community Consultation Approach B, finalised for public display in 2019
Community Dividend	Community Dividend Approach B, finalised for public display in 2019
Grid Connection	Grid Connection Approach B, finalised for public display in 2019

Section 8 Evaluation of the Draft Guidelines

8.1 Introduction

This section provides an assessment of environmental effects from implementation of the Draft Guidelines.

The Guidelines are evaluated using compatibility criteria (see Table 8.1 below) in order to determine how they would be likely to affect the status of the SEOs. The SEOs and parts of the Guidelines are arrayed against each other to identify which interactions - if any - would cause effects on specific components of the environment. Where the appraisal identifies a likely conflict with the status of an SEO the relevant SEO code is entered into the conflict column - e.g. B1 which stands for the SEO likely to be affected - in this instance 'to ensure compliance with the Habitats and Birds Directives with regard to the protection of European Sites and Annexed habitats and species[53]'.

The interactions identified are reflective of likely significant environmental effects[54];

1. Interactions that would be likely to improve the status of a particular SEO would be likely to result in a significant positive effect on the environmental component to which the SEO relates.
2. Interactions that would potentially conflict with the status of an SEO and would be likely to be mitigated would be likely to result in potential significant negative effects however these effects would be likely to be mitigated by measures which have been integrated into the Guidelines.
3. Interactions that would probably conflict with the status of an SEO and would be unlikely to be mitigated would be likely to result in a significant negative effect on the environmental component to which the SEO relates.

The degree of significance of effects occurring cannot be fully determined at this level of decision making due to the lack of exact detail available with regard to the type, scale or locations of development that will be permitted under planning framework, including the Guidelines.

Mitigation measures to prevent or reduce significant adverse effects posed by the Guidelines are identified in Section 9 - these have been integrated into the Guidelines.

Table 8.1 Criteria for appraising the effect of the Guidelines on SEOs

Likely to **Improve** status of SEOs	**Potential Conflict** with status of SEOs - likely to be mitigated	Probable **Conflict** with status of SEOs- unlikely to be fully mitigated	**No Likely** interaction with status of SEOs

[53] 'Annexed habitats and species' refer to those listed under Annex I, II & IV of the EU Habitats Directive and Annex I of the EU Birds Directive.
[54] These effects include secondary, cumulative, synergistic, short, medium and long-term permanent and temporary, positive and negative effects.

Table 8.2 Strategic Environmental Objectives[55]

Environmental Component	SEO Code	Strategic Environmental Objectives
Population and Human Health	**PHH1 (and AC2)**	To protect populations and human health from exposure to incompatible wind energy development such as that which may arise from, for example, noise, shadow flicker, visual amenity disturbance, water quality, air quality, flood events or soil stability issues
	PHH2 (and L2)	To protect use of and access to amenities including rights of way, parks, playing fields and walk and cycle ways
Biodiversity, Flora and Fauna	**BFF1**	To ensure compliance with the Habitats and Birds Directives with regard to the protection of European Sites and Annexed habitats and species[56]
	BFF2	To ensure compliance with Article 10 of the Habitats Directive with regard to the management of features of the landscape which - by virtue of their linear and continuous structure or their function act as stepping stones (designated or not) - are of major importance for wild fauna and flora and essential for the migration, dispersal and genetic exchange of wild species
	BFF3	To avoid significant impacts on relevant habitats, species, environmental features or other sustaining resources in designated sites including Nature Conservation Sites and Areas of Special Scientific Interest and to ensure compliance with the Wildlife Acts 1976-2010 with regard to the protection of listed species
Soil	**S1**	To avoid significant damage to the stability of soil
	S2	To minimise significant damage to the hydrogeological and ecological function of the soil resource
Water	**W1**	To contribute towards maintaining and improving, where possible, the quality and status of surface waters
	W2	To contribute towards maintaining and improving, where possible, the chemical and quantitative status of groundwaters
	W3	To comply as appropriate with the provisions of the Planning System and Flood Risk Management: Guidelines for Planning Authorities (DEHLG, 2009)
Air and Climatic Factors	**AC1**	To contribute towards the achievement of targets relating to renewable energy and greenhouse gas emissions
	AC2 (and PHH1)	To protect populations and human health from exposure to incompatible wind energy development such as that which may arise from, for example, noise, shadow flicker, visual amenity disturbance, water quality, air quality, flood events or soil stability issues
Material Assets	**MA1**	To maximise the use of existing infrastructure and services
	MA2	To reduce waste volumes, minimise waste to landfill and increase recycling and reuse
Cultural Heritage	**CH1**	To contribute towards the protection of archaeological heritage (including entries to the Record of Monuments and Places) and its context within the surrounding landscape
	CH2	To contribute 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 setting
Landscape	**L1**	To avoid or, where infeasible, minimise significant adverse effects on statutory designations relating to the landscape, including those included in the land use plans of planning authorities
	L2 (and PHH2)	To protect use of and access to amenities including rights of way, parks, playing fields and walk and cycle ways

[55] See Section 5 for a description of Strategic Environmental Objectives.
[56] 'Annexed habitats and species' refer to those listed under Annex I, II & IV of the EU Habitats Directive and Annex I of the EU Birds Directive.

8.2 Overall Evaluation (including Transboundary)

The Draft Wind Energy Guidelines 2019 provide sectoral advice to planning authorities on planning for wind energy through the development plan process and in determining applications for planning permission. Such processes are subject to their own environmental assessment (SEA, AA and EIA) processes as relevant.

As detailed in the National Planning Framework, the forthcoming Renewable Electricity Policy and Development Framework will aim to identify strategic areas for the sustainable development of renewable electricity projects of scale, in a sustainable manner, compatible with environmental and cultural heritage, landscape and amenity considerations. The development of the Renewable Electricity Policy and Development Framework will also facilitate informed decision making in relation to onshore renewable energy infrastructure. This Framework will be subject to its own environmental assessment (SEA and AA) processes as relevant.

Although the Guidelines do not provide for the spatial location of wind energy development, they include various measures (including those identified at Section 9 "Mitigation Measures") that will contribute towards environmental protection and management and form part of the wider sectoral planning framework[57] in relation to wind energy development. The Guidelines provide a balance between:

- Developing sufficient wind energy capacity to facilitate contributions towards meeting renewable energy generation and greenhouse gas emission targets set in binding EU requirements; and
- Ensuring environmental protection and management, including with respect to the issues of noise/sensitive locations, shadow flicker/human health and visual amenity.

The Department of Housing, Planning and Local Government have integrated all recommendations arising from the SEA and AA processes into the Guidelines (please refer to Section 9 of this report).

Table 8.3 identifies the likely environmental effects of wind energy development under the revised Draft Guidelines, in combination with the wider sectoral planning framework. The effects are categorised as significant positive effects, significant adverse effects if unmitigated and residual adverse non-significant effects after mitigation.

Environmental impacts which occur will be determined by the nature and extent of multiple or individual projects and site-specific environmental factors.

The scope of the assessment (including description of baseline, the relationship to other plans and programmes and the evaluation of effects) has considered the environment of both Ireland and Northern Ireland. SEA Scoping was undertaken in conjunction with the designated environmental authority for Northern Ireland – the Northern Ireland Environment Agency – who provided an SEA Scoping submission including suggestions that have been integrated into the SEA. Taking into account, *inter alia*, the detailed mitigation which has been integrated into the Guidelines (including that which is identified at Section 9), it has been determined that significant residual adverse environmental effects will not occur in either Ireland or Northern Ireland.

[57] Further details are provided on this wider sectoral planning framework under Section 2.3 (and associated Appendix I "Relationship with Legislation, Plans and Programmes") and Section 4.

Table 8.3 Overall Evaluation – Likely Environmental Effects arising from the Draft Guidelines, in combination with the wider planning framework

Environmental Component	Likely Environmental Effects in combination with the wider planning framework				Key SEO Codes
	Significant Positive Effect	**Significant Adverse Effect, if unmitigated**	**Neutral Effects**	**Residual Adverse Non-Significant Effects**	
Population and Human Health		• Potential human health interactions with environmental vectors, including with respect to issues including noise, shadow flicker, visual amenity disturbance, water quality, air quality, flood events and soil stability issues • Loss of amenity usage and access	• Contributes towards protection of human health • Contributes towards protection of human health by protecting environmental vectors, including soil, water and air • Contributes towards the protection of amenity usage and access	• Potential interactions with residual effects on environmental vectors. This has been mitigated by provisions that have been integrated into the Guidelines, including those at: Chapter 5 "5.7 Noise from Wind Energy Development"; Chapter 5 "5.8 Shadow Flicker"; Chapter 5 "5.4 Ground Conditions/ Geology"; Chapter 6 "6.18.1 Appropriate Setback"; and Chapter 4 "4.10.5 Aircraft Safety".	**PHH1 (and AC2)** **PHH2 (and L1)**
Biodiversity, Flora and Fauna		Arising from both construction and operation of wind energy development and associated infrastructure such as access routes, grid connections and substations: • Loss of/damage to biodiversity in designated sites (including European Sites and Nature Conservation Sites) and Annexed habitats and species, listed species, ecological connectivity and non-designated habitats; and disturbance to biodiversity and flora and fauna; • Habitat[58] loss, fragmentation and deterioration, including patch size and edge effects; and • Disturbance and displacement of protected species[59] such as birds and bats.	• Contributes towards protection of biodiversity in designated sites (including European Sites and Nature Conservation Sites) and Annexed habitats and species (including birds and bats), listed species, ecological connectivity and non-designated habitats; and disturbance to biodiversity and flora and fauna. • Contributes towards protection of ecology as a result of contributing towards the protection of environmental vectors, such as water and soil.	• Loss of an extent of non-protected habitats and species arising from the replacement of semi-natural land covers with artificial surfaces. • Losses or damage to ecology (these would be in compliance with relevant legislation).	**BFF1** **BFF2** **BFF3**

[58] The main potential impacts on habitats that can result in the reduction, or loss, of biodiversity are:
- Direct loss of habitat to the developments' infrastructure, including turbine foundations, buildings, roads, quarries and borrow pits;
- Degradation of habitats through alteration or disturbance, in particular arising from changes to hydrology that may alter the surface or groundwater flows and levels, and drainage patterns critical in peatlands and river headwaters;
- Fragmentation of habitats and increased edge effects; and
- Degradation and loss of habitats outside the development site, especially wetland habitats that may arise from pollution, siltation and erosion originating from within the development site.

[59] The main potential impacts to birds from wind energy developments have been identified as:
- Disturbance during the construction and operational phases leading to the temporary or permanent displacement of birds from the development site and its environs;
- Collision mortality, although studies have shown this to be low risk;
- Barotrauma effect, the vortices created by turbines are known to cause injury and mortality of bird and bat species. These vortices extend beyond the physical footprint of the turbine;
- Barrier to movement, although studies have indicated that the response by birds to wind energy development may be variable and related to species and/or season; and
- Direct loss or degradation of habitats for breeding, feeding/ foraging and/or roosting purposes, particularly in wetland, woodland and riparian habitats.

Environmental Component	Likely Environmental Effects in combination with the wider planning framework				Key SEO Codes
	Significant Positive Effect	**Significant Adverse Effect, if unmitigated**	**Neutral Effects**	**Residual Adverse Non-Significant Effects**	
Soil		• Adverse effects on designated geological heritage sites • Loss of soil/subsoil/geological stability • Erosion of peatlands as a result of wind farm and ancillary infrastructure (e.g. roads) development, alone and in combination with forestry • Damage to the hydrogeological and ecological function of the soil resource • Loss of potential in mineral/aggregate areas	• Contributes towards protection of designated sites of geological heritage, soil stability, peatlands, areas of significant mineral or aggregate potential and the hydrogeological and ecological function of the soil resource	• Loss of an extent of soil function arising from the replacement of semi-natural land covers with artificial surfaces.	**S1 S2**
Water		• Adverse effects on the status of water bodies arising from changes in quality, flow and/or morphology • Adverse effects on entries to the WFD Register of Protected Areas (ecological and human value) • Increase in the risk of flooding arising from wind farms and any ancillary infrastructure such as access roads • Drainage issues, including quality of run-off, arising from wind farms and any ancillary infrastructure such as access roads	• Contributes towards hydrological and hydrogeological regime, including water quality and supply • Contributes towards the protection of water-based designations • Requires appropriate site drainage • Contributes towards flood risk management	• Increased loadings as a result of development to be in compliance with River Basin Management Plan. • Flood-related risks remain due to uncertainty with regard to extreme weather events.	**W1 W2 W3**

Collision risk species include all bird and bats species present in Ireland. The extent to which birds will be impacted by wind energy developments will vary depending on species, season and location, and these impacts may be temporary or permanent. Those species groups considered to be most at risk are bats, raptors, swans, geese, divers, breeding waders and concentrations of waterfowl. Potential impacts on migratory species and local species movements between breeding, feeding/ foraging and roosting areas require careful consideration.
The potential impact on other rare flora, mammals, birds, and amphibians and fish including those listed for protection in the Flora (Protection) Order 2015, would also need to be assessed at project level.

Environmental Component	Likely Environmental Effects in combination with the wider planning framework				Key SEO Codes
	Significant Positive Effect	**Significant Adverse Effect, if unmitigated**	**Neutral Effects**	**Residual Adverse Non-Significant Effects**	
Air and Climatic Factors	• Contributions towards reductions in greenhouse gas and other emissions to air and associated achievement of legally binding targets (in combination with plans and programmes from all sectors, including energy, transport and land use planning) as a result of facilitating wind energy development • Contributions towards reductions in consumption from non-renewables and associated achievement of legally binding renewable energy targets, including sectoral targets for electricity (in combination with plans and programmes from all sectors, including energy, transport and land use planning) as a result of facilitating wind energy development • Contributions towards reducing emissions of pollutants to air • Positive interactions with human health (see neutral effects) arising from taking into account noise emissions	• Noise emissions from wind energy developments and potential interactions with human health • Pollution as a result of construction emissions, back-up generators • Carbon emissions occur when the development of wind farms requires peat extraction	• Requires consideration of carbon emissions balance when the development of wind farms requires peat extraction - may be positive in some cases but occurrence depends on the merits of the particular application	• An extent of travel related greenhouse gas and other emissions to air. This has been mitigated by the Guidelines, which will help to facilitate the development of wind energy capacity that will contribute towards meeting renewable energy generation and greenhouse gas emission targets.	**AC1** **AC2 (and PHH1)**
Material Assets		• Potential effects on road networks as result of the movement of the component parts of turbines at construction and decommissioning stages • Residual wastes from construction and wastes post-decommissioning	• Facilitates reuse of existing infrastructure • Makes recommendations on management of traffic • Contributions towards energy security (in combination with plans and programmes from all sectors, including energy, transport and land use planning) as a result of facilitating wind energy development • Residual wastes from construction and wastes post-decommissioning to be disposed of in line with higher level waste management policies	• Residual wastes to be disposed of in line with higher level waste management policies.	**MA1** **MA2**

Environmental Component	Likely Environmental Effects in combination with the wider planning framework				Key SEO Codes
	Significant Positive Effect	**Significant Adverse Effect, if unmitigated**	**Neutral Effects**	**Residual Adverse Non-Significant Effects**	
Cultural Heritage		• Potential effects on designated and unknown archaeological heritage including entries to the Record of Monuments and Places, underwater archaeology, entries to the Northern Ireland Sites and Monuments Record and Northern Ireland Areas of Significant Archaeological Interest and Archaeological Potential • Potential effects on architectural heritage as designated or included within the National Inventory of Architectural Heritage, Records of Protected Structures, Architectural Conservation Areas and Northern Ireland's Listed Buildings, Conservation Areas and Historical Parks and Gardens • Potential effects on context of archaeological and architectural heritage • Potential effects on intervisibility and interrelationships between monuments and structures within the wider landscape, including cross-border intervisibility and interrelationships	• Contributes towards protection of cultural heritage by facilitating compliance with legislation and recommending planning authorities to take account of a variety of designations and in their decision making • Contributes towards ensuring intervisibility and interrelationships between monuments and structures within the wider landscape, including cross-border intervisibility and interrelationships	• Potential alteration to the context and setting of architectural heritage however these will occur in compliance with legislation. • Potential alteration to the context and setting of archaeological heritage however this will occur in compliance with legislation. • Potential loss of unknown archaeology however this loss will be mitigated by measures integrated into the Guidelines.	**CH1** **CH2**
Landscape		• Occurrence of adverse visual impacts on landscape designations such as landscape character areas (including Northern Ireland Regional Landscape Character Areas), landscape sensitivity and value areas, high amenity zones, scenic views and prospects and land use objectives relating to landscape protection, National Parks, Special Amenity Order Areas and UNESCO World Heritage Sites • Occurrence of adverse visual impacts in marine and island areas where there may be limited assimilative capacity	• Contributes towards protection of landscape and landscape designations • Contributes towards the protection of amenity usage and access	• Landscapes will change overtime as a result of natural changes in vegetation cover combined with new developments.	**L1** **L2 (and PHH2)**

8.3 Appropriate Assessment and Flood Risk

Stage 2 Appropriate Assessment (AA) has been undertaken alongside the preparation of the Draft Guidelines. The requirement for AA is provided under the EU Habitats Directive (Directive 1992/43/EEC).

The conclusion of the Natura Impact Statement for the Draft Guidelines is that the Draft Guidelines will not affect the integrity of European Sites (the Natura 2000 network)[60].

Various content has been integrated into the Draft Guidelines through the SEA and AA processes (see Section 9). The preparation of the Draft Guidelines, SEA and AA has taken place concurrently and the findings of the AA have informed both the Draft Guidelines and the SEA.

In addition to being accompanied by SEA and AA documents, the Draft Guidelines are accompanied by a Flood Risk Statement that outlines the need for development proposals to comply with "The Planning System and Flood Risk Management Guidelines for Planning Authorities (2009) and Circular PL2/14". The Flood Risk Statement includes details on the approach to flood risk management that should be followed by prospective applicants and identifies the type of information that may be used in order to comply with the Flood Risk Management Guidelines.

8.4 Cumulative Effects and Interrelationships between Environmental Components

Cumulative effects are one of the types of effects that have been considered by the assessment. Cumulative effects can be described as the addition of many small impacts to create one larger, more significant impact.

There are 2 types of cumulative effects that have been considered, namely:

- *Intra-Plan* cumulative effects - these arise from the interactions between different types of environmental effects resulting from a plan, programme, etc. The interrelationships between environmental components that help determine these effects are identified on Table 8.4 e.g. interrelationships between: human health and air quality; human health and water quality; air quality and vegetation; human health and flood risk; and ecology and water quality. Effects that have been identified by the assessment (see Table 8.3) include those which are interrelated; implementation of the Guidelines will not affect the interrelationships between these components.

- *Inter-Plan* cumulative effects - these arise when the effects of the implementation of one plan occur in combination with those of other policies, plans, programmes, projects, etc. With regard to potential *inter-Plan* cumulative environmental effects, these occur as a result of the combination of: environmental effects which are identified by the assessment; and the effects arising from other policies, plans and programmes.

Effects that may arise as a result of implementing the Guidelines have been mitigated to the extent that the only residual adverse effects likely to occur as a result of wind energy developments in compliance with the Guidelines are those which are identified on Table 8.3.

Other policies, plans and programmes that have been considered by the assessment of effects include those which are detailed under Section 2.3 (and associated Appendix I "Relationship with Legislation, Plans and Programmes") and Section 4. Plans and programmes from various sectors will interact with

[60] 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.

the Guidelines, including those relating to energy and land use planning. These plans and programmes are subject to their own environmental assessment requirements (SEA, EIA, AA and FRA) as relevant. Examples include:

- Energy policy, plans and programmes (e.g. Grid25 and associated Implementation Programme, Ireland's National Renewable Energy Action Plan 2010 (and associated progress reports), Strategy for Renewable Energy 2012-2020, Offshore Renewable Energy Development Plan, Draft National Energy and Climate Plan 2021-2030, Renewable Electricity Policy and Development Framework, National Climate Policy Position and Climate Action 2014, Low Carbon Development Act 2015 and White Paper Ireland's Transition to a Low Carbon Energy Future 2015, Climate Action Plan 2019, National Mitigation Plan, National Adaptation Framework 2018 and Northern Ireland's Environmental Authority's Wind Energy Development in Northern Ireland's Landscapes);
- Land use policy, plans and programmes (e.g. the National Planning Framework, Regional Spatial and Economic Strategies, Development Plans, Local Area Plans and Planning Schemes) and Local Economic and Community Plans;
- Water services, waste management, transport and energy infrastructure plans (e.g. Irish Water's Water Services Strategic Plan and associated Capital Investment Plan, Regional Waste Management Plans, Transportation Policies and Strategies); and
- Environmental protection and management plans (e.g. River Basin Management Plans, and Flood Risk Management Plans).

Potential cumulative/in-combination effects include:

- Contributions towards reductions in greenhouse gas and other emissions to air and associated achievement of legally binding targets (in combination with plans and programmes from all sectors, including energy, transport and land use planning) as a result of facilitating wind energy development;
- Contributions towards reductions in consumption from non-renewables and associated achievement of legally binding renewable energy targets, including sectoral targets for electricity (in combination with plans and programmes from all sectors, including energy, transport and land use planning) as a result of facilitating wind energy development;
- Contributions towards energy security (in combination with plans and programmes from all sectors, including energy, transport and land use planning) as a result of facilitating wind energy development;
- Contribution towards the protection and management of the environment, across all environmental components; and
- Potential effects on all environmental components arising from the construction of wind energy development (in combination with plans and programmes from all other sectors). The type of these effects is consistent with those described on Table 8.3.

The SEA undertaken for the Guidelines has taken account of the need for the implementation of the Guidelines 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.

Table 8.4 Presence of Interrelationships between Environmental Components

Component	Biodiversity, flora and fauna	Population and human health	Soil	Water	Air and Climatic factors	Material assets	Cultural heritage	Landscape
Biodiversity, flora and fauna		No	Yes	Yes	Yes	Yes	No	Yes
Population and Human Health			Yes	Yes	Yes	Yes	No	Yes
Soil				Yes	Yes	Yes	No	No
Water					Yes	Yes	No	No
Air and Climatic Factors						Yes	No	No
Material Assets							Yes	Yes
Cultural Heritage								Yes
Landscape								

8.5 More Detailed Evaluation of Parts of the Guidelines

For an explanation of SEO codes e.g. **B1**, **B2**, **B3**, **PHH1**, etc. refer to Table 8.2 on page 64.

Much of the text below is taken from the Guidelines however only a summary of provisions is provided. Requirements from/references to existing legislation, policies, plans, programmes etc. included within the Draft Guidelines document are generally not repeated in under the following subsections.

8.5.1 Chapter 3: Planning for Wind Energy Development

	Likely to **Improve** status of SEOs	Probable **Conflict** with status of SEOs - unlikely to be mitigated	**Mitigated Conflicts**	**No Likely** interaction with status of SEOs
Summary of Provisions				
Planning for wind energy development involves identifying areas considered suitable or unsuitable for wind energy development, and those which may be open for consideration for wind energy development. These areas should then be set out in the development plan in order to provide clarity for developers, the planning authority, and the public. This Chapter includes recommendations with respect to Planning for Wind Energy Development under the following headings: 3.2 Relevant National and Regional Policy Documents 3.3 Development Plans and Local Area Plans 3.4 Development Plan – Strategic Aims and Objectives 3.5 Consultation 3.6 Step-by-Step Guide to the Analysis of Suitable areas for Wind Energy by the Planning Authority 3.7 Landscape Character 3.8 Strategic Environmental Assessment and Appropriate Assessment of the Development Plan or Local Area Plan 3.9 Monitoring and Wind Energy Development This Chapter includes the following Specific Planning Policy Requirement under Section 28(1C) of the Planning and Development Act 2000 (as amended), that in reviewing, varying or amending development plans, or a local area plan, with policies or objectives that relate to wind energy developments, the relevant planning authority shall: **SPPR 1** 1) Ensure that overall national policy on renewable energy as contained in documents such as the Government's 'National Energy and Climate Plan 2021-2030', and the 'Climate Action Plan 2019', is acknowledged and documented in the relevant development plan or local area plan; 2) Indicate how the implementation of the relevant development plan or local area plan over its effective period will contribute to realising overall national targets on renewable energy and climate change mitigation, and in particular wind energy production and the potential wind energy resource (in megawatts) taking into account the 'sieve mapping approach' identified in Table 1 below, in particular the potential contribution of the areas identified as 'acceptable in principle' and 'open for consideration'; and 3) Demonstrate detailed compliance with section 3.4[61] of these guidelines.	**PHH1 PHH2 BFF1 BFF2 BFF3 S1 S2 W1 W2 W3 AC1 AC2 PHH1 MA1 MA2 CH1 CH2 L1 L2 PHH2**		**PHH1 PHH2 BFF1 BFF2 BFF3 S1 S2 W1 W2 W3 AC1 AC2 PHH1 MA1 MA2 CH1 CH2 L1 L2 PHH2**	

[61] Development Plan – Strategic Aims and Objectives

Additional Detail/Commentary

The evaluation against Strategic Environmental Objectives (SEOs) provided for measures included within **Chapter 3 "Planning for Wind Energy Development"**, including **SPPR 1**, is consistent with those provided for the selected alternative approaches identified in Section 7 "*Evaluation of Alternatives*". The provisions will contribute towards the realisation of these selected approaches and the interactions with SEOs reflect the effects detailed in Table 8.3 "*Overall Evaluation – Likely Environmental Effects arising from the Draft Guidelines, in combination with the wider planning framework*".

Requiring the consideration of relevant national and regional policy documents and contributing towards the achievement of the objectives of these documents (including through **SPPR 1**), will facilitate sustainable development (including with regard to renewable energy generation) and protection and management of the environment.

Inclusion of policies and objectives within Development Plans relating to wind energy, such as those relating to the importance of wind energy as a renewable energy source, security of energy supply and mapping of areas acceptable to wind energy development will provide a framework for wind energy development at planning authority level. The Guidelines detail how the suitability of areas for wind energy can be analysed – such analysis will ultimately facilitate the direction of wind energy development into areas which are most suited to this type of development. The Guidelines identify specific environmental sensitivities (such as natural and built heritage and amenity designations) that must be taken into consideration during the preparation of Development Plans while also identifying that such sensitivities do not automatically preclude development – thereby avoiding unnecessary sterilisation of lands from wind energy development.

The "Step-by-Step Guide to the Analysis of Suitable areas for Wind Energy by the Planning Authority" (Section 3.5) provides an evidence led framework that involves a sieve mapping analysis of the key environmental, landscape and technical criteria which must be balanced in order to identify the most suitable location for wind energy development. Criteria includes wind potential, landscape and its sensitivity, built and natural heritage, archaeological and amenity and accessibility to electricity transmission and distribution grids. The Guide identifies that the designation area does not automatically preclude wind energy development. However, consideration of any wind energy development in or near these areas must be subject to Ireland's obligations under international, EU and national legislation. When identifying areas which may be either acceptable or open for consideration for wind energy development, existing settlements must be identified and these areas should be excluded as they will be subject to the project-level requirement for a minimum of 500m setback from individual properties as set out later in the Guidelines. As identified in the Guidelines, SEAs and AAs undertaken by local authorities will need to take account of wind energy policies and strategies (and associated sieve mapping process) included in the relevant Draft Development or Local Area Plan.

Sub-section 3.9 of the Guidelines "Monitoring and Wind Energy Development" integrates the monitoring measures detailed at Section 10 of this SEA Environmental Report into the Guidelines.

In combination with other provisions integrated into the Guidelines and the wider planning framework, these provisions would help to facilitate wind energy development. This would contribute towards: reductions in greenhouse gas and other emissions to air and associated achievement of legally binding targets; reductions in consumption from non-renewables and associated achievement of legally binding renewable energy targets; and energy security. The construction and operation of wind energy and related development has the potential to result in adverse effects upon all environmental components however these effects have been mitigated by provisions which have been integrated into the Guidelines, including those which are provided in this Chapter of the Guidelines and those that are referred to in Section 9 of this SEA Environmental Report. The potential adverse effects (if unmitigated) and associated residual effects (after mitigation) are consistent with those detailed on Table 8.3.

8.5.2 Chapter 4: Submitting a Planning Application for Wind Energy Development

	Likely to **Improve** status of SEOs	Probable **Conflict** with status of SEOs - unlikely to be mitigated	**Mitigated Conflicts**	**No Likely** interaction with status of SEOs
Summary of Provisions				
Chapter 4 advises potential applicants, planning authorities and An Bord Pleanála on what should be considered before a planning application for wind energy development is submitted. Recommendations are provided under the following headings: 4.2 Planning Authority Pre-Application Consultation 4.3 Community Engagement 4.4 Pre-Application Consultation for Strategic Infrastructure Development (SID) 4.5 Trans-European Energy Networks (TEN–E) Projects 4.6 Wind Measuring Masts 4.7 Need for an Environmental Impact Assessment 4.9 Appropriate Assessment	**PHH1 PHH2 BFF1 BFF2 BFF3 S1 S2 W1 W2 W3 AC1 AC2 PHH1 MA1 MA2 CH1 CH2 L1 L2 PHH2**		**PHH1 PHH2 BFF1 BFF2 BFF3 S1 S2 W1 W2 W3 AC1 AC2 PHH1 MA1 MA2 CH1 CH2 L1 L2 PHH2**	

4.10 Technical Considerations Which May Affect the Siting of Wind Energy Development 4.11 Health and Safety 4.12 Construction and Environmental Management Plan 4.13 Water Framework Directive 4.14 Flood Risk 4.15 Reasonable Alternatives and Existing Infrastructural Assets				

Additional Detail/Commentary

The evaluation against Strategic Environmental Objectives (SEOs) provided for measures included within **Chapter 4 "Submitting a Planning Application for Wind Energy Development"** is consistent with those provided for the selected alternative approaches identified in Section 7 "*Evaluation of Alternatives*". The provisions will contribute towards the realisation of these selected approaches and the interactions with SEOs reflect the effects detailed in Table 8.3 "*Overall Evaluation – Likely Environmental Effects arising from the Draft Guidelines, in combination with the wider planning framework*".

Including details on what should be considered (see headings under Summary of Provisions above) before a planning application for wind energy development is submitted, would facilitate efforts to: avoid unnecessary residual adverse effects on various environmental components; improve the quality of applications; avoid the necessity for seeking additional information; and in some cases avoid costs for both applicants and persons making observations, in relation to applications likely to be unsuccessful.

Community engagement can help to facilitate a greater degree of certainty in project preparation by allowing for potential issues to be addressed at an early stage. This can contribute towards: avoiding wasting unnecessary community, developer and planning authority resources; avoiding unnecessary delays; and reducing the proportion of unsuccessful projects while increasing the proportion of successful projects. Being more responsive to community concerns and expectations, will likely contribute to more successful projects will further contribute towards the meeting of renewable energy generation and greenhouse gas emission targets. The measures in this chapter place an obligation on the developer to consult with communities, prior to submitting a planning application, and to provide a Community Report specifying how the final proposals reflect community consultation, will increase the likelihood of such beneficial outcomes occurring.

Guidance on EIA and AA will contribute towards the meeting of these requirements, which are essential for projects to be realised. EIA can guide the planning and design of wind energy development so that environmental sensitivities are avoided and any negative impacts are minimised insofar as is possible. AA helps to ensure that the integrity of European sites is not adversely affected.

By considering the environmental considerations of proposed corridor(s) of the grid connection and the likely nature of the grid connection, associated cumulative environmental effects can be considered and evaluated. This Chapter provides advice on grid connections that is consistent with the selected approach with regard to underground connections generally being the most appropriate solution. The guidance provided helps to ensure that the totality of the project i.e. wind farm and grid connection, are assessed thoroughly and in an integrated manner as regards EIA/AA in line with the requirements of the European and national environmental protection and management legislation and other Statutory Guidelines.

Various technical considerations that may affect the siting of wind energy development are advised on, including proximity to roads and railways, proximity to power lines, interference with communication systems, interference with weather radar, aircraft safety and windtake.

In combination with other provisions integrated into the Guidelines and the wider planning framework, these provisions would help to facilitate wind energy development. This would contribute towards: reductions in greenhouse gas and other emissions to air and associated achievement of legally binding targets; reductions in consumption from non-renewables and associated achievement of legally binding renewable energy targets; and energy security. The construction and operation of wind energy and related development has the potential to result in adverse effects upon all environmental components however these effects have been mitigated by provisions which have been integrated into the Guidelines, including those which are provided in this Chapter of the Guidelines and those that are referred to in Section 9 of this SEA Environmental Report. The potential adverse effects (if unmitigated) and associated residual effects (after mitigation) are consistent with those detailed on Table 8.3.

8.5.3 Chapter 5: Considering an Application for Wind Energy Development

	Likely to **Improve** status of SEOs	Probable **Conflict** with status of SEOs - unlikely to be mitigated	**Mitigated Conflicts**	**No Likely** interaction with status of SEOs
Summary of Provisions				
Chapter 5 provides advice on the issues that should be considered in an application for wind energy development. Recommendations are provided under the following headings: 5.2 General Considerations in the Assessment of Wind Energy Planning Applications 5.3 Natural Heritage 5.4 Ground Conditions/Geology 5.5 Archaeology 5.6 Architectural Heritage 5.7 Noise from Wind Energy Development 5.8 Shadow Flicker 5.9 Environmental (including Ecological) Considerations and the Design Process 5.10 Community investment and Dividend 5.11 Decommissioning and Restoration	**PHH1 PHH2 BFF1 BFF2 BFF3 S1 S2 W1 W2 W3 AC1 AC2 PHH1 MA1 MA2 CH1 CH2 L1 L2 PHH2**		**PHH1 PHH2 BFF1 BFF2 BFF3 S1 S2 W1 W2 W3 AC1 AC2 PHH1 MA1 MA2 CH1 CH2 L1 L2 PHH2**	
Additional Detail/Commentary The evaluation against Strategic Environmental Objectives (SEOs) provided for measures included within **Chapter 5 "Considering an Application for Wind Energy Development"** is consistent with those provided for the selected alternative approaches identified in Section 7 "*Evaluation of Alternatives*". The provisions will contribute towards the realisation of these selected approaches and the interactions with SEOs reflect the effects detailed in Table 8.3 "*Overall Evaluation – Likely Environmental Effects arising from the Draft Guidelines, in combination with the wider planning framework*". Identifying what should be taken into account when considering an application for wind energy development, would facilitate efforts to: avoid unnecessary residual adverse effects on various environmental components; improve the quality of applications; avoid the necessity for seeking additional information; and in some cases avoid costs for both applicants and persons making observations, in relation to applications likely to be unsuccessful. Natural heritage sensitivities identified that are particularly relevant to wind energy development relate to impacts on certain habitats, such as peatlands, certain species, particularly birds and bats, and the integrity of sites designated for the purpose of their protection (conservation). Natural heritage may be impacted by wind energy developments both during the construction and operational phases. These impacts may be either temporary or permanent. Habitat impacts include: • Direct loss of habitat to the developments' infrastructure, including turbine foundations, buildings, roads, quarries and borrow pits; • Degradation of habitats through alteration or disturbance, in particular arising from changes to hydrology that may alter the surface or groundwater flows and levels, and drainage patterns critical in peatlands and river headwaters; • Fragmentation of habitats and increased edge effects; and • Degradation and loss of habitats outside the development site, especially wetland habitats that may arise from pollution, siltation and erosion originating from within the development site. Those species groups considered to be most at risk of collision are birds and bats. Impacts include: • Disturbance during the construction and operational phases leading to the temporary or permanent displacement of birds from the development site and its environs; • Collision mortality, although studies have shown this to be low risk; • Barotrauma effect, the vortices created by turbines are known to cause injury and mortality of bird and bat species. These vortices extend beyond the physical footprint of the turbine; • Barrier to movement, although studies have indicated that the response by birds to wind energy development may be variable and related to species and/or season; and • Direct loss or degradation of habitats for breeding, feeding/ foraging and/or roosting purposes, particularly in wetland, woodland and riparian habitats. Potential impacts can also occur on other rare flora, mammals, birds, and amphibians and fish including those listed for protection in the Flora (Protection) Order 2015.				

With regard to ground conditions and geology, the Guidelines provide advice on the inclusion of certain information in planning applications, such as geological assessment, geotechnical assessment and landslide and slope stability risk assessment. This information must be submitted as part of a planning application to enable the planning authority to adequately assess the impact of the proposed wind energy development and any mitigating measures proposed to counter the impacts. The Guidelines identify that a developer should consult with the Geological Survey of Ireland and obtain professional advice/source reports as appropriate. Wind energy developments sited on peatlands, which hold large stocks of carbon, has the potential to greatly increase overall carbon losses, which would undermine the expected carbon savings associated with the wind energy developments as well as damage rare habitats of European importance. The Guidelines recommends that a consideration of carbon emissions balance is demonstrated when the development of wind energy developments requires peat extraction.

The approach to the assessment and control of noise generated by wind turbines, as required by the Guidelines, seeks to achieve a balance between the protection of the amenity of communities in the vicinity of wind energy developments and meeting renewable energy targets in a cost-effective manner while providing security of future supply for the country. The Guidelines are based on best international practice on wind turbine noise control including the Institute of Acoustics good practice guides, World Health Organisation Guidelines[62] and a procedure for the assessment of low frequency noise complaints. The text of the Guidelines, including Technical Appendices 1 and 2, sets out the requirements in relation to noise limits to apply, the noise assessment and measurement methodology to use and is definitive in all matters of interpretation. All planning applications for wind energy development will be required to include an acoustic report prepared by a qualified and competent person. Where appropriate this can be incorporated as part of an Environmental Impact Assessment Report. The Guidelines identify a relative rated noise limit of 5 dB above the existing background noise level to a maximum of 43 dB, within upper and lower fixed limits, as the most appropriate method to control noise impacts from wind energy developments. The approach takes account of special audible characteristics (tonal, low frequency and amplitude modulation components) by including penalties for amplitude modulation and tonal noise.

Wind turbines, like other tall structures, can cast long shadows when the sun is low in the sky. The effect known as "shadow flicker" occurs where the rotating blades of a wind turbine cast a moving shadow which, if it passes over a window in a nearby house or other property results in a rapid change or flicker in the incoming sunlight. This effect will occur only for a short period during a given day and only under specific concurrent circumstances, namely when: the sun is shining and is at a low angle (after dawn and before sunset), and there is sufficient direct sunlight to cause shadows (cloud, mist, fog or air pollution could limit solar energy levels), and a turbine is directly between the sun and the affected property, and within a distance that the shadow has not diminished below perceptible levels, and there is enough wind energy to ensure that the turbine blades are moving. Generally only properties within 130 degrees either side of north, relative to the turbines, can be affected at these latitudes in the UK and Ireland- turbines do not cast long shadows on their southern side. The time period in which a neighbouring property may be affected by shadow flicker is completely predictable from the relative locations of the wind turbine and the property. Modern wind turbines have the facility to measure sunlight levels and to reduce or stop turbine rotation if the conditions that would lead to shadow flicker at any neighbouring property occur. As advised by the Guidelines, with careful site design and appropriate mitigation, and most critically the use of appropriate equipment and computer software, no existing dwelling or other affected property (e.g. existing work places or schools) should experience shadow flicker. The Guidelines identify that the relevant planning authority or An Bord Pleanála should require that the applicant provide evidence as part of the planning application that shadow flicker control mechanisms will be in place for the operational duration of the wind energy development project.

Recommendations under the heading of "Environmental (including Ecological) Considerations and the Design Process" are an example of those integrated through the SEA process – further references to the changes that came about as a result of the SEA process are included in Section 9 of this report.

Community dividend or benefit can help to reduce opposition to new developments thereby contributing towards a greater number of successful projects and the meeting of renewable energy generation and greenhouse gas emission targets. The approach to community investment and dividend in the Guidelines provides that wind energy developers should take steps to ensure that the proposed development will be of enduring economic or social benefit to the communities concerned. The Community Report provided as part of the application must set out the means by which the developer intends to provide an opportunity for the local community to benefit from the development, whether by facilitating community investment/ownership in the project or by other types of benefits/dividends, or a combination of the two.

In combination with other provisions integrated into the Guidelines and the wider planning framework, these provisions would help to facilitate wind energy development. This would contribute towards: reductions in greenhouse gas and other emissions to air and associated achievement of legally binding targets; reductions in consumption from non-renewables and associated achievement of legally binding renewable energy targets; and energy security. The construction and operation of wind energy and related development has the potential to result in adverse effects upon all environmental components however these effects have been mitigated by provisions which have been integrated into the Guidelines, including those which are provided in this Chapter of the Guidelines and those that are referred to in Section 9 of this SEA Environmental Report. The potential adverse effects (if unmitigated) and associated residual effects (after mitigation) are consistent with those detailed on Table 8.3.

[62] WHO (1999) Guidelines for Community Noise; WHO (2009) Night Noise Guidelines for Europe; WHO (2018) Regional Office for Europe's Environmental Noise Guidelines for the European Region.

8.5.4 Chapter 6: Considering an Application for Wind Energy Development - Aesthetic Considerations in the Siting and Design

	Likely to **Improve** status of SEOs	Probable **Conflict** with status of SEOs - unlikely to be mitigated	**Mitigated Conflicts**	**No Likely** interaction with status of SEOs
Summary of Provisions				
This part of the Guidelines provides national policy and guidance to planning authorities, wind energy developers and the wider community on appropriate approaches to the siting and design of wind energy development projects. There are two main areas of focus in this regard, namely the broad landscape design parameters which should be considered in determining the suitability of a particular location for wind energy development, and the siting of wind energy developments in relation to individual properties, including any setback from those properties which may be specified. This Chapter includes recommendations with respect to aesthetic considerations in the siting and design of wind energy developments under the following headings: 6.2 How should the Impact of Wind Energy Development on Landscape Character be Assessed? 6.3 Broad Landscape Design Parameters 6.4 Siting of Wind Energy Developments 6.5 Spatial Extent and Scale 6.6 Cumulative Effect 6.7 Spacing 6.8 Layout 6.9 Height 6.10 Landscape Character Types as a Basis for Guidelines 6.11 Landscape Impact of Wind Energy Development Construction 6.12 Landscape Impacts of Associated Development 6.13 Turbine Colour 6.14 Turbine Maintenance 6.15 Turbine Transformers 6.16 Landscape Impact of Wind Energy Development Operation and Decommissioning 6.17 Estimation of the Likely Degree of Impact on Landscape 6.18 Sitting in Relation to Individual Properties ('Setback') This Chapter includes the following Specific Planning Policy Requirement under Section 28(1C) of the Planning and Development Act 2000 (as amended), that in both their development planning and management functions, planning authorities shall not apply a setback distance that exceeds these requirements: **SPPR 2** With the exception of applications where reduced setback requirements have been agreed with relevant owner(s) as outlined 6.18.2 below[63], planning authorities and An Bord Pleanála (where relevant), should, in undertaking their development planning and development management functions, ensure that a setback distance for visual amenity purposes of 4 times the tip height of the relevant wind turbine should apply between each wind turbine and the	**PHH1 PHH2 BFF1 BFF2 BFF3 S1 S2 W1 W2 W3 AC1 AC2 PHH1 MA1 MA2 CH1 CH2 L1 L2 PHH2**		**PHH1 PHH2 BFF1 BFF2 BFF3 S1 S2 W1 W2 W3 AC1 AC2 PHH1 MA1 MA2 CH1 CH2 L1 L2 PHH2**	

[63] Text from section 6.18.2 "Exceptions to the mandatory minimum setbacks": *An exception may be provided for a lower setback requirement from existing or permitted dwellings or other sensitive properties to new turbines where the owner(s) and occupier(s) of the relevant property or properties are agreeable to same but the sound requirements of these Guidelines must be capable of being complied with in all cases. In such exceptional reduced setback situations, the relevant parties must provide written confirmation to the satisfaction of the planning authority that they have agreed to a reduced setback and have no objection to the proposed wind energy development. It is also important to note that determining setback distance is but one component requiring consideration in determining the appropriateness of a particular project to a given area that must also take account of wider considerations outlined elsewhere in the Guidelines and the contents of this Chapter.*

nearest point of the curtilage[64] of any residential property in the vicinity of the proposed development, subject to a minimum setback of 500 metres from that residential property. Some discretion applies to planning authorities when agreeing separation distances for small scale wind energy developments generating energy primarily for onsite usage. The planning authority or An Bord Pleanála (where relevant), should not apply a setback distance that exceeds these requirements for visual amenity purposes.				
Additional Detail/Commentary The evaluation against Strategic Environmental Objectives (SEOs) provided for measures included within **Chapter 6 "Considering an Application for Wind Energy Development - Aesthetic Considerations in the Siting and Design"**, including **SPPR 2**, is consistent with those provided for the selected alternative approaches identified in Section 7 "*Evaluation of Alternatives*". The provisions will contribute towards the realisation of these selected approaches and the interactions with SEOs reflect the effects detailed in Table 8.3 "*Overall Evaluation – Likely Environmental Effects arising from the Draft Guidelines, in combination with the wider planning framework*". The guidance relating to setback and broader project and landscape design parameters provided by Chapter 6 will primarily contribute towards the protection of the environment including landscape character and sensitivities. As identified in the Guidelines, the potential for visual disturbance can be considered as dependent on the scale of the proposed turbine and the associated distance. **SPPR 2** applies a setback distance for visual amenity purposes of four times the tip height between a wind turbine and the nearest point of the curtilage of any residential property in the vicinity of the proposed development, subject to a mandatory minimum setback of 500 metres. In combination with other provisions integrated into the Guidelines and the wider planning framework, these provisions would help to facilitate wind energy development. This would contribute towards: reductions in greenhouse gas and other emissions to air and associated achievement of legally binding targets; reductions in consumption from non-renewables and associated achievement of legally binding renewable energy targets; and energy security. The construction and operation of wind energy and related development has the potential to result in adverse effects upon all environmental components however these effects have been mitigated by provisions which have been integrated into the Guidelines, including those which are provided in this Chapter of the Guidelines and those that are referred to in Section 9 of this SEA Environmental Report. The potential adverse effects (if unmitigated) and associated residual effects (after mitigation) are consistent with those detailed on Table 8.3.				

[64] The curtilage of a domestic dwelling house for the purposes of these draft guidelines is defined as the land immediately surrounding a dwelling house which is used for purposes incidental to the enjoyment of the dwelling house as such and excludes for example any open fields beyond the immediate surrounds of the dwelling. In the case of buildings associated with other noise sensitive properties the curtilage would be the area in the immediate surrounds of the relevant buildings.

8.5.5 Chapter 7: Planning Conditions

	Likely to **Improve** status of SEOs	Probable **Conflict** with status of SEOs - unlikely to be mitigated	**Mitigated Conflicts**	**No Likely** interaction with status of SEOs
Summary of Provisions				
This Chapter provides advice on planning conditions that may be issued by planning authorities under the following headings: 7.1 Introduction 7.2 Siting, Design and Layout 7.3 Community Engagement 7.4 Community Dividend/Benefits 7.5 Flexibility in Turbine Location 7.6 Archaeology 7.7 Noise, including Construction Noise 7.8 Environmental Impact: Mitigation/Compensatory Measures 7.9 Environmental Monitoring 7.10 Construction Phase 7.11 Borrow Pits and Quarrying 7.12 Roads and Access Tracks 7.13 Ancillary Structures and Equipment 7.14 Connection to Electricity Distributors 7.15 Site Management Issues 7.16 Shadow Flicker 7.17 Electromagnetic Interference 7.18 Aeronautical Safety 7.19 Windtake 7.20 Development Contributions 7.21 Decommissioning and Reinstatement 7.22 Time Limits	**PHH1 PHH2 BFF1 BFF2 BFF3 S1 S2 W1 W2 W3 AC1 AC2 PHH1 MA1 MA2 CH1 CH2 L1 L2 PHH2**		**PHH1 PHH2 BFF1 BFF2 BFF3 S1 S2 W1 W2 W3 AC1 AC2 PHH1 MA1 MA2 CH1 CH2 L1 L2 PHH2**	
Additional Detail/Commentary The evaluation against Strategic Environmental Objectives (SEOs) provided for measures included within **Chapter 7 "Planning Conditions"** is consistent with those provided for the selected alternative approaches identified in Section 7 "*Evaluation of Alternatives*". The provisions will contribute towards the realisation of these selected approaches and the interactions with SEOs reflect the effects detailed in Table 8.3 "*Overall Evaluation – Likely Environmental Effects arising from the Draft Guidelines, in combination with the wider planning framework*". The guidance provided will help to facilitate certainty in the mitigation of potentially adverse environmental effects as well as further contributing towards existing measures for the protection of various environmental components. In combination with other provisions integrated into the Guidelines (including on these topics under previous chapters) and the wider planning framework, these provisions would help to facilitate wind energy development. This would contribute towards: reductions in greenhouse gas and other emissions to air and associated achievement of legally binding targets; reductions in consumption from non-renewables and associated achievement of legally binding renewable energy targets; and energy security. The construction and operation of wind energy and related development has the potential to result in adverse effects upon all environmental components however these effects have been mitigated by provisions which have been integrated into the Guidelines, including those which are provided in this Chapter of the Guidelines and those that are referred to in Section 9 of this SEA Environmental Report. The potential adverse effects (if unmitigated) and associated residual effects (after mitigation) are consistent with those detailed on Table 8.3.				

Section 9 Mitigation Measures

9.1 Introduction

Mitigation measures are measures envisaged to prevent, reduce and, as fully as possible, offset any significant adverse impacts on the environment of implementing the Guidelines. Various environmental sensitivities and issues have been communicated to the Department through the SEA, Appropriate Assessment (AA) and Flood Risk Statement (FRS) processes. By integrating all related recommendations into the Guidelines, the Department have ensured that both the beneficial environmental effects of implementing the Guidelines have been and will be maximised and that potential adverse effects have been and will be avoided, reduced or offset.

Mitigation was achieved through the following:

- Early work undertaken by the Department to ensure contribution towards environmental protection and sustainable development;
- Consideration of alternative approaches to key issues;
- Integration of individual measures in advance of the SEA; and
- Integration of individual measures as a result of the SEA.

9.2 Early work undertaken by the Department to ensure contribution towards environmental protection and sustainable development

Far in advance of the placing of the Draft Guidelines (and associated SEA, AA and FRS documents) on public display, the Department of Housing, Planning and Local Government undertook early work that has helped to ensure that the Guidelines contribute towards environmental protection and sustainable development.

The Draft Guidelines 2019 provide a targeted review of the 2006 Wind Energy Guidelines in relation to noise, shadow flicker, visual amenity setback, environmental assessment, consultation obligations, community dividend and grid connections.

This review began with a draft document issued by the then Department of the Environment, Community and Local Government for public consultation in December 2013. The public consultation resulted in a considerable level of public response, highlighting the need to adequately balance the concerns of local communities while maintaining a stable investment environment for renewable energy.

In 2017 the DHPLG and the DCCAE jointly announced a "Preferred Draft Approach" that provided an update on progress with the review of the 2006 Guidelines. The "Preferred Draft Approach" focused on a number of key issues (noise, shadow flicker, visual amenity setback, consultation obligations, community dividend and grid connection) that have implications for environmental protection and sustainable development.

Approaches to these issues were further researched, developed and considered, including through the SEA process (see also Section 9.3 below), leading to the Draft Guidelines that have been placed on public display.

9.3 Consideration of alternative approaches to key issues

Consideration of alternative approaches to key issues has facilitated the development of Guidelines that will contribute towards the protection and management of the environment over the lifetime of the Guidelines. Alternative approaches were considered under the headings of noise, shadow flicker, visual amenity setback, community consultation, community dividend and grid connection .

The selected alternatives provide a balance between:

- Developing sufficient wind energy capacity to facilitate contributions towards meeting renewable energy generation and greenhouse gas emission targets set in binding EU requirements; and
- Ensuring environmental protection and management, including with respect to the issues of noise/sensitive receptors, shadow flicker/human health and visual amenity.

9.4 Integration of individual measures in advance of the SEA

The Guidelines include various measures that seek to protect the environment. Many of these measures were integrated into the Guidelines by the Department in advance of the SEA. Please refer to the measures referenced and described under Section 8.5 of this report.

9.5 Integration of individual measures as a result of the iterative SEA/Plan -preparation process

Various provisions that will contribute towards environmental protection and sustainable development have been integrated into the text of the Guidelines through the SEA (incorporating the findings of the AA and FRS) process.

These are detailed on Table 9.1, linked to environmental components. The measures generally benefit multiple environmental components i.e. a measure providing for the protection of biodiversity, flora and fauna could beneficially impact upon the minimisation of flood risk and the protection of human health, for example.

Table 9.1 SEA/AA/FRS Recommendations integrated into the Guidelines

Topic	Recommendation as integrated into the Draft Guidelines	Guidelines Reference
All	**Strategic Environmental Assessment** Strategic Environmental Assessment (SEA) is being undertaken alongside the preparation of the Guidelines. SEA is the formal, systematic evaluation of the likely significant environmental effects of implementing a plan or programme before a decision is made to adopt it. The requirement for SEA is provided under the EU SEA Directive (Directive 2001/42/EC). The findings of the SEA are contained in the Environmental Report that is available alongside the Guidelines. The emerging conclusion of the SEA is that: • The Guidelines will help to facilitate the development of wind energy capacity that will contribute towards meeting renewable energy generation and greenhouse gas emission targets set in binding EU requirements; while • Ensuring environmental protection and management, including with respect to the issues of biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelationship between the above factors. In addition to facilitating the integration of environmental considerations into the Guidelines, the SEA provides a monitoring programme that will be implemented by the Department and is detailed in the Environmental Report[65].	Integrated into the Guidelines at Chapter 8 under "8.1 Strategic Environmental Assessment"
All	**Cumulatively contributing towards regulatory framework** The SEA identifies the need for implementation of the Guidelines 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. It is the intention that the Guidelines are implemented in this manner.	Integrated into the Guidelines at Chapter 8 under "8.1 Strategic Environmental Assessment"
All	**Environmental (including Ecological) Considerations and the Design Process** As part of any EIA, environmental considerations (including environmental constraints and opportunities – and mapping of these factors) are recommended to be integrated into the design process for individual projects at site selection, layout and configuration stages in order to help to prevent or mitigate environmental impact. Site-specific field data will be required to identify the most appropriate sites and layouts. Were no mitigation to be applied, environmental constraints could limit wind energy development. Examples of environmental constraints include: • residential development and other sensitive uses, • amenities, • other infrastructure, • ecologically-designated sites, • protected habitats and species, • ecological connectivity, • designated geological heritage sites, • areas where soil/subsoil/geology are less stable, • peatlands, • areas of mineral/aggregate potential, surface and ground waters, • Water Framework Directive requirements including Register of Protected Areas, • flood risk, noise emissions from wind energy developments, • carbon emissions from peat extraction, • archaeological and architectural heritage and its context (including intervisibility and interrelationships between monuments and structures within the wider landscape), • capacity of road networks to accommodate construction traffic, • waste generation from construction and decommissioning, • landscape designations and limited visual assimilative capacity for developments in marine and island areas. Opportunities for the development of wind energy have the potential to facilitate the wind energy development with increased environmental benefits and/or with reduced adverse environmental effects. Such opportunities include higher wind speeds, closer proximity to the Irish transmission grid, availability of grid connection, accessibility and reduced concentrations of environmental constraints.	Integrated into the Guidelines at Chapter 5 "5.9 Environmental (including Ecological) Considerations and the Design Process"

[65] The monitoring programme is provided at Section 10 of this SEA Environmental Report.

Topic	Recommendation as integrated into the Draft Guidelines	Guidelines Reference
	Stage 1 – Site Selection • Environmental constraints should contribute towards the identification of possible suitable wind energy development site options • Consultation with local communities and opportunities are also likely to influence the identification of suitable sites Stage 2 – Internal Site Layout • Buffers and set-backs from relevant features should inform the selection of suitable areas within the site as appropriate • Environmental constraints should assist in the identification of possible internal site layout options • Consultation with local communities and maximising the wind resource potential of the site are also likely to influence layout options Layout includes location of turbines, access routes, separation distances/spacing, clustering, turbine height and number of turbines.	
All	**Construction and Environmental Management Plan** Construction Environment Management Plans (CEMPs) are recommended to be prepared in advance of the construction projects and implemented throughout. Such plans are recommended to incorporate relevant mitigation measures which have been integrated into the project and an 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 control noise during construction, in particular noise associated with the transportation of wind turbine components from staging areas at night" h) measures to prevent the spillage or deposit of clay, rubble or other debris, i) 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, j) details of appropriate mitigation measures for noise, dust and vibration, and monitoring of such levels, k) 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, l) disposal of construction/demolition waste (in line with higher level waste management policies) and details of how it is proposed to manage excavated soil, m) 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, n) details of a water quality monitoring and sampling plan, o) if peat is encountered - a peat storage, handling and reinstatement management plan, p) measures adopted during construction to prevent the spread of invasive species (such as Japanese Knotweed), q) appointment of an ecological clerk of works at site investigation, preparation and construction phases, r) details of appropriate mitigation measures for lighting specifically designed to minimise impacts to biodiversity including bats.	Integrated into the Guidelines at Chapter 4 "4.12 Construction and Environmental Management Plan"
Various	**Undergrounding Cables** Where undergrounding is being pursued, proposals should demonstrate that environmental impacts including the following are minimised: • Habitat loss as a result of removal of field boundaries and hedgerows (right of way preparation) followed by topsoil stripping (to ensure machinery does not destroy soil structure and drainage properties); • Short to medium term impacts on the landscape where, for example, hedgerows are encountered; • Impacts on underground archaeology; • Impacts on soil structure and drainage; • Impacts on surface waters as a result of sedimentation.	Suggest integrate into Chapter 4 "4.7.4 Wind Energy Developments and Grid Connections (and other works ancillary to the development of the wind energy development)"

Topic	Recommendation as integrated into the Draft Guidelines	Guidelines Reference
Population and human health	The Guidelines team integrated various provisions that will facilitate the protection of human health, including those relating to the topics of: • Noise • Shadow Flicker • Ground Conditions/Geology • Visual Amenity • Air Quality • Water Quality	Integrated throughout the Guidelines including at: Chapter 5 "5.7 Noise from Wind Energy Development"; Chapter 5 "5.8 Shadow Flicker"; Chapter 5 "5.4 Ground Conditions/ Geology"; Chapter 6 "6.18.1 Appropriate Setback"; and Chapter 4 "4.10 Aircraft Safety".
Biodiversity and flora and fauna	**Appropriate Assessment** Stage 2 Appropriate Assessment (AA) is being undertaken alongside the preparation of the Guidelines. AA is a focused and detailed impact assessment of the implications of a strategic action or project, alone and in combination with other strategic actions and projects, on the integrity of an ecologically designated European Site in view of its conservation objectives. The requirement for AA is provided under the EU Habitats Directive (Directive 1992/43/EEC). The findings of the AA are contained in the Natura Impact Report that is available alongside the Guidelines. The emerging conclusion of the AA is that the Guidelines will not affect the integrity of European Sites (collectively referred to as the Natura 2000 network[66]).	Integrated into the Guidelines at Chapter 8 under "8.2 Appropriate Assessment"
	Natural Heritage Sensitivities Natural heritage sensitivities identified to date relate to impacts on certain habitats, such as peatlands, certain species, particularly birds and bats, and the integrity of sites designated for the purpose of their protection (conservation).	Integrated throughout the Guidelines including at Chapter 5 "5.3 Natural Heritage"
	Species The National Parks and Wildlife Service (NPWS) within the Department of Culture Heritage and the Gaeltacht have published datasets and survey work as required under Article 17 of the Habitats Directive relating to a number of species across Ireland, amphibians, arthropods, fish, mammals, molluscs, non-vascular plants, reptiles, vascular plants: https://www.npws.ie/maps-and-data/habitat-and-species-data/article-17. Under Article 12 of the Birds Directive, NPWS have published breeding distribution and ranges: https://www.npws.ie/maps-and-data/habitat-and-species-data/article-12-data. They have also published surveys of specific species including hen harriers, lesser horseshoe bats and kingfishers: https://www.npws.ie/maps-and-data/habitat-and-species-data. The main potential impacts to birds from wind energy developments have been identified as: • Disturbance during the construction and operational phases leading to the temporary or permanent displacement of birds from the development site and its environs; • Collision mortality, although studies have shown this to be low risk; • Barotrauma effect, the vortices created by turbines are known to cause injury and mortality of bird and bat species. These vortices extend beyond the physical footprint of the turbine; • Barrier to movement, although studies have indicated that the response by birds to wind energy development may be variable and related to species and/or season; and • Direct loss or degradation of habitats for breeding, feeding/ foraging and/or roosting purposes, particularly in wetland, woodland and riparian habitats. Collision risk species include all bird and bats species present in Ireland. The extent to which birds will be impacted by wind energy developments will vary depending on species, season and location, and these impacts may be temporary or permanent. Those species groups considered to be most at risk are bats, raptors, swans, geese, divers, breeding waders and concentrations of waterfowl. Potential impacts on migratory	Integrated into the Guidelines at Chapter 5 "5.3.3 Species"

[66] 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 to proceed; and
(c) adequate compensatory measures in place.

Topic	Recommendation as integrated into the Draft Guidelines	Guidelines Reference
	species and local species movements between breeding, feeding/ foraging and roosting areas require careful consideration. In addition to information published by the National Parks and Wildlife Service with regard to designated areas and species protection, Birdwatch Ireland (https://birdwatchireland.ie/) provides a useful source of information on Ireland's bird population, including research and survey work and publications. Birdwatch Ireland's Bird Sensitivity Mapping for Wind Energy Developments is available at: https://www.birdwatchireland.ie/OurWork/PolicyAdvocacy/BirdSensitivityMapping/tabid/1312/Default.aspx The potential impact on other rare flora, mammals, birds, and amphibians and fish including those listed for protection in the Flora (Protection) Order 2015, would also need to be assessed.	
Soil	**Peat Extractions and Carbon** It is recommended that consideration of carbon emissions balance is demonstrated when any wind energy development takes place in peatland areas.	Integrated into the Guidelines at Chapter 5 "5.4 Ground Conditions/Ecology" and Appendix 4 "Best Practice for Wind Energy Development in Peatlands"
Water	**Water Framework Directive** Under this Directive, local authorities must contribute towards the improvement and protection of existing and potential water resources, subject to exemptions provided for by Article 4 of the Water Framework Directive, and support the implementation of the relevant recommendations and measures as outlined in the relevant River Basin Management Plan. In this regard, planning authorities and developers should take account of relevant and available national guidelines and European guidance publications.	Integrated into the Guidelines at Chapter 4 "4.13 Water Framework Directive"
	Flood Risk Statement It is recommended that proposals for development demonstrate compliance with "the Planning System and Flood Risk Management Guidelines for Planning Authorities" (2009) and Circular PL2/14 and include an appropriately detailed Flood Risk Assessment. Further information on the approach to flood risk management is provided in the Flood Risk Statement that accompanies these Guidelines.	Integrated into the Guidelines at Chapter 4 under "4.14 Flood Risk"
	General Considerations in the Assessment of Wind Energy Planning Applications Site drainage[67] and hydrological effects, such as: • water supply and quality and watercourse crossings, • management plans to deal with any potential material impact on watercourses • the hydrological table • flood risk including mitigation measures	Integrated into the Guidelines at Chapter 5 "General Considerations in the Assessment of Wind Energy Planning Applications"
	If drains are unavoidable, ensure that silt traps are constructed and that there is only diffuse discharge of water; attenuation ponds may be necessary.	Integrated into the Guidelines at Appendix 4 "Best Practice for Wind Energy Development in Peatlands"
Air and Climatic Factors	Inherent to the Guidelines is that they will help to facilitate the development of wind energy capacity that will contribute towards meeting renewable energy generation and greenhouse gas emission targets set in binding EU requirements.	Not applicable
	Peat Extractions and Carbon It is recommended that consideration of carbon emissions balance is demonstrated when any wind energy development takes place in peatland areas.	Integrated into the Guidelines at Chapter 5 "5.4 Ground Conditions/Ecology" and Appendix 4 "Best Practice for Wind Energy Development in Peatlands"

[67] Site drainage considerations for access roads/tracks, separate in addition to the impact of the actual turbines

Topic	Recommendation as integrated into the Draft Guidelines	Guidelines Reference
Material Assets	**Reasonable Alternatives and Existing Infrastructural Assets** It is recommended that environmental assessments address reasonable alternatives for the location of new wind energy developments, and where existing infrastructural assets such as sub-stations, powerlines and roads already exist within proposed development areas, then such assets should be considered for sustainable use by the proposed development where the assets have capacity to absorb the new development.	Integrated into the Guidelines at Chapter 4.15 "Reasonable Alternatives and Existing Infrastructural Assets"
Cultural Heritage	**Archaeological Heritage** Archaeological heritage encompasses designated and unknown archaeological heritage including entries to the Record of Monuments and Places, underwater archaeology, entries to the Northern Ireland Sites and Monuments Record and Northern Ireland Areas of Significant Archaeological Interest and Archaeological Potential. Also encompassed are intervisibility and interrelationships between archaeological heritage within the wider landscape, including cross-border intervisibility and interrelationships. The potential impact of the proposed wind energy development on the archaeological heritage of the site should be assessed. The assessment should address direct impacts on the integrity and visual amenity of monuments and include appropriate mitigation measures, such as through a desktop study and a field inspection where necessary.	Integrated into the Guidelines at Chapter 5.5 "Archaeology"
	Architectural Heritage Architectural heritage encompasses that which is designated or included within the National Inventory of Architectural Heritage (NIAH), NIAH Historic Gardens and Designed Landscapes, Records of Protected Structures and Northern Ireland's Listed Buildings and Northern Ireland's Historic Parks, Gardens and Demesnes. Also encompassed are intervisibility and interrelationships between architectural heritage within the wider landscape, including cross-border intervisibility and interrelationships. The planning authority should assess the potential impact of the proposed wind energy development on the architectural heritage of the locality and its landscape context, where relevant. This is particularly necessary in the case of structures included in the Register of Protected Structures.	Integrated into the Guidelines at Chapter 5.6 "Architectural Heritage"
Landscape	**Landscape Designations** Prepare or utilise an evaluation of the landscape and its sensitivity for wind energy developments. It is recommended that planning authorities contribute towards the protection of landscape designations as relevant. Factors that can inform landscape sensitivity to wind energy development include scenic quality, rarity, uniqueness, natural and cultural heritage and environmental considerations. This assessment should take into account the National Landscape Strategy for Ireland 2015-2025 (https://www.chg.gov.ie/heritage/built-heritage/national-landscape-strategy/) and landscape character areas (including Northern Ireland Regional Landscape Character Areas), landscape sensitivity and value areas, high amenity zones, scenic views and prospects and land use objectives relating to landscape protection, National Parks, Special Amenity Order Areas and UNESCO World Heritage Sites.	Integrated into the Guidelines at Chapter 3.6 "Step-by-Step Guide to the Analysis of Suitable areas for Wind Energy by the Planning Authority"
	Visual Impacts Special attention is recommended in areas (such as coastal or island areas) where there is higher potential for the occurrence of adverse visual impacts arising from limited assimilative capacity.	Integrated into the Guidelines at Chapter 3.6 "Step-by-Step Guide to the Analysis of Suitable areas for Wind Energy by the Planning Authority" and 6.10.6 "Coastal Zone"

Section 10 Monitoring Programme

10.1 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 Guidelines.

Monitoring can both demonstrate the positive and neutral effects facilitated by the Guidelines and can enable, at an early stage, the identification of unforeseen adverse effects and the undertaking of appropriate remedial action.

The occurrence of significant adverse environmental effects not predicted and mitigated by this assessment, which are directly attributable to the implementation of the Wind Energy Development Guidelines, would necessitate consideration of these effects in the context of the Guidelines and a possible review of part(s) of the Guidelines.

10.2 Indicators and Targets

Monitoring is based around indicators which allow quantitative measures of trends and progress over time relating to the Strategic Environmental Objectives identified in Section 5 and used in the evaluation. Each indicator to be monitored is accompanied by the target(s) which were identified with regard to the relevant strategic actions.

Table 10.1 overleaf shows the indicators and targets which have been selected for monitoring the likely significant environmental effects of implementing the Draft Guidelines, 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.

Many of the indicators below relate to more than one of the marine, freshwater and terrestrial environments, for example: indicator B1 'Conservation status of habitats and species as assessed under Article 17 of the Habitats Directive' relates to marine, freshwater and terrestrial habitats and species; and indicator W1 'To maintain and improve, where possible, the quality and status of surface waters' relates to coastal and estuarine waters as well as rivers.

10.3 Hierarchy of Monitoring and Sources

The Draft Guidelines will form part of the wider planning framework in relation to wind energy development comprising a hierarchy of policies, plans, programmes, etc. This wider framework, including Development Plans and an emerging national Renewable Electricity Policy and Development Framework, which are subject to its own SEA requirements and associated monitoring obligations, may identify suitable locations for wind energy development.

The Draft Guidelines do not provide for the spatial location of wind energy development. The Guidelines merely comprise various measures that will contribute towards environmental protection and management and will inform plans that determine suitable locations for wind energy development.

Taking into account the above and the SEA Directive requirement to avoid duplication of assessment[68], the monitoring of the likely significant environmental effects arising from wind energy developments (for example positive, potentially adverse and neutral effects) is most appropriately undertaken as part of:

- the SEA monitoring programmes that are required for relevant plans within the planning framework that provide

[68] Including at Article 5(2) of the Directive: "The environmental report prepared pursuant to paragraph 1 shall include the information that may reasonably be required taking into account current knowledge and methods of assessment, the contents and level of detail in the plan or programme, its stage in the decision-making process and the extent to which certain matters are more appropriately assessed at different levels in that process in order to avoid duplication of the assessment."

for the spatial location of these developments; and
- EIA monitoring programmes required for individual projects, where relevant.

Taking this into account the following text has been integrated into the Guidelines under subsections 3.9 and 7.9:

> ***3.9 MONITORING AND WIND ENERGY DEVELOPMENT***
>
> *Planning authorities including An Bord Pleanála, should set up systems (where possible, incorporating an online spatial analysis component), to monitor wind energy development (including planning application decisions). This database should be updated regularly and can help to review the degree to which the policies and objectives of the development plan, in addition to the national targets for renewable energy, are being achieved. This database should include the information outlined below relating to approved applications, or the reasons for refusal of a planning application (where applicable), in order to inform the development of future policy and guidance on wind energy development:*
>
> - *Total number of received, approved and refused applications relating to wind energy development and grid connections;*
> - *Number and height of turbines in each application;*
> - *Geographic coordinates of every turbine and boundaries of wind energy developments;*
> - *Annual output (megawatts) for each applications.*
>
> *Planning authorities should prepare annual monitoring reports to reflect the requirements of section 10 of the Strategic Environmental Assessment Environmental Report accompanying these guidelines, in order to facilitate monitoring and review of the effectiveness of the guidelines as necessary. These reports shall be submitted to the Department of Housing, Planning and Local Government no later than two months after these guidelines have been in effect for a year and every year thereafter.*
>
> ***7.9 ENVIRONMENTAL MONITORING***
>
> *Effective monitoring is necessary to provide evidence of compliance with planning conditions addressing issues such as noise limits or biodiversity considerations.*
>
> *On the other hand, broader environmental monitoring conditions should be avoided, apart from where specific requirements in relation to environmental matters are part of the planning permission.*
>
> *It is recommended that planning applications shall specify who the appropriate contact person would be (including hours of contact) to deal with any complaints or issues that might arise during both the construction and operation stages of a wind energy development. Further details on Monitoring and Appropriate Noise Control Post Construction will be contained in Appendix 2.*
>
> *An agreed monitoring/management programme, funded by the developer, can provide reassurance for both the planning authority and any concerned third parties that these conditions are being observed in the day-to-day operation of the wind energy development, and that in the event of a breach, appropriate remedial action will be taken. Such a programme would be particularly relevant in the initial operating period of the development, within the first 2 years, possibly with provision for further monitoring if the problem persists. The environmental monitoring can be carried out either by agreed independent specialists, or by the planning authority at the developer's expense.*

Sources for indicators may include existing monitoring databases (including those maintained by planning authorities, the Department of Communications, Climate Action and the Environment, the Environmental Protection Agency, the National Parks and Wildlife Service and the Central Statistics Office) and the output of lower-tier environmental assessment and decision making (including a review of project approvals granted and associated documents and the output of any EIA monitoring programmes).

10.4 Reporting

A stand-alone Monitoring Report on any significant environmental effects of implementing the Guidelines will be prepared and published by the Department of Housing, Planning and Local Government every six years and in advance of any future significant review of the Guidelines. This report will address the indicators set out on Table 10.1 and if necessary any corrective action required to be carried out, in combination with the relevant authorities.

Table 10.1 Selected Indicators, Targets and Monitoring Sources

Environmental Component	Indicators	Targets	Examples of Sources and Frequencies available to planning authorities and An Bord Pleanála (for the Hierarchy of Monitoring and Sources please refer to Section 10.3)
Population and Human Health	PHH1 (and AC2): Number of instances of deterioration in human heath resulting from noise, shadow flicker, visual amenity disturbance, water quality, air quality, flood events or soil stability issues arising from wind energy development (including associated development) permitted by planning authorities adhering to the Guidelines Also refer to Indicators S1(i), W1, W2, W3, L1 and PHH2/L2.	PHH1 (and AC2): Avoid wind energy developments which would be likely to result in deterioration in human health arising from environmental factors, such as noise, shadow flicker, visual amenity disturbance, water quality, air quality, flood events or soil stability issues Also refer to Targets S1(i), W1, W2, W3, L1 and PHH2/L2.	• Lower tier environmental assessment and decision making by local authorities • Consultations with EPA (at monitoring reporting - see Section 10.4) • SEA Monitoring Programme reports for the land use plans of local authorities (as required, monitoring reports published on various timescales and frequencies) • Data issued under the Water Framework Directive Monitoring Programme for Ireland (multi-annual) • EPA *The Quality of Bathing Water in Ireland* reports • Any relevant data arising from Planning Authority Noise Action Plans and/or flood event mapping by Planning Authority/Office of Public Works
	PHH2 (and L2): Disruption to use of and access to amenities including rights of way, parks, playing fields and walk and cycle ways resulting from wind energy development (including associated development) permitted by planning authorities adhering to the Guidelines	PHH2 (and L2): Avoid and minimise disruption to use of and access to amenities including rights of way, parks, playing fields and walk and cycle ways	• Lower tier environmental assessment and decision making by local authorities • SEA Monitoring Programme reports for the land use plans of local authorities (as required, monitoring reports published on various timescales and frequencies)
Biodiversity, Flora and Fauna	BFF1: Conservation status of habitats and species as assessed under Article 17 of the Habitats Directive	BFF1: Maintenance of favourable conservation status for all habitats and species protected under National and International legislation to be unaffected by implementation of the Guidelines[69]	• Lower tier environmental assessment and decision making by local authorities • SEA Monitoring Programme reports for the land use plans of local authorities (as required, monitoring reports published on various timescales and frequencies) • Department of Culture, 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 Culture, Heritage and the Gaeltacht's National Monitoring Report for the Birds Directive under Article 12 (every 3 years) • Consultations with the NPWS (at monitoring reporting - see Section 10.4)
	BFF2: Percentage change in functional connectivity without remediation resulting from wind energy development (including associated development) permitted by planning authorities adhering to the Guidelines	BFF2: No significant ecological networks or parts thereof which provide functional connectivity to be lost without remediation resulting from development provided for by the Guidelines	• Lower tier environmental assessment and decision making by local authorities • Review of permissions granted and the SEA Monitoring Programme reports for the land use plans of local authorities (as required, monitoring reports published on various timescales and frequencies) • CORINE mapping resurvey (every c. 5 years) • Review of EPA Ecological Network Mapping (if available)

[69] Except as provided for in Section 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/project to proceed; and (c) adequate compensatory measures in place.

Environmental Component	Indicators	Targets	Examples of Sources and Frequencies available to planning authorities and An Bord Pleanála (for the Hierarchy of Monitoring and Sources please refer to Section 10.3)
	BFF3i: Number of significant impacts on relevant habitats, species, environmental features or other sustaining resources in designated sites including Nature Conservation Sites and Areas of Special Scientific Interest resulting from wind energy development (including associated development) permitted by planning authorities adhering to the Guidelines BFF3ii: Number of significant impacts on the protection of listed species resulting from wind energy development (including associated development) permitted by planning authorities adhering to the Guidelines	BFF3i: Avoid significant impacts on relevant habitats, species, environmental features or other sustaining resources in designated sites including Nature Conservation Sites and Areas of Special Scientific Interest resulting from development provided for by the Guidelines BFF3ii: No significant impacts on the protection of listed species	• Lower tier environmental assessment and decision making by local authorities • Review of permissions granted and the SEA Monitoring Programme reports for the land use plans of local authorities (as required, monitoring reports published on various timescales and frequencies) • Consultations with the NPWS (at monitoring reporting - see Section 10.4)
Soil	S1i: Consideration of soil stability assessments by the development management process at planning authorities, where relevant	S1i: For grants of permission to consider the findings of soil stability assessments, where relevant	• Lower tier environmental assessment and decision making by local authorities • Review of permissions granted and the SEA Monitoring Programme reports for the land use plans of local authorities (as required, monitoring reports published on various timescales and frequencies) • Consideration of published reports on progress meeting renewable energy and greenhouse gas emissions. • Review of Geological Survey of Ireland GSI Landslide Events and Landslide Susceptibility Modelling
	S2: Development management process at planning authorities to ensure that changes in soil extent and hydraulic connectivity are minimised	S2: To minimise reductions in soil extent and hydraulic connectivity	
Water	W1: 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 wind energy development (including associated development) permitted by planning authorities adhering to the Guidelines	W1: 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[70]	• Lower tier environmental assessment and decision making by local authorities. • SEA Monitoring Programme reports for the land use plans of local authorities (as required, monitoring reports published on various timescales and frequencies) • 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, where applicable	• Lower tier environmental assessment and decision making by local authorities • SEA Monitoring Programme reports for the land use plans of local authorities (as required, monitoring reports published on various timescales and frequencies) • Data issued under the Water Framework Directive Monitoring Programme for Ireland (multi-annual)

[70] 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	Examples of Sources and Frequencies available to planning authorities and An Bord Pleanála (for the Hierarchy of Monitoring and Sources please refer to Section 10.3)
	W3: Number of incompatible developments which are at elevated risk of flooding or would significantly increase flood risk elsewhere resulting from permission by planning authorities adhering to the Guidelines	W3: Avoid wind energy developments which are at elevated risk of flooding or would significantly increase flood risk elsewhere	• Lower tier environmental assessment and decision making by local authorities • SEA Monitoring Programme reports for the land use plans of local authorities (as required, monitoring reports published on various timescales and frequencies) • Any relevant data arising from flood event mapping by Planning Authority/Office of Public Works
Air and Climatic Factors	AC1i: Percentage electricity consumption from renewable energy AC1ii: Percentage of renewable energy electricity from wind energy	AC1: Increase in proportion of electricity generated from wind energy development to contribute towards achievement of targets relating to renewable energy and greenhouse gas emissions in line with rolling Government targets	• Lower tier environmental assessment and decision making by local authorities • Review of permissions granted and the SEA Monitoring Programme reports for the land use plans of local authorities (as required, monitoring reports published on various timescales and frequencies)
	AC2 (and PHH1): Number of instances of deterioration in human heath resulting from noise, shadow flicker, visual amenity disturbance, water quality, air quality, flood events or soil stability issues arising from wind energy development (including associated development) permitted by planning authorities adhering to the Guidelines Also refer to Indicators S1(i), W1, W2, W3, L1 and PHH2/L2.	AC2 (and PHH1): Avoid wind energy developments which would be likely to result in deterioration in human health arising from environmental factors, such as noise, shadow flicker, visual amenity disturbance, water quality, air quality, flood events or soil stability issues Also refer to Targets S1(i), W1, W2, W3, L1 and PHH2/L2.	• Lower tier environmental assessment and decision making by local authorities • Review of permissions granted and the SEA Monitoring Programme reports for the land use plans of local authorities (as required, monitoring reports published on various timescales and frequencies) • Consultations with EPA (at monitoring reporting - see Section 10.4) • SEA Monitoring Programme reports for the land use plans of local authorities (as required, monitoring reports published on various timescales and frequencies) • Data issued under the Water Framework Directive Monitoring Programme for Ireland (multi-annual) • EPA *The Quality of Bathing Water in Ireland* reports • Any relevant data arising from flood event mapping by Planning Authority/Office of Public Works
Material Assets	MA1: Addressing of reasonable alternatives (within SEA Environmental Reports and Environmental Impact Assessment Reports, where relevant) for the location of new wind energy developments within areas that already accommodate turbines, sub-stations, powerlines and roads until these areas reach capacity	MA1: All lower tier assessments to address reasonable alternatives for the location of new wind energy developments, and where existing infrastructural assets such as sub-stations, powerlines and roads already exist within proposed development areas, then such assets should be considered for sustainable use by the proposed development where the assets have capacity to absorb the new development	• Lower tier environmental assessment and decision making by local authorities • Review of permissions granted and the SEA Monitoring Programme reports for the land use plans of local authorities (as required, monitoring reports published on various timescales and frequencies)
	MA2: Preparation and implementation of construction and environmental management plans to include provisions relating to waste minimisation and recycling	MA2: For construction and environmental management plans to include provisions relating to waste minimisation and recycling	• Examination of compliance with SEA and lower tier assessment mitigation measures

Environmental Component	Indicators	Targets	Examples of Sources and Frequencies available to planning authorities and An Bord Pleanála (for the Hierarchy of Monitoring and Sources please refer to Section 10.3)
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 wind energy development (including associated development) permitted by planning authorities adhering to the Guidelines	CH1: No significant adverse effects on archaeological heritage (including entries to the Record of Monuments and Places) and its context within the surrounding landscape	• Review of permissions granted and the Lower tier environmental assessment and decision making by local authorities • SEA Monitoring Programme reports for the land use plans of local authorities (as required, monitoring reports published on various timescales and frequencies) • Consultation with Department of Culture, Heritage and the Gaeltacht (at monitoring reporting - see Section 10.4)
	CH2: Percentage of entries to the Record of Protected Structures and Architectural Conservation Areas (including their setting) protected from significant adverse effects resulting from wind energy development (including associated development) permitted by planning authorities adhering to the Guidelines	CH2: No significant adverse effects on architectural heritage (including entries to the Record of Protected Structures, entries to the National Inventory of Architectural Heritage and Architectural Conservation Areas)	• Lower tier environmental assessment and decision making by local authorities • SEA Monitoring Programme reports for the land use plans of local authorities (as required, monitoring reports published on various timescales and frequencies) • Consultation with Department of Culture, Heritage and the Gaeltacht (at monitoring reporting - see Section 10.4)
Landscape	L1: Number of significant adverse effects on statutory designations relating to the landscape, resulting from wind energy development (including associated development) permitted by planning authorities adhering to the Guidelines	L1: No significant adverse effects on statutory designations relating to the landscape	• Lower tier environmental assessment and decision making by local authorities • SEA Monitoring Programme reports for the land use plans of local authorities (as required, monitoring reports published on various timescales and frequencies)
	L2 (and PHH2): Disruption to use of and access to amenities including rights of way, parks, playing fields and walk and cycle ways	L2 (and PHH2): Avoid and minimise disruption to use of and access to amenities including rights of way, parks, playing fields and walk and cycle ways	• Lower tier environmental assessment and decision making by local authorities • SEA Monitoring Programme reports for the land use plans of local authorities (as required, monitoring reports published on various timescales and frequencies)

Appendix I Relationship with Legislation, Plans and Programmes

This appendix is not intended to be a full and comprehensive review of EU Directives, the transposing regulations or the regulatory framework for environmental protection and management. The information is not exhaustive and it is recommended to consult the Directive, Regulation, Plan or Programme to become familiar with the full details of each. The relevance of all of the following to the Guidelines is that implementation of the Guidelines 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.

Legislation, Plan, etc.	Summary of higher-level aim / purpose / objective	Summary of lower level objectives, actions etc.
International / European		
SEA Directive (2001/42/EC)	• Contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes with a view to promoting sustainable development. • Provide for a high level of protection of the environment by carrying out an environmental assessment of plans and programmes which are likely to have significant effects on the environment.	• Carry out an environmental assessment for plans or programmes referred to in Articles 2 to 4 of the Directive. • Prepare an environmental report which identifies, describes and evaluates the likely significant effects on the environment of implementing the plan or programme and reasonable alternatives that consider the objectives and the geographical scope of the plan or programme. • Consult with relevant authorities, stakeholders and public allowing sufficient time to make a submission. • Consult other Member States where the implementation of a plan or programme is likely to have transboundary environmental effects. • Inform relevant authorities and stakeholders on the decision to implement the plan or programme. • Issue a statement to include requirements detailed in Article 9 of the Directive. • Monitor and mitigate significant environmental effects identified by the assessment.
EIA Directive (2011/92/EU as amended by 2014/52/EU)	• Requires the assessment of the environmental effects of public and private projects which are likely to have significant effects on the environment. • Aims to assess and implement avoidance or mitigation measures to eliminate environmental effects, before consent is given of projects likely to have significant effects on the environment by virtue, inter alia, of their nature, size or location are made subject to a requirement for development consent and an assessment with regard to their effects. Those projects are defined in Article 4.	• All projects listed in Annex I are considered as having significant effects on the environment and require an EIA. • For projects listed in Annex II, a "screening procedure" is required to determine the effects of projects on the basis of thresholds/criteria or a case by case examination. This should take into account Annex III. • The environmental impact assessment shall identify, describe and assess in an appropriate manner, in the light of each individual case and in accordance with Articles 4 to 12, the direct and indirect effects of a project on the following factors: human beings, fauna and flora, soil, water, air, climate and the landscape, material assets and the cultural heritage and the interaction between each factor. • Consult with relevant authorities, stakeholders and the public allowing sufficient time to make a submission before a decision is made.
Habitats Directive (92/43/EEC)	• Promote the preservation, protection and improvement of the quality of the environment, including the conservation of natural habitats and of wild fauna and flora. • Contribute towards ensuring biodiversity through the conservation of natural habitats and of wild fauna and flora. • Maintain or restore to favourable conservation status, natural habitats and species of wild fauna and flora of community interest. • Promote the maintenance of biodiversity, taking account of economic, social, cultural and regional requirements.	• Propose and protect sites of importance to habitats, plant and animal species. • Establish a network of European sites hosting the natural habitat types listed in Annex I and habitats of the species listed in Annex II, to enable the natural habitat types and the species' habitats concerned to be maintained or, where appropriate, restored at a favourable conservation status in their natural range. • Carry out comprehensive assessment of habitat types and species present. • Establish a system of strict protection for the animal species and plant species listed in Annex IV.
Birds Directive (2009/147/EC)	• Conserve all species of naturally occurring birds in their wild state including their eggs, nests and habitats. • Protect, manage and control these species and comply with regulations relating to their exploitation.	• Preserve, maintain or re-establish a sufficient diversity and area of habitats for all the species of birds referred to in Annex 1. • Preserve, maintain and establish biotopes and habitats to include the creation of protected areas (Special Protection Areas).

Legislation, Plan, etc.	Summary of higher-level aim / purpose / objective	Summary of lower level objectives, actions etc.
	• The species included in Annex I shall be the subject of special conservation measures concerning their habitat in order to ensure their survival and reproduction in their area of distribution.	• Ensure the upkeep and management in accordance with the ecological needs of habitats inside and outside the protected zones, re-establish destroyed biotopes and creation of biotopes. • Measures for regularly occurring migratory species not listed in Annex I is required as regards their breeding, moulting and wintering areas and staging posts along their migration routes. The protection of wetlands and particularly wetlands of international importance.
EU Bathing Water Directive (revised) 2006 [2006/7/EC]	• The purpose of this Directive is to preserve, protect and improve the quality of the environment and to protect human health by complementing Directive 2000/60/EC	This Directive lays down provisions for: • the monitoring and classification of bathing water quality; • the management of bathing water quality; and • the provision of information to the public on bathing water quality
EU Nitrates Directive (91/676/EC)	• Reducing water pollution caused or induced by nitrates from agricultural sources and - preventing further such pollution.	Ireland's Nitrates Action Programme is designed to prevent pollution of surface waters and ground water from agricultural sources and to protect and improve water quality. Ireland's third NAP came into operation in 2014. Each Member State's NAP must include: • a limit on the amount of livestock manure applied to the land each year • set periods when land spreading is prohibited due to risk • set capacity levels for the storage of livestock manure
EU Integrated Pollution Prevention Control Directive (2008/1/EC)	• The purpose of this Directive is to achieve integrated prevention and control of pollution arising from the activities listed in Annex I. • It lays down measures designed to prevent or, where that is not practicable, to reduce emissions in the air, water and land from the abovementioned activities, including measures concerning waste, in order to achieve a high level of protection of the environment taken as a whole, without prejudice to Directive 85/337/EEC and other relevant Community provisions.	The IPPC Directive is based on several principles: • an integrated approach • best available techniques, • flexibility; and • public participation
EU Plant Protection (products) Directive 2009/127/EC	• The Directive aims at reducing the risks and impacts of pesticide use on human health and • the environment by introducing different targets, tools and measures such as Integrated Pest • Management (IPM) or National Action Plans (NAPs).	• The Framework Directive applies to pesticides which are plant protection products. • Regarding pesticide application equipment already in professional use, the Framework Directive introduces requirements for the inspection and maintenance to be carried out on such equipment.
EU Renewables Directive (2009/28/EC)	• The Renewable Energy Directive establishes an overall policy for the production and promotion of energy from renewable sources in the EU. • It requires the EU to fulfil at least 20% of its total energy needs with renewables by 2020 – to be achieved through the attainment of individual national targets. • All EU countries must also ensure that at least 10% of their transport fuels come from renewable sources by 2020.	• The Directive promotes cooperation amongst EU countries (and with countries outside the EU) to help them meet their renewable energy targets. • The Directive specifies national renewable energy targets for each country, taking into account its starting point and overall potential for renewables. • EU countries set out how they plan to meet these targets and the general course of their renewable energy policy in national renewable energy action plans. • Progress towards national targets is measured every two years when EU countries publish national renewable energy progress reports.
Indirect Land Use Change Directive(2012/0288(COD))	• Article 3(4) of Directive 2009/28/EC of the European Parliament and of the Council requires Member States to ensure that the share of energy from renewable energy sources in all forms of transport in 2020 is at least 10 % of their final energy consumption. • The blending of biofuels is one of the methods available for Member States to meet this target, and is expected to be the main contributor. • Other methods available to meet the target are the reduction of energy consumption, which is imperative because a mandatory percentage target for energy from renewable sources is likely to become increasingly difficult to achieve sustainably if overall demand for energy for transport continues to rise, and the use of electricity from renewable energy sources.	• Limit the contribution that conventional biofuels (with a risk of ILUC emissions) make towards attainment of the targets in the Renewable Energy Directive; • Improve the greenhouse gas performance of biofuel production processes (reducing associated emissions) by raising the greenhouse gas saving threshold for new installations subject to protecting installations already in operation on 1st July 2014; • Encourage a greater market penetration of advanced (low-ILUC) biofuels by allowing such fuels to contribute more to the targets in the Renewable Energy Directive than conventional biofuels; • Improve the reporting of greenhouse gas emissions by obliging Member States and fuel suppliers to report the estimated indirect land-use change emissions of biofuels.

Legislation, Plan, etc.	Summary of higher-level aim/ purpose/ objective	Summary of lower level objectives, actions etc.
Alternative Fuels Infrastructure Directive 2014/94/EU	• This Directive establishes a common framework of measures for the deployment of alternative fuels infrastructure in the Union in order to minimise dependence on oil and to mitigate the environmental impact of transport.	• This Directive sets out minimum requirements for the building-up of alternative fuels infrastructure, including recharging points for electric vehicles and refuelling points for natural gas (LNG and CNG) and hydrogen, to be implemented by means of Member States' national policy frameworks, as well as common technical specifications for such recharging and refuelling points, and user information requirements.
EU Energy Efficiency Directive (2012/27/EU)	• Establishes a set of binding measures to help the EU reach its 20% energy efficiency target by 2020. • Under the Directive, all EU countries are required to use energy more efficiently at all stages of the energy chain, from production to final consumption.	• Energy distributors or retail energy sales companies have to achieve 1.5% energy savings per year through the implementation of energy efficiency measures • EU countries can opt to achieve the same level of savings through other means, such as improving the efficiency of heating systems, installing double glazed windows or insulating roofs • The public sector in EU countries should purchase energy efficient buildings, products and services • Every year, governments in EU countries must carry out energy efficient renovations on at least 3% (by floor area) of the buildings they own and occupy • Energy consumers should be empowered to better manage consumption. This includes easy and free access to data on consumption through individual metering • National incentives for SMEs to undergo energy audits • Large companies will make audits of their energy consumption to help them identify ways to reduce it • Monitoring efficiency levels in new energy generation capacities.
EU Seveso Directive 2012/18/EU	• This Directive lays down rules for the prevention of major accidents which involve dangerous substances, and the limitation of their consequences for human health and the environment, with a view to ensuring a high level of protection throughout the Union in a consistent and effective manner.	The Seveso Directive is well integrated with other EU policies, thus avoiding double regulation or other administrative burden. This includes the following related policy areas: • Classification, labelling and packaging of chemicals; • The Union's Civil Protection Mechanism; • The Security Union Agenda including CBRN-E and Protection of critical infrastructure; • Policy on environmental liability and on the protection of the environment through criminal law; • Safety of offshore oil and gas operations.
EU Maritime Spatial Planning Directive (2014/89/EU)	• This Directive establishes a framework for maritime spatial planning aimed at promoting the sustainable growth of maritime economies, the sustainable development of marine areas and the sustainable use of marine resources.	• Each Member State shall establish and implement maritime spatial planning. • In doing so, Member States shall take into account land-sea interactions. • The resulting plan or plans shall be developed and produced in accordance with the institutional and governance levels determined by Member States. This Directive shall not interfere with Member States' competence to design and determine the format and content of that plan or those plans. • Maritime spatial planning shall aim to contribute to the objectives listed in Article 5 and fulfil the requirements laid down in Articles 6 and 8. • When establishing maritime spatial planning, Member States shall have due regard to the particularities of the marine regions, relevant existing and future activities and uses and their impacts on the environment, as well as to natural resources, and shall also take into account land-sea interactions. • Member States may include or build on existing national policies, regulations or mechanisms that have been or are being established before the entry into force of this Directive, provided they are in conformity with the requirements of this Directive.
UK Marine Policy Statement	• Achieving a sustainable marine economy • Ensuring a strong, healthy and just society • Living within environmental limits • Promoting good governance • Using sound science responsibly	The MPS will facilitate and support the formulation of Marine Plans, ensuring that marine resources are used in a sustainable way in line with the high-level marine objectives and thereby: • Promote sustainable economic development; • Enable the UK's move towards a low-carbon economy, in order to mitigate the causes of climate change and ocean acidification and adapt to their effects; • Ensure a sustainable marine environment which promotes healthy, functioning marine ecosystems and protects marine habitats, species and heritage assets; and • Contribute to the societal benefits of the marine area, including the sustainable use of marine resources to address local social and economic issues

Legislation, Plan, etc.	Summary of higher-level aim / purpose / objective	Summary of lower level objectives, actions etc.
Marine and Coastal Access Act 2009	• Aims to provide the legal mechanism to help ensure clean, healthy, safe, productive and biologically diverse oceans and seas by putting in place a new system for improved management and protection of the marine and coastal environment.	The Marine Act comprises eight key elements: • Marine Management Organisation (MMO) • Strategic Marine Planning System • Streamlined Marine Licensing System • Marine Nature Conservation • Fisheries Management and Marine Enforcement • Migratory and Freshwater Fisheries • Coastal Access • Coastal and Estuarine Management
Marine (Northern Ireland) Act 2013	• Aims to provide for marine plans in relation to the Northern Ireland inshore region; to provide for marine conservation zones in that region; to make further provision in relation to marine licensing for certain electricity works in that region; and for connected purposes.	The Marine Act sets out a new framework for Northern Ireland's seas based on: a system of marine planning that will balance conservation, energy and resource needs; improved management for marine nature conservation and the streamlining of marine licensing for some electricity projects. The main provisions of the Act are outlined below: • Marine Planning • Nature Conservation • Marine Licensing
European Union Biodiversity Strategy to 2020	• Aims to halt or reverse biodiversity loss and speed up the EU's transition towards a resource efficient and green economy. • Halting the loss of biodiversity and the degradation of ecosystem services in the EU by 2020, and restoring them in so far as feasible.	• Outlines six targets and twenty actions to aid European Union in halting the loss to biodiversity and eco-system services. • The six targets cover: o Full implementation of EU nature legislation to protect biodiversity o Maintaining, enhancing and protecting for ecosystems, and green infrastructure o Ensuring sustainable agriculture, and forestry o Sustainable management of fish stocks o Reducing invasive alien species o Addressing the global need to contribute towards averting global biodiversity loss
EU Green Infrastructure Strategy	Aims to create a robust enabling framework in order to promote and facilitate Green Infrastructure (GI) projects.	• Promoting GI in the main EU policy areas. • Supporting EU-level GI projects. • Improving access to finance for GI projects. • Improving information and promoting innovation.
UN Kyoto Protocol (2nd Kyoto Period), the Second European Climate Change Programme (ECCP II), Paris climate conference (COP21) 2015 (Paris Agreement)	The UN Kyoto Protocol set policy measures to reduce greenhouse gas emissions. The Second European Climate Change Programme (ECCP II) aims to identify and develop all the necessary elements of an EU strategy to implement the Kyoto Protocol. At the Paris climate conference (COP21) in December 2015, 195 countries adopted the first-ever universal, legally binding global climate deal. The agreement sets out a global action plan to put the world on track to avoid dangerous climate change by limiting global warming to well below 2°C.	• The Kyoto Protocol is implemented through the European Climate Change Programme (ECCP II). • EU member states implement measures to improve on or compliment the specified measures and policies arising from the ECCP. • Under COP21, governments agreed to come together every 5 years to set more ambitious targets as required by science; report to each other and the public on how well they are doing to implement their targets; track progress towards the long-term goal through a robust transparency and accountability system.
EU 2020 climate and energy package	• Binding legislation which aims to ensure the European Union meets its climate and energy targets for 2020. • Aims to achieve a 20% reduction in EU greenhouse gas emissions from 1990 levels. • Aims to raise the share of EU energy consumption produced from renewable resources to 20%. • Achieve a 20% improvement in the EU's energy efficiency.	Four pieces of complimentary legislation: • Reform of the EU Emissions Trading System (EU ETS) to include a cap on emission allowances in addition to existing system of national caps. • Member States have agreed national targets for non-EU ETS emissions from countries outside the EU. • Meet the national renewable energy targets of 16% for Ireland by 2020. • Preparing a legal framework for technologies in carbon capture and storage.
EU 2030 Framework for climate and energy	• A 2030 Framework for climate and energy, including EU-wide targets and policy objectives for the period between 2020 and 2030 that has been agreed by European countries.	To meet the targets, the European Commission has proposed the following policies for 2030: • A reformed EU emissions trading scheme (ETS).

Legislation, Plan, etc.	Summary of higher-level aim / purpose / objective	Summary of lower level objectives, actions etc.
	• Targets include a 40% cut in greenhouse gas emissions compared to 1990 levels, at least a 27% share of renewable energy consumption and at least 27% energy savings compared with the business-as-usual scenario.	• New indicators for the competitiveness and security of the energy system, such as price differences with major trading partners, diversification of supply, and interconnection capacity between EU countries. • First ideas for a new governance system based on national plans for competitive, secure, and sustainable energy. These plans will follow a common EU approach. They will ensure stronger investor certainty, greater transparency, enhanced policy coherence and improved coordination across the EU.
The Clean Air for Europe Directive (2008/50/EC) (EU Air Framework Directive) Fourth Daughter Directive (2004/107/EC)	• The CAFE Directive merges existing legislation into a single directive (except for the fourth daughter directive). • Sets new air quality objectives for PM2.5 (fine particles) including the limit value and exposure related objectives. • Accounts for the possibility to discount natural sources of pollution when assessing compliance against limit values. • Allows the possibility for time extensions of three years (PM10) or up to five years (NO2, benzene) for complying with limit values, based on conditions and the assessment by the European Commission. • The Fourth Daughter Directive lists pollutants, target values and monitoring requirements for the following: arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons in ambient air.	• Sets objectives for ambient air quality designed to avoid, prevent or reduce harmful effects on human health and the environment. • Aims to assess the ambient air quality in Member States on the basis of common methods and criteria. • Obtains information on ambient air quality in order to help combat air pollution and nuisance and to monitor long-term trends and improvements resulting from national and community measures. • Ensures that such information on ambient air quality is made available to the public. • Aims to maintain air quality where it is good and improving it in other cases. • Aims to promote increased cooperation between the Member States in reducing air pollution.
Noise Directive 2002/49/EC	The Noise Directive - Directive 2002/49/EC relating to the assessment and management of environmental noise - is part of an EU strategy setting out to reduce the number of people affected by noise in the longer term and to provide a framework for developing existing Community policy on noise reduction from source.	The Directive requires competent authorities in Member States to: • Draw up strategic noise maps for major roads, railways, airports and agglomerations, using harmonised noise indicators and use these maps to assess the number of people which may be impacted upon as a result of excessive noise levels; • Draw up action plans to reduce noise where necessary and maintain environmental noise quality where it is good; and • Inform and consult the public about noise exposure, its effects, and the measures considered to address noise. The Directive does not set any limit value, nor does it prescribe the measures to be used in the action plans, which remain at the discretion of the competent authorities.
Floods Directive (2007/60/EC)	• Establishes a framework for the assessment and management of flood risks • Reduce adverse consequences for human health, the environment, cultural heritage and economic activity associated with floods in the Community	• Assess all water courses and coast lines at risk from flooding through Flood Risk Assessment • Prepare flood hazard maps and flood risk maps outlining the extent or potential of flooding and assets and humans at risk in these areas at River Basin District level (Article 3(2) (b)) and areas covered by Article 5(1) and Article 13(1) (b) in accordance with paragraphs 2 and 3. • Implement flood risk management plans and take adequate and coordinated measures to reduce flood risk for the areas covered by the Articles listed above. • Inform the public and allow the public to participate in planning process.
Water Framework Directive (2000/60/EC)	• Establish a framework for the protection of water bodies to include inland surface waters, transitional waters, coastal waters and groundwater and their dependent wildlife and habitats. • Preserve and prevent the deterioration of water status and where necessary improve and maintain "good status" of water bodies. • Promote sustainable water usage. • The Water Framework Directive repealed the following Directives: o The Drinking Water Abstraction Directive o Sampling Drinking Water Directive o Exchange of Information on Quality of Surface Freshwater Directive	• Protect, enhance and restore all water bodies and meet the environmental objectives outlined in Article 4 of the Directive. • Achieve "good status" for all waters. • Manage water bodies based on identifying and establishing river basins districts. • Involve the public and streamline legislation. • Prepare and implement a River Basin Management Plan for each river basin districts identified and a Register of Protected Areas. • Establish a programme of monitoring for surface water status, groundwater status and protected areas. • Recover costs for water services.

Legislation, Plan, etc.	Summary of higher-level aim / purpose / objective	Summary of lower level objectives, actions etc.
	o Shellfish Directive o Freshwater Fish Directive o Groundwater (Dangerous Substances) Directive o Dangerous Substances Directive	
Groundwater Directive (2006/118/EC)	• Protect, control and conserve groundwater. • Prevent the deterioration of the status of all bodies of groundwater. • Implements measures to prevent and control groundwater pollution, including criteria for assessing good groundwater chemical status and criteria for the identification of significant and sustained upward trends and for the definition of starting points for trend reversals.	• Meet minimum groundwater standards listed in Annex 1 of Directive. • Meet threshold values adopted by national legislation for the pollutants, groups of pollutants and indicators of pollution which have been identified as contributing to the characterisation of bodies or groups of bodies of groundwater as being at risk, also taking into account Part B of Annex II.
Drinking Water Directive (98/83/EC)	• Improve and maintain the quality of water intended for human consumption. • Protect human health from the adverse effects of any contamination of water intended for human consumption by ensuring that it is wholesome and clean.	• Set values applicable to water intended for human consumption for the parameters set out in Annex I. • Set values for additional parameters not included in Annex I, where the protection of human health within national territory or part of it so requires. The values set should, as a minimum, satisfy the requirements of Article 4(1) (a). • Implement all measures necessary to ensure that regular monitoring of the quality of water intended for human consumption is carried out, in order to check that the water available to consumers meets the requirements of this Directive and in particular the parametric values set in accordance with Article 5. • Ensure that any failure to meet the parametric values set in accordance with Article 5 is immediately investigated in order to identify the cause. • Ensure that the necessary remedial action is taken as soon as possible to restore its quality and shall give priority to their enforcement action. • Undertake remedial action to restore the quality of the water where necessary to protect human health. • Notify consumers when remedial action is being undertaken except where the competent authorities consider the non-compliance with the parametric value to be trivial.
Urban Waste Water Treatment Directive (91/271/EEC)	• This Directive concerns the collection, treatment and discharge of urban waste water and the treatment and discharge of waste water from certain industrial sectors. • The objective of the Directive is to protect the environment from the adverse effects of waste water discharges.	• Urban waste water entering collecting systems shall before discharge, be subject to secondary treatment. • Annex II requires the designation of areas sensitive to eutrophication which receive water discharges. • Establishes minimum requirements for urban waste water collection and treatment systems in specified agglomerations to include special requirements for sensitive areas and certain industrial sectors.
Environmental Liability Directive (2004/35/EC), as amended by Directive 2006/21/EC, Directive 2009/31/EC and Directive 2013/30/EU	• Establish a framework of environmental liability based on the 'polluter-pays' principle, to prevent and remedy environmental damage.	• Relates to environmental damage caused by any of the occupational activities listed in Annex III, and to any imminent threat of such damage occurring by reason of any of those activities; damage to protected species and natural habitats caused by any occupational activities other than those listed in Annex III, and to any imminent threat of such damage occurring by reason of any of those activities, whenever the operator has been at fault or negligent. • Where environmental damage has not yet occurred but there is an imminent threat of such damage occurring, the operator shall, without delay, take the necessary preventive measures. • Where environmental damage has occurred the operator shall, without delay, inform the competent authority of all relevant aspects of the situation and take all practicable steps to immediately control, contain, remove or otherwise manage the relevant contaminants and/or any other damage factors in order to limit or to prevent further environmental damage and adverse effects on human health or further impairment of services and the necessary remedial measures, in accordance with Article 7. • The operator shall bear the costs for the preventive and remedial actions taken pursuant to this Directive. • The competent authority shall be entitled to initiate cost recovery proceedings against the operator.

Legislation, Plan, etc.	Summary of higher-level aim / purpose / objective	Summary of lower level objectives, actions etc.
		• The operator may be required to provide financial security guarantees to ensure their responsibilities under the directive are met. The Environmental Liability Directive has been amended through a number of Directives that are not of significant relevance to the SEA for the Guidelines. Implementation of the Environmental Liability Directive is contributed towards by a Multi-Annual Work Programme (MAWP) 'Making the Environmental Liability Directive more fit for purpose' that is updated annually to changing developments, growing knowledge and new needs.
Marine Strategy Framework Directive (2008/56/EC), as amended	• The aim of the European Union's ambitious Marine Strategy Framework Directive is to protect more effectively the marine environment across Europe.	The Directive provides various requirements, including: • Completion of an initial assessment of Irish marine waters; • Establishment of establish environmental targets and indicators; • Establishment of a monitoring programme; • Establishment of a programme of measures; and • Implementation of the programme of measures and monitoring programme. Implementation of the Directive is contributed towards by a set of detailed criteria and methodological standards that were revised in 2017 leading to a Commission Decision on "laying down criteria and methodological standards on good environmental status of marine waters and specifications and standardised methods for monitoring and assessment, and repealing Decision 2010/477/EU". Annex III "Indicative lists of characteristics, pressures and impacts" of the Directive was amended in 2017.
European Convention on the Protection of the Archaeological Heritage (Valletta 1992)	• The aim of this (revised) Convention is to protect the archaeological heritage as a source of the European collective memory and as an instrument for historical and scientific study.	• The Valletta Convention makes the conservation and enhancement of the archaeological heritage one of the goals of urban and regional planning policies. The Convention sets guidelines for the funding of excavation and research work and publication of research findings. It also deals with public access, in particular to archaeological sites, and educational actions to be undertaken to develop public awareness of the value of the archaeological heritage. It also constitutes an institutional framework for pan-European co-operation on the archaeological heritage, entailing a systematic exchange of experience and experts among the various States.
Convention of the Protection of the Architectural Heritage of Europe (Granada 1995)	• The main purpose of the Convention is to reinforce and promote policies for the conservation and enhancement of Europe's heritage. It also affirms the need for European solidarity with regard to heritage conservation and is designed to foster practical co-operation among the Parties. It establishes the principles of "European co-ordination of conservation policies" including consultations regarding the thrust of the policies to be implemented.	• The reinforcement and promotion of policies for protecting and enhancing the heritage within the territories of the parties. • The affirmation of European solidarity with regard to the protection of the heritage and the fostering of practical co-operation between states and regions.
Council of Europe Framework Convention on the Value of Cultural Heritage for Society (Faro 2005)	• Cultural heritage is a group of resources inherited from the past which people identify, independently of ownership, as a reflection and expression of their constantly evolving values, beliefs, knowledge and traditions. It includes all aspects of the environment resulting from the interaction between people and places through time. • A heritage community consists of people who value specific aspects of cultural heritage which they wish, within the framework of public action, to sustain and transmit to future generations.	• Recognise that rights relating to cultural heritage are inherent in the right to participate in cultural life, as defined in the Universal Declaration of Human Rights. • Recognise individual and collective responsibility towards cultural heritage. • Emphasise that the conservation of cultural heritage and its sustainable use have human development and quality of life as their goal. • Take the necessary steps to apply the provisions of this Convention concerning the role of cultural heritage in the construction of a peaceful and democratic society. • Greater synergy of competencies among all the public, institutional and private actors concerned.
European Landscape Convention 2000	The developments in agriculture, forestry, industrial and mineral production techniques, together with the practices followed in town and country planning, transport, networks, tourism and recreation, and at a more general level, changes in the world economy, have in many cases accelerated the transformation of landscapes. The Convention expresses a concern to achieve	• Promote protection, management and planning of landscapes. • Organise European co-operation on landscape issues.

Legislation, Plan, etc.	Summary of higher-level aim / purpose / objective	Summary of lower level objectives, actions etc.
	sustainable development based on a balanced and harmonious relationship between social needs, economic activity and the environment. It aims to respond to the public's wish to enjoy high quality landscapes.	
The Seventh Environmental Action Programme (EAP) of the European Community 2013-2020	The Programme identifies three key objectives: • to protect, conserve and enhance the Union's natural capital • to turn the Union into a resource-efficient, green, and competitive low-carbon economy • to safeguard the Union's citizens from environment-related pressures and risks to health and wellbeing	Four so called "enablers" will help Europe deliver on these objectives (goals): • Better implementation of legislation. • Better information by improving the knowledge base. • More and wiser investment for environment and climate policy. • Full integration of environmental requirements and considerations into other policies. Two additional horizontal priority objectives complete the programme: • To make the Union's cities more sustainable. • To help the Union address international environmental and climate challenges more effectively.
Bern Convention (Convention on the Conservation of European Wildlife and Natural Habitats)	The Convention has three main aims: • to conserve wild flora and fauna and their natural habitats • to promote cooperation between states • to give particular attention to endangered and vulnerable species including endangered and vulnerable migratory species	The Parties under the convention recognise the intrinsic value of nature, which needs to be preserved and passed to future generations, they also: • Seek to ensure the conservation of nature in their countries, paying particular attention to planning and development policies and pollution control. • Look at implementing the Bern Convention in central Eastern Europe and the Caucus. • Take account of the potential impact on natural heritage by other policies. • Promote education and information of the public, ensuring the need to conserve species is understood and acted upon. • Develop an extensive number of species action plans, codes of conducts, and guidelines, at their own initiative or in co-operation with other organisations. • Created the Emerald Network, an ecological network made up of Areas of Special Conservation Interest.
United Nations Framework Convention on Climate Change	The United Nations Framework Convention on Climate Change (UNFCCC) entered into force on 21 March 1994 and has been ratified by 197 countries. The ultimate objective of this Convention and any related legal instruments that the Conference of the Parties may adopt is to achieve, in accordance with the relevant provisions of the Convention, stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. Such a level should be achieved within a time-frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner.	The Framework Convention specifies the aim of developed (Annex I) Parties stabilizing their greenhouse gas emissions (carbon dioxide and other anthropogenic greenhouse gases not regulated under the Montreal Protocol) at 1990 levels, by the year 2000.
Bali Road Map 2007	The overall goals of the project are: • To increase national capacity to co-ordinate ministerial views, participate in the UNFCCC process, and negotiate positions within the timeframe of the Bali Action Plan; and • To assess investment and financial flows to address climate change for up to three key sectors and/or economic activities.	The Bali Action Plan is centred on four main building Blocks: • mitigation • adaptation • technology • financing
Cancun Agreements 2010	Set of decisions taken at the COP 16 Conference in Cancun in 2010 which addresses a series of key issues in the fight against climate change. Cancun Agreements' main objectives cover: • Mitigation • Transparency of actions • Technology • Finance • Adaptation	Among the most prominent agreements is the establishment of a Green Climate Fund to transfer money from the developed to developing world to tackle the impacts of climate change.

Legislation, Plan, etc.	Summary of higher-level aim/ purpose/ objective	Summary of lower level objectives, actions etc.
	• Forests • Capacity building	
Doha Climate Gateway 2012	Set of decisions taken at the COP 18 meeting in Doha in 2012 which pave the way for a new agreement in Paris in 2015.	The following actions were committed to by governments at this conference: • Set out a timetable to adopt a universal climate agreement by 2015 (to come into effect in 2020); • Complete the work under Bali Action Plan and to focus on new completing new targets; • Strengthen the aim to cut greenhouse gases and help vulnerable countries to adapt; • Amend Kyoto Protocol to include a new commitment period for cutting down the greenhouse gases emissions; and • Provide the financial and technology support and new institutions to allow clean energy investment and sustainable growth in developing countries.
EU Common Agricultural Policy	• To improve agricultural productivity, so that consumers have a stable supply of affordable food; and • To ensure that EU farmers can make a reasonable living.	• Ensuring viable food production that will contribute to feeding the world's population, which is expected to rise considerably in the future; • Climate change and sustainable management of natural resources; • Looking after the countryside across the EU and keeping the rural economy alive.
EU REACH Regulation (EC 1907/2006)	• Aims to improve the protection of human health and the environment through the better and earlier identification of the intrinsic properties of chemical substances.	The aims are achieved by applying REACH, namely: • Registration, • Evaluation, • Authorisation; and • Restriction of chemicals. REACH also aims to enhance innovation and competitiveness of the EU chemicals industry.
Stockholm Convention 2004/	• The objective of the Stockholm Convention is to protect human health and the environment from persistent organic pollutants (POPs).	• Prohibit and/or eliminate the production and use, as well as the import and export, of the intentionally produced POPs that are listed in Annex A to the Convention • Restrict the production and use, as well as the import and export, of the intentionally produced POPs that are listed in Annex B to the Convention • Reduce or eliminate releases from unintentionally produced POPs that are listed in Annex C to the Convention • Ensure that stockpiles and wastes consisting of, containing or contaminated with POPs are managed safely and in an environmentally sound manner • To target additional POPs • Other provisions of the Convention relate to the development of implementation plans, information exchange, public information, awareness and education, research, development and monitoring, technical assistance, financial resources and mechanisms, reporting, effectiveness evaluation and non-compliance
Ramsar Convention	The Convention's mission is "the conservation and wise use of all wetlands through local and national actions and international cooperation, as a contribution towards achieving sustainable development throughout the world".	Under the "three pillars" of the Convention, the Contracting Parties commit to: • Work towards the wise use of all their wetlands; • Designate suitable wetlands for the list of Wetlands of International Importance (the "Ramsar List") and ensure their effective management; • Cooperate internationally on transboundary wetlands, shared wetland systems and shared species.
OSPAR Convention	The mission of OSPAR is to conserve marine ecosystems and safeguard human health in the North-East Atlantic by preventing and eliminating pollution; by protecting the marine environment from the adverse effects of human activities; and by contributing to the sustainable use of the seas.	OSPAR's work is organised under six strategies: • Biodiversity and Ecosystem Strategy • Eutrophication Strategy • Hazardous Substances Strategy • Offshore Industry Strategy • Radioactive Substances Strategy • Strategy for the Joint Assessment and Monitoring Programme These six strategies fit together to underpin the ecosystem approach. For each strategy a programme of work is designed and implemented annually.
European 2020 Strategy for Growth	Europe 2020 sets out a vision of Europe's social market economy for the 21st century and puts forward three mutually reinforcing priorities:	In order to reach these priorities, the Commission proposes five quantitative targets to fulfil by 2020: 1. 75 % of the population aged 20-64 should be employed;

Legislation, Plan, etc.	Summary of higher-level aim / purpose / objective	Summary of lower level objectives, actions etc.
	• Smart growth: developing an economy based on knowledge and innovation; • Sustainable growth: promoting a more resource efficient, greener and more competitive economy; • Inclusive growth: fostering a high-employment economy delivering social and territorial cohesion.	2. 3% of the EU's GDP should be invested in R&D; 3. the "20/20/20" climate/energy targets should be met (including an increase to 30% of emissions reduction if the conditions are right); 4. the share of early school leavers should be under 10% and at least 40% of the younger generation should have a tertiary degree; 5. 20 million less people should be at risk of poverty.
National Level		
Project Ireland 2040 - Our Plan, the National Planning Framework, replacing the National Spatial Strategy 2002-2020	• The National Planning Framework is the Government's high-level strategic plan for shaping the future growth and development to the year 2040. It is a framework to guide public and private investment, to create and promote opportunities for people, and to protect and enhance the environment - from villages to cities, and everything around and in between.	The vision is to be achieved by: • Developing a new region-focused strategy for managing growth; • Linking this to a new 10-year investment plan, the Project Ireland 2040 National Development Plan 2018-2027; • Using state lands for certain strategic purposes; • Supporting this with strengthened, more environmentally focused planning at local level; and • Backing the framework up in law with an Independent Office of the Planning Regulator.
Planning and Development Act 2000 (as amended) and Planning and Development Regulations 2001 (as amended)	• The core principal objectives of the Act and the secondary legislation are to provide the legal basis relating to planning and development and to provide for proper planning and sustainable development in the interests of the common good.	Under planning legislation, local authorities are required to adopt a development plan which sets out the objectives for: 1. development and renewal of obsolete areas; 2. preserving, improving and extending amenities; 3. provision of water supplies and sewerage services, waste recovery and disposal facilities; 4. zoning of areas for residential, commercial, industrial, agricultural etc. purposes; 5. provision of accommodation for travellers; 6. provision of services for the community (e.g. Creches). • Development plans will also usually include development objectives relating to the control of use of buildings, community planning, reservation of land, preservation, conservation etc., including mandatory objectives for the conservation of natural heritage including European sites as well as the protection of the built environment, landscape and visual amenity. • Development, with certain exceptions, is subject to development control under the Planning Acts and the local authorities and An Bord Pleanála grant or refuse planning permission for development. • There are, however, a range of exemptions from the planning system. Use of land for agriculture, peat extraction and afforestation, subject to certain thresholds, is generally exempt from the requirement to obtain planning permission. • Additionally, Environmental Impact Assessment (EIA) is required for a range of classes and large scale projects.
European Communities (Environmental Assessment of Certain Plans and Programmes Regulations 2004 (S.I. 435 of 2004) as amended by S.I. 200 of 2011	• The purpose of these Regulations is to transpose into Irish law Directive 2001/42/EC of 27 June 2001 (O.J. No. L 197, 21 July 2001) on the assessment of the effects of certain plans and programmes on the environment — commonly known as the Strategic Environmental Assessment (SEA) Directive.	• The Regulations cover plans and programmes in all of the sectors listed in article 3(2) of the Directive except land-use planning. • These Regulations also amend certain provisions of the Act to provide the statutory basis for the transposition of the Directive in respect of land-use planning. • Transposition in respect of the land-use planning sector is contained in the Planning and Development (Strategic Environmental Assessment) Regulations 2004 (S.I. No. 436 of 2004).
European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. 477 of 2011 as Amended)	• These Regulations provide for the implementation in Ireland of Council Directive 92/43/EEC on habitats and protection of wild fauna and flora (as amended) and for the implementation of Directive 2009/147/EC of the European Parliament and of the Council on the protection of wild birds.	• They provide, among other things, for: the appointment and functions of authorized officers; identification, classification and other procedures relative to the designation of Community sites. • The Regulations have been prepared to address several judgments of the CJEU against Ireland, notably cases C-418/04 and C-183/05, in respect of failure to transpose elements of the Birds Directive and the Habitats Directive into Irish law.
Waste Management Act 1996 as Amended	• To make provision in relation to the prevention, management and control of waste; to give effect to provisions of certain acts adopted by institutions of the European communities in respect of those matters; to amend the	• The Waste Management Act contains a number of key legal obligations, including requirements for waste management planning, waste collection and movement, the authorisation of waste facilities, measures to reduce the production of waste and/or promote its recovery.

Legislation, Plan, etc.	Summary of higher-level aim / purpose / objective	Summary of lower level objectives, actions etc.
	Environmental Protection Agency Act, 1992, and to repeal certain enactments and to provide for related matters.	
European Communities Environmental Objectives (FPM) Regulations 2009 (S.I 296 of 2009)	• The purpose of these Regulations is to support the achievement of favourable conservation status for freshwater pearl mussels	Actions: • Set environmental quality objectives for the habitats of the freshwater pearl mussel populations named in the First Schedule to these Regulations that are within the boundaries of a site notified in a candidate list of European sites, or designated as a Special Area of Conservation, under the European Communities (Natural Habitats) Regulations, 1997 (S.I. No. 94/1997). • Require the production of sub-basin management plans with programmes of measures to achieve these objectives. • Set out the duties of public authorities in respect of the sub-basin management plans and programmes of measure
European Communities Environmental Objectives (Groundwater) Regulations 2010 (S.I 9 of 2010) as amended (S.I. No. 366 of 2016)	• To amend the European Communities Environmental Objectives (Groundwater) Regulations 2010 (S.I. No. 9 of 2010) to make further provision to implement Commission Directive 2014/80/EU of 20 June 2014 amending Annex II to Directive 2006/118/EC of the European Parliament and of the Council on the protection of groundwater against pollution and deterioration.	• The substances and threshold values set out in Schedule 5 to S.I. No. 9 of 2010 have been reviewed and amended where necessary, based on existing monitoring information and international guidelines on appropriate threshold values. • Part A of Schedule 6 has been amended to include changes to the rules governing the determination of background levels for the purposes of establishing threshold values for groundwater pollutants and indicators of pollution. • Part B of Schedule 6 has been amended to include nitrites and phosphorus (total) / phosphates among the minimum list of pollutants and their indicators which the Environmental Protection Agency (EPA) must consider when establishing threshold values • Part C of Schedule 6 amends the information to be provided to the Minister by the EPA with regard to the pollutants and their indicators for which threshold values have been established
European Communities (Good Agricultural Practice for Protection of Waters) Regulations 2014 (S.I. No. 31 of 2014)	• These Regulations, which give effect to Irelands 3rd Nitrates Action Programme, provide statutory support for good agricultural practice to protect waters against pollution from agricultural sources	The Regulations include measures such as: • Periods when land application of fertilisers is prohibited • Limits on the land application of fertilisers • Storage requirements for livestock manure; and • Monitoring of the effectiveness of the measures in terms of agricultural practice and impact on water quality.
Bathing Water Quality Regulations 2008 (S.I. 79 of 2008)	• These Regulations provide for transposition of the EU Bathing Water Directive 2006 (Directive 2006/7/EC of 15 February 2006) which aims: o To improve health protection for bathers o To establish a more pro-active approach to management of bathing waters, and o To promote increased public involvement and dissemination of information to the public.	• The Regulations establish a new classification system for bathing water quality based on four classifications "poor", "sufficient", "good" and "excellent" and generally require that a classification of at least "sufficient" be achieved by 2015 for all bathing waters. • Local authorities must take appropriate measures with a view to improving waters which are classified as "poor" and increasing the number of bathing waters classified as "good" or "excellent". • A permanent advice against bathing must be issued in a case where a bathing water is classified as "poor" for five consecutive years. • Local authorities are required annually to identify bathing waters, establish a monitoring calendar, carry out the specified monitoring, report the results to the EPA, carry out appropriate management measures where necessary and provide information to the public. • There must be public participation in the identification of waters and the general implementation of the Regulations. • The EPA is required by the Regulations to classify bathing waters, generally on the basis of the monitoring results for the four preceding bathing seasons, and to publish an annual report in relation to bathing water quality. • Monitoring by local authorities is to commence not later than 2011 with a view to ensuring that a classification is assigned to bathing waters not later than 2015. • Private controllers of access lands may be required to contribute towards the costs incurred by a local authority or the EPA.
Bathing Water Quality (Amendment) Regulations 2011 (S.I 351 of 2011)	• This Regulation defines further the minimum number of bathing water samples required to carry out a bathing water quality assessment.	• Further defines the minimum number of bathing water samples required to carry out a bathing water quality assessment.

Legislation, Plan, etc.	Summary of higher-level aim / purpose / objective	Summary of lower level objectives, actions etc.
Climate Action and Low Carbon Development Act 2015	• An Act to provide for the approval of plans by the Government in relation to climate change for the purpose of pursuing the transition to a low carbon, climate resilient and environmentally sustainable economy.	When considering a plan or framework, for approval, the Government shall endeavour to achieve the national transition objective within the period to which the objective relates and shall, in endeavouring to achieve that objective, ensure that such objective is achieved by the implementation of measures that are cost effective and shall, for that purpose, have regard to: • The ultimate objective specified in Article 2 of the United Nations Framework Convention on Climate Change done at New York on 9 May 1992 and any mitigation commitment entered into by the European Union in response or otherwise in relation to that objective, • The policy of the Government on climate change, • Climate justice, • Any existing obligation of the State under the law of the European Union or any international agreement referred to in section 2; and • The most recent national greenhouse gas emissions inventory and projection of future greenhouse gas emissions, prepared by the Agency.
Infrastructure and Capital Investment Plan 2016-2021	• €27 billion multi-annual Exchequer Capital Investment Plan, which is supported by a programme of capital investment in the wider State sector, and which over the period 2016 to 2021 will help to lay the foundations for continued growth in Ireland.	• This Capital Plan reflects the Government's commitment to supporting strong and sustainable economic growth and raising welfare and living standards for all. • It includes allocations for new projects across a number of key areas and funding to ensure that the present stock of national infrastructure is refreshed and maintained.
Ireland's National Renewable Energy Action Plan 2010 (Irish Government submission to the European Commission)	• The National Renewable Energy Action Plan (NREAP) sets out the Government's strategic approach and concrete measures to deliver on Ireland's 16% target under Directive 2009/28/EC.	• The NREAP sets out the Member State's national targets for the share of energy from renewable sources to be consumed in transport, electricity and heating and cooling in 2020, and demonstrates how the Member State will meet its overall national target established under the Directive.
Strategy for Renewable Energy 2012-2020	• The Government's overarching strategic objective is to make renewable energy an increasingly significant component of Ireland's energy supply by 2020, so that at a minimum it will achieve its legally binding 2020 target in the most cost-efficient manner for consumers. • Of critical importance is the role which the renewable energy sector plays in job creation and economic activity as part of the Government's action plan for jobs.	This document sets out five strategic goals, reflecting the key dimensions of the renewable energy challenge to 2020: • Increasing on and offshore wind, • Building a sustainable bioenergy sector, • Fostering R&D in renewables such as wave & tidal, • Growing sustainable transport; and • Building out robust and efficient networks.
National Mitigation Plan 2017	• The Plan represents an initial step to set Ireland on a pathway to achieve the deep decarbonisation required in Ireland by mid-century in line with the Government's policy objectives.	The National Mitigation Plan focuses on the following issues: • Climate Action Policy Framework • Decarbonising Electricity Generation • Decarbonising the Built Environment • Decarbonising Transport • An Approach to Carbon Neutrality for Agriculture, Forest and Land Use Sectors
National Policy Position on climate Action and Low Carbon Development (2014)	• The National Policy Position provides a high-level policy direction for the adoption and implementation by Government of plans to enable the State to move to a low carbon economy by 2050. • Statutory authority for the plans is set out in the Climate Action and Low Carbon Development Act 2015.	National climate policy in Ireland: • Recognises the threat of climate change for humanity; • Anticipates and supports mobilisation of a comprehensive international response to climate change, and global transition to a low-carbon future; • Recognises the challenges and opportunities of the broad transition agenda for society; and • Aims, as a fundamental national objective, to achieve transition to a competitive, low carbon, climate-resilient and environmentally sustainable economy by 2050.
National Clean Air Strategy [in preparation]	• The Clean Air Strategy will provide the strategic policy framework necessary to identify and promote integrated measures across government policy that are required to reduce air pollution and promote cleaner air while delivering on wider national objectives.	• Having a National Strategy will provide a policy framework by which Ireland can develop the necessary policies and measures to comply with new and emerging EU legislation. • The Strategy should also help tackle climate change. • The Strategy will consider a wider range of national policies that are relevant to clean air policy such as transport, energy, home heating and agriculture. • In any discussion relating to clean air policy, the issue of people's health is paramount and this will be a strong theme of the Strategy.

Legislation, Plan, etc.	Summary of higher-level aim / purpose / objective	Summary of lower level objectives, actions etc.
Offshore Renewable Energy Development Plan (OREDP) 2014	• The OREDP sets out key principles, policy actions and enablers for delivery of Ireland's significant potential in the area of the offshore renewable energy • The overarching objective of the Government's energy policy is to ensure secure and sustainable supplies of competitively priced energy to all consumers. • The OREDP sets out a vision: *"Our offshore renewable energy resource contributing to our economic development and sustainable growth, generating jobs for our citizens, supported by coherent policy, planning and regulation, and managed in an integrated manner".*	Three high level goals, of equal importance, based on the concept of sustainable development have been identified for the OREDP: • Ireland harnesses the market opportunities presented by offshore renewable energy to achieve economic development, growth and jobs • Increase awareness of the value, opportunities and societal benefits of developing offshore renewable energy • Offshore renewable energy developments do not adversely impact the rich marine environment and its living and non-living resources
All Island Grid Study 2008	• The All Island Grid Study is the first comprehensive assessment of the ability of the electrical power system and, as part of that, the transmission network ("the grid") on the island of Ireland to absorb large amounts of electricity produced from renewable energy sources. • The objective of this five-part study is to assess the technical feasibility and the relative costs and benefits associated with various scenarios for increased shares of electricity sourced from renewable energy in the all island power system.	Key conclusions of the study: • The presented results indicate that the differences in cost between the highest cost and the lowest cost portfolios are low (7%), given the assumptions made and costs included in the Study. • All but the high coal-based portfolio lead to significant reductions of CO2 emissions compared to portfolio 1 • All but the high coal-based portfolio lead to reductions on the dependency of the all island system on fuel and electricity imports. • The limitations of the study may overstate the technical feasibility of the portfolios analysed and could impact the costs and benefits resulting. Further work is required to understand the extent of such impact. • Timely development of the transmission networks, requiring means to address the planning challenge, is a precondition for implementation of the portfolios considered. • Market mechanisms must facilitate the installation of complementary, i.e. flexible, dispatchable plant, so as to maintain adequate levels of system security.
EirGrid's Grid25 Strategy and associated Grid25 Implementation Programme 2011 -2016	• EirGrid's mission is to develop, maintain and operate a safe, secure, reliable, economical and efficient transmission system for Ireland. • *"Our vision is of a grid developed to match future needs, so it can safely and reliably carry power all over the country to the major towns and cities and onwards to every home, farm and business where the electricity is consumed and so it can meet the needs of consumers and generators in a sustainable way."*	• Grid25, EirGrid's roadmap to uprate the electricity transmission grid by 2025, continues to be implemented so as to increase the capacity of the grid, to satisfy future demand, and to help Ireland meet its target of 40 per cent of electricity from renewable energy by 2020.
National Water Resources Plan [in preparation]	• The NWRP is a plan on how to provide a safe, secure and reliable water supply to customers for the next 25 years, without causing adverse impact on the environment. • The objective of the NWRP is to set out how we intend to maintain the supply and demand for drinking water over the short, medium and long term whilst minimising the impact on the environment.	The key objectives of the plan are to: • Identify areas where there are current and future potential water supply shortfalls, taking into account normal and extreme weather conditions • Assess the current and future water demand from homes, businesses, farms, and industry • Consider the impacts of climate change on Ireland's water resources • Develop a drought plan advising measures to be taken before and during drought events • Develop a plan detailing how we deal with the material that is produced as a result of treating drinking water • Identify, develop and assess options to help meet potential shortfalls in water supplies • Assess the water resources available at a national level including lakes, rivers and groundwater
Seafood Operation Programme 2014	• The Operational Programme (OP) supported by the European Maritime and Fisheries Fund (EMFF) in Ireland aims at achieving key national development priorities along with the EU's "Europe 2020" objectives. • The OP will support the general reform of the EU's Common Fisheries Policy (CFP) and the development of its Integrated Maritime Policy (IMP) in Ireland.	The OP strategy is designed around the Irish national priorities in the agri-food sector: • ***'Act Smart'*** by encouraging knowledge and innovation, • ***'Think Green'*** through a responsible and sustainable use of resources, • ***'Achieve Growth'*** in order to maintain and create jobs. Funding aims at increasing the competitiveness of the fisheries and aquaculture sectors through innovation and skills, while promoting a more efficient and sustainable use of resources. Funding will also help local coastal communities to improve their livelihood by supporting small-scale fisheries and through significantly increased support for Fisheries Local Action Groups (FLAGs).

Legislation, Plan, etc.	Summary of higher-level aim / purpose / objective	Summary of lower level objectives, actions etc.
National Strategic Plan for Aquaculture Development 2014-2020	Vision: *"Aquaculture in RC is economically, socially and ecologically sustainable, with a developed infrastructure, strong human potentials and an organized market. The consumption of aquaculture products is equal or above EU average, while the technological development of the sector is among the best in the EU."*	General development and growth objectives of marine and freshwater aquaculture (2014 – 2020): • Strengthen the social, business and administrative environment for aquaculture development • Increase in the total production to 24,050 tonnes while adhering to the principles of economic, social and ecological sustainability • Improvement of the perception and increase in the national consumption of aquaculture products
Construction 2020, A Strategy for a Renewed Construction Sector	• Construction 2020 sets out a package of measures agreed by the Government and is aimed at stimulating activity in the building industry. • The Strategy aims both to increase the capacity of the sector to create and maintain jobs, and to deliver a sustainable sector, operating at an appropriate level. It seeks to learn the lessons of the past and to ensure that the right structures and mechanisms are in place so that they are not repeated.	This Strategy therefore addresses issues including: • A strategic approach to the provision of housing, based on real and measured needs, with mechanisms in place to detect and act when things are going wrong; • Continuing improvement of the planning process, striking the right balance between current and future requirements; • The availability of financing for viable and worthwhile projects; • Access to mortgage finance on reasonable and sustainable terms; • Ensuring we have the tools we need to monitor and regulate the sector in a way that underpins public confidence and worker safety; • Ensuring a fit for purpose sector supported by a highly skilled workforce achieving high quality and standards; and • Ensuring opportunities are provided to unemployed former construction workers to contribute to the recovery of the sector.
Sustainable Development: A Strategy for Ireland (1997)	• The overall aim of this Strategy is to ensure that economy and society in Ireland can develop to their full potential within a well-protected environment, without compromising the quality of that environment, and with responsibility towards present and future generations and the wider international community.	• The Strategy addresses all areas of Government policy, and of economic and societal activity, which impact on the environment. It seeks to re-orientate policies as necessary to ensure that the strong growth Ireland enjoys and seeks to maintain will be environmentally sustainable.
National Landscape Strategy for Ireland 2015-2025 and National Landscape Character Assessment (pending preparation)	• The National Landscape Strategy will be used to ensure compliance with the European Landscape Convention and to establish principles for protecting and enhancing the landscape while positively managing its change. It will provide a high-level policy framework to achieve balance between the protection, management and planning of the landscape by way of supporting actions. • Landscape Strategy Vision: *"Our landscape reflects and embodies our cultural values and our shared natural heritage and contributes to the well-being of our society, environment and economy. We have an obligation to ourselves and to future generations to promote its sustainable protection, management and planning."*	The objectives of the National Landscape Strategy are to: • Implement the European Landscape Convention by integrating landscape into the approach to sustainable development; • Establish and embed a public process of gathering, sharing and interpreting scientific, technical and cultural information in order to carry out evidence-based identification and description of the character, resources and processes of the landscape; • Provide a policy framework, which will put in place measures at national, sectoral - including agriculture, tourism, energy, transport and marine - and local level, together with civil society, to protect, manage and properly plan through high quality design for the sustainable stewardship of the landscape; • Ensure that we take advantage of opportunities to implement policies relating to landscape use that are complementary and mutually reinforcing and that conflicting policy objectives are avoided in as far as possible.
National Hazardous Waste Management Plan (EPA) 2014-2020	This Plan sets out the priorities to be pursued over the next six years and beyond to improve the management of hazardous waste, taking into account the progress made since the previous plan and the waste policy and legislative changes that have occurred since the previous plan was published. Section 26 of the Waste Management Act 1996 as amended, sets out the overarching objectives for the National Hazardous Waste Management Plan. In this context, the following objectives are included as priorities for the revised Plan period: • To prevent and reduce the generation of hazardous waste by industry and society generally; • To maximise the collection of hazardous waste with a view to reducing the environmental and health impacts of any unregulated waste;	The revised Plan makes 27 recommendations under the following topics: • Prevention • Collection • Self-sufficiency • Regulation • Legacy issues • North-south cooperation • Guidance and awareness • Implementation

Legislation, Plan, etc.	Summary of higher-level aim / purpose / objective	Summary of lower level objectives, actions etc.
	• To strive for increased self-sufficiency in the management of hazardous waste and to minimise hazardous waste export; • To minimise the environmental, health, social and economic impacts of hazardous waste generation and management.	
National Ports Policy 2013	• The core objective of National Ports Policy is to facilitate a competitive and effective market for maritime transport services.	National Ports Policy introduces clear categorisation of the ports sector into Ports of National Significance (Tier 1), Ports of National Significance (Tier 2) and Ports of Regional Significance.
National Aviation Policy 2015	Specifically, the principal goals of this National Aviation Policy are: • To enhance Ireland's connectivity by ensuring safe, secure and competitive access responsive to the needs of business, tourism and consumers; • To foster the growth of aviation enterprise in Ireland to support job creation and position Ireland as a recognised global leader in aviation; and • To maximise the contribution of the aviation sector to Ireland's economic growth and development.	The National Aviation Policy commits to: • Maintaining safety as the number one priority in Irish aviation and ensuring that safety regulation is robust, effective and efficient; • Creating conditions to encourage the development of new routes and services, particularly to new and emerging markets; • Ensuring a high level of competition among airlines operating in the Irish market; • Optimising the operation of the Irish airport network to ensure maximum connectivity to the rest of the world; • Ensuring that the regulatory framework for aviation reflects best international practice and that economic regulation facilitates continued investment in aviation infrastructure at Irish airports to support traffic growth; • Supporting the aircraft leasing and aviation finance sectors to maintain Ireland's leading global position in these spheres; and • Maintaining a safe and innovative general aviation sector to support Ireland's broader aviation industry
Ministerial Guidelines such as Sustainable Rural Housing Guidelines and Flood Risk Management Guidelines	• The Department produces a range of guidelines designed to help planning authorities, An Bord Pleanála, developers and the general public and cover a wide range of issues amongst others, architectural heritage, child care facilities, landscape, quarries and residential density.	• The Minister issues statutory guidelines under Section 28 of the Act which planning authorities and An Bord Pleanála are obliged to have regard to in the performance of their planning functions
HSE Healthy Ireland Framework for Improved Health and Wellbeing 2013-2025	• The vision is: *"A Healthy Ireland, where everyone can enjoy physical and mental health and wellbeing to their full potential, where wellbeing is valued and supported at every level of society and is everyone's responsibility."*	These four goals are interlinked, interdependent and mutually supportive: • Goal 1: Increase the proportion of people who are healthy at all stages of life • Goal 2: Reduce health inequalities • Goal 3: Protect the public from threats to health and wellbeing • Goal 4: Create an environment where every individual and sector of society can play their part in achieving a healthy Ireland
Marine Spatial Plan for Ireland (in/pending preparation)	It is intended that the Marine Spatial Plan will be finalised in 2020, and forwarded to the European Commission at that time, ahead of the due date for submission by Member States of their plans in March 2021.	The Marine Spatial Plan will be a succinct strategic document that will deal with, inter alia, the following environmental, social and economic issues: • Key marine activities such as fisheries, tourism, transport, offshore renewable energy generation, oil and gas exploration and production, aquaculture, and how they interact; • Climate change and related impacts; • Communities and health; • Cultural heritage; • Marine environment and biodiversity; • Transboundary interactions with other jurisdictions.
Northern Ireland's Planning Service's "Renewable Energy: Wind Farm Development Information Leaflet"	The high-level aim of this information leaflet is to provide information of the planning legislation, policy context and the requirements for the renewable energy and wind farm development in Northern Ireland. •	It is essential that the Environmental Statement meets the legislative requirements, as listed in this information leaflet.
Northern Ireland's Environmental Authority's Wind Energy Development in Northern Ireland's	This document describes the specific sensitivity to wind energy development of Northern Ireland's 130 Landscape Character Areas (LCAs), by reference to the characteristics and values associated with each LCA, and assesses the	• The guidance is aimed at domestic, community and commercial wind energy developers and their planning and landscape consultants and at those determining planning applications for wind energy development.

Legislation, Plan, etc.	Summary of higher-level aim / purpose / objective	Summary of lower level objectives, actions etc.
Landscapes (Supplementary Planning Guidance to accompany Planning Policy Statement 18 'Renewable Energy') (2008)	capacity of the LCAs to accommodate wind energy development in landscape terms.	• It is intended to assist developers in identifying appropriate sites for wind energy development and in defining the type(s) of wind energy development that may be most suitable in landscape and visual terms. • It will also be used by the Department in determining planning applications for wind energy development, to inform judgements on the impacts and acceptability of proposed developments in landscape and visual terms.
Our Sustainable Future: A framework for Sustainable Development for Ireland 2012	A medium to long term framework for advancing sustainable development and the green economy in Ireland. It identifies spatial planning as a key challenge for sustainable development and sets a series of measures to address these challenges.	• Sets out the challenges facing us and how we might address them in making sure that quality of life and general wellbeing can be improved and sustained in the decades to come.
Smarter Travel – A Sustainable Transport Future – A New Transport Policy for Ireland 2009 – 2020 (2009)	• Outlines a policy for how a sustainable travel and transport system can be achieved. • Sets out five key goals: o To reduce overall travel demand. o To maximise the efficiency of the transport network. o To reduce reliance on fossil fuels. o To reduce transport emissions. o To improve accessibility to transport.	• Others lower level aims include: o reduce distance travelled by private car and encourage smarter travel, including focusing population growth in areas of employment and to encourage people to live in close proximity to places of employment o ensuring that alternatives to the car are more widely available, mainly through a radically improved public transport service and through investment in cycling and walking o improving the fuel efficiency of motorised transport through improved fleet structure, energy efficient driving and alternative technologies o strengthening institutional arrangements to deliver the targets
Strategic Framework for Integrated Land use and Transport (SFILT) – Department of Transport, Tourism and Sport	• Presents the findings and conclusions of a steering group which was convened and tasked with overseeing the preparation of an integrated, evidence-based framework that would guide key land transport investment decisions.	Key features of the framework policy include the following: • Focus on economic growth • Principles to frame future investment
Delivering a Sustainable Energy Future for Ireland – The Energy Policy Framework 2007 – 2020 (2007)	• White paper setting out a framework for delivering a sustainable energy future in Ireland. • Outlines strategic Goals for: o Security of Supply o Sustainability of Energy o Competitiveness of Energy Supply	The underpinning Strategic Goals are: • Ensuring that electricity supply consistently meets demand • Ensuring the physical security and reliability of gas supplies to Ireland • Enhancing the diversity of fuels used for power generation • Delivering electricity and gas to homes and businesses over efficient, reliable and secure networks • Creating a stable attractive environment for hydrocarbon exploration and production • Being prepared for energy supply disruptions
National Climate Change Adaptation Framework (DECLG, 2012)	The National Climate Change Adaptation Framework provides a strategic policy focus to ensure adaptation measures are taken across different sectors and levels of government to reduce Ireland's vulnerability to the negative impacts of climate change.	Actions include those relating to: • Research and Knowledge Base • Governance • Local Plans • Stakeholder Consultation
Governments White Paper 'Ireland's Transition to a Low Carbon Energy Future' 2015 - 2030	The White Paper sets out a vision and a framework to guide Irish energy policy between now and 2030. A complete energy policy update informed by the vision to transform Ireland into a low carbon society and economy by 2050.	2030 will represent a significant milestone, meaning: • Reduced GHG emissions from the energy sector by between 80% and 95% • Ensuring that secure supplies of competitive and affordable energy remain available to citizens and businesses.
National Renewable Energy Action Plan 2010	• Sets out the Member State's national targets for the share of energy from renewable sources to be consumed in transport, electricity and heating and cooling in 2020, and demonstrates how the Member State will meet its overall national target established under the Directive.	Including Ireland's 16% target of gross final consumption to come from renewables by 2020.
National Energy Efficiency Action Plan for Ireland 2009 – 2020 (2009)	• This is the second National Energy Efficiency Action Plan for Ireland.	• The Plan reviews the original 90 actions outlined in the first Plan and updates/renews/removes them as appropriate.
Wildlife Act of 1976	• The act provides protection and conservation of wild flora and fauna.	• Provides protection for certain species, their habitats and important ecosystems • Give statutory protection to NHAs • Enhances wildlife species and their habitats

Legislation, Plan, etc.	Summary of higher-level aim / purpose / objective	Summary of lower level objectives, actions etc.
Wildlife (Amendment) Act, 2000		• Includes more species for protection
Actions for Biodiversity 2017-2021 Ireland's National Biodiversity Plan	• Sets out strategic objectives, targets and actions to conserve and restore Ireland's biodiversity and to prevent and reduce the loss of biodiversity in Ireland and globally.	• To mainstream biodiversity in the decision-making process across all sectors. • To substantially strengthen the knowledge base for conservation, management and sustainable use of biodiversity. • To increase awareness and appreciation of biodiversity and ecosystems services. • To conserve and restore biodiversity and ecosystem services in the wider countryside. • To conserve and restore biodiversity and ecosystem services in the marine environment. • To expand and improve on the management of protected areas and legally protected species. • To substantially strengthen the effectiveness of international governance for biodiversity and ecosystem services.
National Broadband Plan (2012)	• Sets out the strategy to deliver high speed broadband throughout Ireland.	The Plan sets out: • A clear statement of Government policy on the delivery of High-Speed Broadband. • Specific targets for the delivery and rollout of high-speed broadband and the speeds to be delivered. • The strategy and interventions that will underpin the successful implementation of these targets. • A series of specific complementary measures to promote implementation of Government policy in this area.
The Planning System and Flood Risk Management – Guidelines for Planning Authorities (2009)	• Sets out comprehensive mechanisms for the incorporation of flood risk identification, assessment and management into the planning process. • Ensures flood risk is a key consideration in preparing land use plans and in the assessment of planning applications. • Implementation of the Guidelines is through actions at national, regional, local authority and site-specific levels. • Planning authorities and An Bord Pleanála are required to have regard to the Guidelines in carrying out their functions under the Planning Acts.	• Avoid inappropriate development in areas at risk of flooding. • Avoid new developments increasing flood risk elsewhere, including that which may arise from surface water run-off. • Ensure effective management of residual risks for development permitted in floodplains. • Avoid unnecessary restriction of national, regional or local economic and social growth. • Improve the understanding of flood risk among relevant stakeholders. • Ensure that the requirements of EU and national law in relation to the natural environment and nature conservation are complied with at all stages of flood risk management. • The 2009 Flood Risk Management Guidelines were amended by Circular PL 2/2014 (Department of the Environment, Community and Local Government) that provides advice on the use of OPW flood mapping in assessing planning applications and clarifies some advice from the 2009 Guidelines.
European Communities (Water Policy) Regulations of 2003 (SI 722 of 2003) European Communities (Water Policy) Regulations of 2003 (SI 350 of 2014) European Communities Environmental Objectives (Surface waters) Regulations of 2009 (SI 272 of 2009)	• Transpose the Water Framework Directive into legislation. • Outlines the general duty of public authorities in relation to water. • Identifies the competent authorities in charge of water policy (amended to Irish Water in 2013) and gives EPA and the CER the authority to regulate and supervise their actions.	• Implements River basin districts and characterisation of RBDs and River Basin Management Plans. • Requires the public to be informed and consulted on the Plan and for progress reports to be published on RBDs. • Implements a Register of protected areas, Classification systems and Monitoring programmes for water bodies. • Allows the competent authority to recover the cost of damage/destruction of status of water body. • Outlines environmental objectives and programme of measures and environmental quality standards for priority substances. • Outlines criteria for assessment of groundwater. • Outlines environmental objectives to be achieved for surface water bodies. • Outlines surface water quality standards. • Establishes threshold values for the classification and protection of surface waters against pollution and deterioration in quality.
European Communities Environmental Objectives (Groundwater) Regulations of 2010 (SI 9 of 2010)	• Transpose the requirements of the Groundwater Directive 2006/118/EC into Irish Legislation.	• Outlines environmental objectives to be achieved for groundwater bodies of groundwater against pollution and deterioration in quality. • Sets groundwater quality standards. • Outlines threshold values for the classification and protection of groundwater.
Water Pollution Acts 1977 to 1990	• The Water Pollution Acts allow Local Authorities the authority regulate to and supervise actions relating to water in their division.	The Water Pollution Acts enable local authorities to: • Prosecute for water pollution offences.

Legislation, Plan, etc.	Summary of higher-level aim / purpose / objective	Summary of lower level objectives, actions etc.
		• Attach appropriate pollution control conditions in the licensing of effluent discharges from industry, etc., made to waters. • Issue notices ("section 12 notices") to farmers, etc., specifying measures to be taken within a prescribed period to prevent water pollution. • issue notices requiring a person to cease the pollution of waters and requiring the mitigation or remedying of any effects of the pollution in the manner and within the period specified in such notices; • Seek court orders, including High Court injunctions, to prevent, terminate, mitigate or remedy pollution/its effects. • Prepare water quality management plans for any waters in or adjoining their functional areas.
Water Services Act 2007 Water Services (Amendment) Act 2012 Water Services Act (No. 2) 2013	• Provides the water services infrastructure. • Outlines the responsibilities involved in delivering and managing water services. • Identifies the authority in charge of provision of water and waste water supply. • Irish Water was given the responsibility of the provision of water and wastewater services in the amendment act during 2013, therefore these services are no longer the responsibility of the 34 Local Authorities in Ireland.	Key strategic objectives include: • Ensuring Irish Water delivers infrastructural projects that meet key public health, environmental and economic objectives in the water services sector. • Ensuring the provision of adequate water and sewerage services in the gateways and hubs listed in the National Spatial Strategy, and in other locations where services need to be enhanced. • Ensuring good quality drinking water is available to all consumers of public and group water supplies, in compliance with national and EU drinking water standards • Ensuring the provision of the remaining infrastructure needed to provide secondary wastewater treatment, for compliance with the requirements of the EU Urban Wastewater Treatment Directive. • Promoting water conservation through Irish Water's Capital Investment Plan, the Rural Water Programme and other measures. • Monitoring the on-going implementation of septic tanks inspection regime and the National Inspection Plan for Domestic Waste Water Treatment Systems. • Ensuring a fair funding model to deliver water services. • Overseeing the establishment of an economic regulation function under the CER.
Irish Water's Water Services Strategic Plan 2015 and associated Proposed Capital Investment Plan 2014-2016	• This Water Services Strategic Plan sets out strategic objectives for the delivery of water services over the next 25 years up to 2040. It details current and future challenges which affect the provision of water services and identifies the priorities to be tackled in the short and medium term.	Six strategic objectives as follows: • Meet Customer Expectations. • Ensure a Safe and Reliable Water Supply. • Provide Effective Management of Wastewater. • Protect and Enhance the Environment. • Support Social and Economic Growth. • Invest in the Future.
Raised Bog SAC Management Plan and Review of Raised Bog Natural Heritage Areas	• Aims to meet nature conservation obligations while having regard to national and local economic, social and cultural needs	• Ensure that the implications of management choices for water levels, quantity and quality are fully explored, understood and factored into policy making and land use planning. • Review the current raised bog NHA network in terms of its contribution to the national conservation objective for raised bog habitats and determine the most suitable sites to replace the losses of active raised bog habitat and high bog areas within the SAC network and to enhance the national network of NHAs.
Food Harvest 2020	• Food Harvest 2020 is a roadmap for the Irish food industry, as it seeks to innovate and expand in response to increased global demand for quality foods. It sets out a vision for the potential growth in agricultural output after the removal of milk quotas.	• Seeks for the improvement of all agricultural sectors at all levels in terms of sustainability, environmental consideration and marketing development.
Agri-vision 2015 Action Plan	Outlines the vision for agricultural industry to improve competitiveness and response to market demand while respecting and enhancing the environment	not applicable
Rural Environmental Protection Scheme (REPS) Agri-Environmental Options Scheme (AEOS)	• Agri-environmental funding schemes aimed at rural development for the environmental enhancement and protection. • GLAS is the new replacement for REPS and AEOS which are both expiring.	• Establish best practice farming methods and production methods in order to protect landscapes and maximise conservation. • Protect biodiversity, endangered species of flora and fauna and wildlife habitats. • Ensure food is produced with the highest regard to the environment. • Implement nutrient management plans and grassland management plans. • Protect and maintain water bodies, wetlands and cultural heritage.

Legislation, Plan, etc.	Summary of higher-level aim/ purpose/ objective	Summary of lower level objectives, actions etc.
Green, Low-Carbon, Agri-environment Scheme (GLAS)		
National Rural Development Programme	• The National Rural Development Programme, prepared by the Department of Agriculture, Fisheries and Food, sets out a national programme based on the EU framework for rural development and prioritises improving the competitiveness of agriculture, improving the environment and improving the quality of life in rural areas	At a more detailed level, the programme also: • Supports structural change at farm level including training young farmers and encouraging early retirement, support for restructuring, development and innovation; • Aims to improve the environment, biodiversity and the amenity value of the countryside by support for land management through funds such as Natura 2000 payments etc.; and • Aims to improve quality of life in rural areas and encouraging diversification of economic activity through the implementation of local development strategies such as non-agricultural activities
National Forestry Programme 2014-2020	• Represents Ireland's proposals for 100% State aid funding for a new Forestry Programme for the period 2014 – 2020.	Measures include the following: • Afforestation and Creation of Woodland • NeighbourWood Scheme • Forest Roads • Reconstitution Scheme • Woodland Improvement Scheme • Native Woodland Conservation Scheme • Knowledge Transfer and Information Actions • Producer Groups • Innovative Forest Technology • Forest Genetic Reproductive Material • Forest Management Plans
River Basin Management Plans	• River Basin Management Plans set out the status of waters in the River Basin District (RBD).	• Aim to protect and enhance all water bodies in the RBD and meet the environmental objectives outlined in Article 4 of the Water Framework Directive. • Identify and manages water bodies in the RBD. • Establish a programme of measures for monitoring and improving water quality in the RBD. • Involve the public through consultations.
National Peatlands Strategy 2015 - 2025	• • This Strategy aims to provide a long-term framework within which all of the peatlands within the State can be managed responsibly in order to optimise their social, environmental and economic contribution to the well-being of this and future generations.	Objectives of the Strategy: • To give direction to Ireland's approach to peatland management. • To apply to all peatlands, including peat soils. • To ensure that the relevant State authorities and state-owned companies that influence such decisions contribute to meeting cross-cutting objectives and obligations in their policies and actions. • To ensure that Ireland's peatlands are sustainably managed so that their benefits can be enjoyed responsible. • To inform appropriate regulatory systems to facilitate good decision making in support of responsible use. • To inform the provision of appropriate incentives, financial supports and disincentives where required. • To provide a framework for determining and ensuring the most appropriate future use of cutover and cutaway bogs. • To ensure that specific actions necessary for the achievement of its objectives are clearly identified and delivered by those involved in or responsible for peatlands management or for decisions affecting their management.
Flood Risk Management Plans arising from National Catchment Flood Risk Assessment and Management Programme (draft/in preparation)	• The national Catchment Flood Risk Assessment and Management (CFRAM) programme commenced in Ireland in 2011 and is being overseen by the Office of Public Works. The CFRAM Programme is intended to deliver on core components of the National Flood Policy, adopted in 2004, and on the requirements of the EU Floods Directive.	CFRAM Studies are being undertaken for all River Basin Districts. The studies are focusing on areas known to have experienced flooding in the past and areas that may be subject to flooding in the future either due to development pressures or climate change. Flood Risk and Hazard mapping, including Flood Extent Mapping, was finalised in 2017. The final output from the studies will be CFRAM Plans, to be finalised in 2018. The Plans will define the current and future flood risk in the River Basin Districts and set out how this risk can be managed.

Legislation, Plan, etc.	Summary of higher-level aim/ purpose/ objective	Summary of lower level objectives, actions etc.
Draft National Bioenergy Plan	The Draft Bioenergy Plan sets out a vision as follows: • Bioenergy resources contributing to economic development and sustainable growth, generating jobs for citizens, supported by coherent policy, planning and regulation, and managed in an integrated manner.	Three high level goals, of equal importance, based on the concept of sustainable development are identified: • To harness the market opportunities presented by bioenergy in order to achieve economic development, growth and jobs. • To increase awareness of the value, opportunities and societal benefits of developing bioenergy. • To ensure that bioenergy developments do not adversely impact the environment and its living and non-living resources.
Draft Renewable Electricity Policy and Development Framework (DCCAE)	Goal: To optimise the opportunities in Ireland for renewable electricity development on land at significant scale, to serve both the All Island Single Electricity Market and any future regional market within the European Union, in accordance with European and Irish law, including Directive 2009/28/EC: On the promotion of the use of energy from renewable resources.	Objective: To develop a Policy and Development Framework for renewable electricity generation on land to serve both the All Island Single Electricity Market and any future regional market within the European Union, with particular focus on large scale projects for indigenous renewable electricity generation. This will, inter alia, provide guidance for planning authorities and An Bord Pleanála. Methodology: Development of the Policy and Development Framework is to be informed by the carrying out of an SEA, including widespread consultation with stakeholders and public, and with AA under the Habitats Directive.
National Alternative Fuels Infrastructure for the Transport Sector (DTTAS) 2017- 2030	This Framework sets targets to achieve an appropriate level of alternative fuels infrastructure for transport, which is relative to national policy and Irish market needs. Non-infrastructure-based incentives to support the use of the infrastructure and the uptake of alternative fuels are also included within the scope of the Framework.	Targets for alternative fuel infrastructure include the following: • AFV forecasts • Electricity targets • Natural gas (CNG, LNG) targets • Hydrogen targets • Biofuels targets • LPG targets • Synthetic and paraffinic fuels targets
Food Wise 2025 (DAFM)	Food Wise 2025 sets out a ten-year plan for the agri-food sector. It underlines the sector's unique and special position within the Irish economy, and it illustrates the potential which exists for this sector to grow even further.	Food Wise 2025 identifies ambitious and challenging growth projections for the industry over the next ten years including: • 85% increase in exports to €19 billion. • 70% increase in value added to €13 billion. • 60% increase in primary production to €10 billion. • The creation of 23,000 additional jobs all along the supply chain from producer level to high-end value-added product development.
Strategic Planning Policy Statement (SPPS) NI	The SPPS consolidates some twenty separate policy publications into one document and sets out strategic subject planning policy for a wide range of planning matters. It also provides the core planning principles to underpin delivery of the two-tier planning system with the aim of furthering sustainable development.	• The overall objective of the planning system is to further sustainable development and improve well-being for the people of the North.
Regional/ County/Local Level		
Regional Economic and Spatial Strategies, replacing Regional Planning Guidelines	Regional Planning Guidelines (RPGs) provide long-term strategic planning frameworks and will be replaced by Regional Spatial and Economic Strategies (RSESs). The Regional Spatial and Economic Strategies will provide a long-term regional level strategic planning and economic framework in support of the implementation of the National Planning Framework.	• RPGs give regional effect to the National Spatial Strategy. • RSESs will give regional effect to the National Planning Framework. • Account will be taken in the drafting of RSESs of the proposed spatial plans (i.e. Development Plans) and economic plans (i.e. Local, Economic, Community Plans) of local authorities to ensure that the RSESs are informed by identified local and regional needs.
Regional Development Strategy 2035 (Northern Ireland)	• Spatial strategy for the future development of Northern Ireland. • Strategic planning framework to facilitate and guide public and private sectors.	• Aims to provide long-term policy direction with a strategic spatial perspective.
Water Quality Management Plans	• Ensure that the quality of waters covered by the plan is maintained. • Maintain and improve the quantity and quality of water included in the Plan scope.	• Monitoring of water bodies against quality standards. • Outlines management programmes for water catchments. • Purpose is to maintain and improve the quantity and quality of groundwater.

Legislation, Plan, etc.	Summary of higher-level aim / purpose / objective	Summary of lower level objectives, actions etc.
NPWS Conservation Plans and/or conservation Objectives for SACs and SPAs	Management planning for nature conservation sites has a number of aims. These include: • To identify and evaluate the features of interest for a site • To set clear objectives for the conservation of the features of interest • To describe the site and its management • To identify issues (both positive and negative) that might influence the site • To set out appropriate strategies/management actions to achieve the objectives	• Conservation objectives for SACs and SPAs (i.e. sites within the Natura 2000 network) have to be set for the habitats and species for which the sites are selected. • These objectives are used when carrying out appropriate assessments for plans and projects that might impact on these sites.
Greater Dublin Area (GDA) transport Strategy 2016-2035	• It sets out how transport will be developed across the region, covering Dublin, Meath, Wicklow and Kildare, over the period of the strategy and has been approved by the Minister for Transport, Tourism and Sport in accordance with the relevant legislation. • The Vision Statement: *"The GDA by 2022 is an economically vibrant, active and sustainable international Gateway Region, with strong connectivity across the GDA Region, nationally and worldwide; a region which fosters communities living in attractive, accessible places well supported by community infrastructure and enjoying high quality leisure facilities; and promotes and protects across the GDA green corridors, active agricultural lands and protected natural areas."*	They set out a number of core principles deriving from the strategic vision, which are: • Dublin as the capital city of Ireland and a major European centre shall grow and progress, competing with other cities in the EU, and serving a wide range of international, national, regional and local needs. • The Dublin and Mid-East Regions will be attractive, vibrant locations for industry, commerce, recreation and tourism and will be a major focus for economic growth within the Country. • The GDA, through its ports and airport connections will continue to be the most important entry/exit point for the country as a whole, and as a Gateway between the European Union and the rest of the World. Access to and through the GDA will continue to be a matter of national importance. • Development in the GDA shall be directly related to investment in integrated high-quality public transport services and focused on compact urban form. • Development within the existing urban footprint of the Metropolitan Area will be consolidated to achieve a more compact urban form • Development in the Hinterland Area will be focused on the high-quality integrated growth and consolidation of development in key identified towns, separated from each other by extensive areas of strategic green belt land devoted to agriculture and similar uses.
Transport Strategy for the Cork Metropolitan Area 2018-2040 [in preparation]	• The Strategy will address all transport modes and its objective will be to provide a long-term strategic planning framework for the integrated development of transport infrastructure and services in the Cork Metropolitan Area, over next two decades.	• It will be used to inform transport investment levels and investment prioritisation over both the longer and shorter terms and will be able to inform sustainable integrated land use and transport policy formulation at the strategic (Metropolitan Area) level and at the local level.
Groundwater Protection Schemes	• A Groundwater Protection Scheme provides guidelines for the planning and licensing authorities in carrying out their functions, and a framework to assist in decision-making on the location, nature and control of developments and activities in order to protect groundwater.	• A Groundwater Protection Scheme aims to maintain the quantity and quality of groundwater, and in some cases improve it, by applying a risk assessment-based approach to groundwater protection and sustainable development.
Local Economic and Community Plans (LECP)	• The overarching vision for each LECP is: "to promote the well-being and quality of life of citizens and communities"	• The purpose of the LECP, as provided for in the Local Government Reform Act 2014, is to set out, for a six-year period, the objectives and actions needed to promote and support the economic development and the local and community development of the relevant local authority area, both by itself directly and in partnership with other economic and community development stakeholders.
NI Regional Landscape Character Assessment	• In recognising the importance of sustaining local identity, the Northern Ireland Environment Agency (NIEA) has commissioned Landscape Character Assessments of Northern Ireland from environmental consultants, which resulted in the identification of distinct character areas within Northern Ireland.	• The Northern Ireland Regional Landscape Character Assessment provides a strategic overview of the landscape in Northern Ireland and subdivides the countryside into 26 Regional Landscape Character Areas based upon information on people and place and the combinations of nature, culture and perception which make each part of Northern Ireland unique.
NI Regional Seascape Character Assessment	The aim of this study is to provide a strategic understanding of different areas of regional seascape character along the entire Northern Ireland coast, complementing similar assessments undertaken elsewhere in the UK. This will contribute to the aims of the European Landscape Convention through promoting the protection, management and planning of the seascape, and to support the European cooperation in landscape issues.	• Identify and map the different regional seascape character areas. • Describe the key features and characteristics of each seascape character area. • Relate the description of each seascape character area to its neighbouring terrestrial landscape character areas (as described in the NI Landscape Character Assessment, 2000) and take account of boundaries identified in relation to neighbouring seascape areas for the British and Irish coastline.

Legislation, Plan, etc.	Summary of higher-level aim / purpose / objective	Summary of lower level objectives, actions etc.
Development Plans, Local Area Plans, Planning Schemes And Northern Ireland Areas Plans	• Outlines planning objectives for land use development (including tourism development and greenway and other transport objectives). • Strategic framework for planning and sustainable development including those set out in National Planning Framework and Regional Economic and Spatial Strategies. • Sets out the policies and proposals to guide development in the specific Local Authority area.	• Identifies future infrastructure, development and zoning required. • Protects and enhances amenities and environment. • Guides planning authority in assessing proposals. • Aims to guide development in the area and the amount and nature of the planned development. • Aims to promote sustainable development. • Provide for economic development and protect natural environmental, heritage.
Green Infrastructure Plans/Strategies	• Promotes the maintenance and improvement of green infrastructure in an area. • Aims to protect and enhance biodiversity and habitats.	not applicable
Biodiversity Action Plans	• Aims to protect, conserve, enhance and restore biodiversity and ecosystem services across all spectrums.	• Outlines the status of biodiversity and identifies species of importance. • Outlines objectives and targets to be met to maintain and improve biodiversity. • Aims to increase awareness.
Heritage Plans	• Aims to highlight the importance of heritage at a strategic level.	• Manage and promote heritage as well as increase awareness. • Aim to conserve and protect heritage.
County Landscape Character Assessments	• Characterises the geographical dimension of the landscape.	• Identifies the quality, value, sensitivity and capacity of the landscape area. • Guides strategies and guidelines for the future development of the landscape.
Freshwater Pearl Mussel Sub-Basin Management Plans	• Identifies the current status of the species and the reason for loss or decline. • Identifies measure required to improve or restore current status.	• Identifies pressures on Freshwater Pearl Mussels for each of the designated populations in Ireland. • Outlines restoration measures required to ensure favourable conservation status.
Local Catchment Flood Risk Management Plans	• Produced by Local Authorities. • Outlines areas of local flood risk. • Sets out measures to manage and prevent flood risk at a local level.	not applicable
Shellfish Pollution Reduction Programmes	Aims to improve water quality and ensure the protection or improvement of designated shellfish waters in order to support shellfish life and growth and contribute to the high quality of shellfish products directly edible by man.	• Identifies key and secondary pressures on water quality in designated shellfish areas. • Outlines specific measures to address identified key and secondary pressures on water quality. • Addresses the specific pressures acting on water quality in each area.
Regional Waste Management Plans	These plans (for the Connacht-Ulster, Southern, and Eastern-Midlands regions) give effect to national and EU waste policy, and address waste prevention and management (including generation, collection and treatment) over the period 2015-2021.	To manage wastes in a safe and compliant manner, a clear strategy, policies and actions are required.

Appendix II SEA Scoping Report

An Roinn Tithíochta, Pleanála agus Rialtais Áitiúil
Department of Housing, Planning and Local Government

Review of the Wind Energy Development Guidelines 2006

Final Strategic Environmental Assessment Scoping Document

Contents

Table of Contents	
Section	**Page No.**
1. Introduction	1
2. Review of the Wind Energy Development Guidelines 2006	5
3. Environmental Assessment Process	9
4. Other relevant plans and programmes	15
5. Scoping	19
6. Preliminary Environmental Baseline	28
7. Proposed Framework for Assessing Environmental Effects	32
8. Next Steps	40
Appendix I: SEA Scoping Workshop Agenda and Minutes	
Appendix II: SEA Scoping Submissions and Responses	

1. Introduction

1.1 Introduction

The Department of Housing, Planning and Local Government (DHPLG) is undertaking a targeted review of the Wind Energy Development Guidelines 2006 (proposed revised WEDG). In this context, a "preferred draft approach" has been developed to address a number of key aspects of the targeted review which include: sound/noise, visual amenity setback distances, shadow flicker, consultation obligation, community dividend and grid connections. The new Guidelines will apply to future planning applications for new onshore wind energy developments and not to applications relating to the repowering or renewal of existing wind energy developments currently in operation.

A number of technical appendices are being developed to assist planning authorities in relation to noise assessment, monitoring and the setting of planning conditions. The review provides an opportunity to update the Guidelines in relation to safety aspects, developments in relation to EIA requirements and compliance and the incorporation of the Interim Guidelines for Planning Authorities on Statutory Plans, Renewable Energy and Climate Change (July 2017). The review will also involve a general textual and references update of the Guidelines.

This Scoping Document forms part of the Official Strategic Environmental Assessment (SEA) scoping under S.I. 435 of 2004 as amended by S.I. 200 of 2011. The purpose of this document is to provide preliminary information on the content of the revised WEDG with a view to establishing the scope, level of detail and approach required for the SEA which will follow. This report has been informed by consultation with the statutory environmental consultees in relation to the SEA of the proposed revised WEDG.

1.2 Strategic Environmental Assessment

Strategic Environmental Assessment is a process for evaluating, at the earliest appropriate stage, the environmental consequences of implementing plan / programme initiatives prepared by authorities at a national, regional or local level or which are prepared by an authority for adoption through legislative means. The purpose is to ensure that the environmental consequences of plans and programmes are assessed both during their preparation and prior to adoption. The SEA process also gives interested parties an opportunity to comment on the environmental impacts of the proposed plan or programme and to be kept informed during the decision making process.

The European Directive (2001/42/EC) on the Assessment of the Effects of Certain Plans and Programmes on the Environment (the SEA Directive), was transposed into national legislation in Ireland by the European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004 (S.I. 435/2004) and the Planning and Development (Strategic Environmental Assessment) Regulations 2004 (S.I. 436/2004), both as amended.

Regulations S.I. 436 of 2004, as amended, relate to the consideration of the likely significant effects on the environment of a development plan, a variation of a development plan, a local area plan (or an

amendment thereto), regional planning guidelines or a planning scheme in respect of a strategic development zone.

Regulations S.I. 435 of 2004, as amended, covers plans and programmes in all other sectors listed in article 3(2) of the Directive except land-use planning such as agriculture, forestry, fisheries, energy, industry, transport, waste management, water management, telecommunications and tourism. The amendment to these regulations in 2011 expanded this list to include "town and country planning or land use" with the exception of those plans already covered by S.I. 436 of 2004 mentioned above.

In relation to the requirement to carry out environmental assessment, Article 9(1) to (3) of S.I. 435 of 2004, as amended, states:

9. (1) Subject to sub-article (2), an environmental assessment shall be carried out for all plans and programmes

> *(a) which are prepared for agriculture, forestry, fisheries, energy, industry, transport, waste management, water management, telecommunications, tourism and town and country planning or land use, and which set the framework for future development consent of projects listed in Annexes I and II to the Environmental Impact Assessment Directive, or*
>
> *(b) which are not directly connected with or necessary to the management of a European site but, either individually or in combination with other plans, are likely to have a significant effect on any such site.*

(2) A plan or programme referred to in sub-article (1) which determines the use of a small area at local level or a minor modification to a plan or programme referred to in sub-article (1) shall require an environmental assessment only where the competent authority determines that it is likely to have significant effects on the environment and, for this purpose, the competent authority shall make any necessary determination.

(3) A competent authority shall determine whether plans and programmes other than those referred to in sub-article (1), which set the framework for future development consent of projects, are likely to have significant effects on the environment.

In line with requirements under the SEA Directive, an SEA will be undertaken on the revised WEDG. The SEA process ensures that environmental considerations are fully integrated in the preparation of plans and programmes, which provide a framework for development consent or planning permission. In addition, the consideration of alternatives in the SEA process provides the opportunity to identify and explore different ways to deliver the objectives of a plan or programme while addressing environmental issues.

The SEA process will involve the preparation of draft revised Guidelines, which inter-alia will incorporate the "preferred draft approach", and an Environmental Report, including alternatives, and will be subject to public consultation enabling all stakeholders to express their views.

1.3 Screening for SEA

The Department undertook SEA Screening and determined that an SEA of the proposed revised WEDG would be required. A pre-screening check was used to determine if the proposed revised WEDG are considered to be a plan/programme under the administrative provisions criteria of Article 9 of the European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations (S.I. 435 of 2004), as amended. A pre-screening check, using the decision tree, as set out in the EPA report 'Development of SEA Methodologies for Plans and Programmes in Ireland', has been applied to the proposed revised WEDG. A copy of this decision tree is included at Figure 1.1.

For the proposed revised WEDG to be "screened-in" on the basis of criteria set out in Article 9 of the Regulations, two conditions must be met as follows:

1. The Plan/Programme must apply to one or more of the sectors stated in the Article 9(1) and

2. The Plan/Programme must set the framework for future development consent of projects listed in Annexes I and II to Environmental Impact Assessment Directive 85/337/EEC.

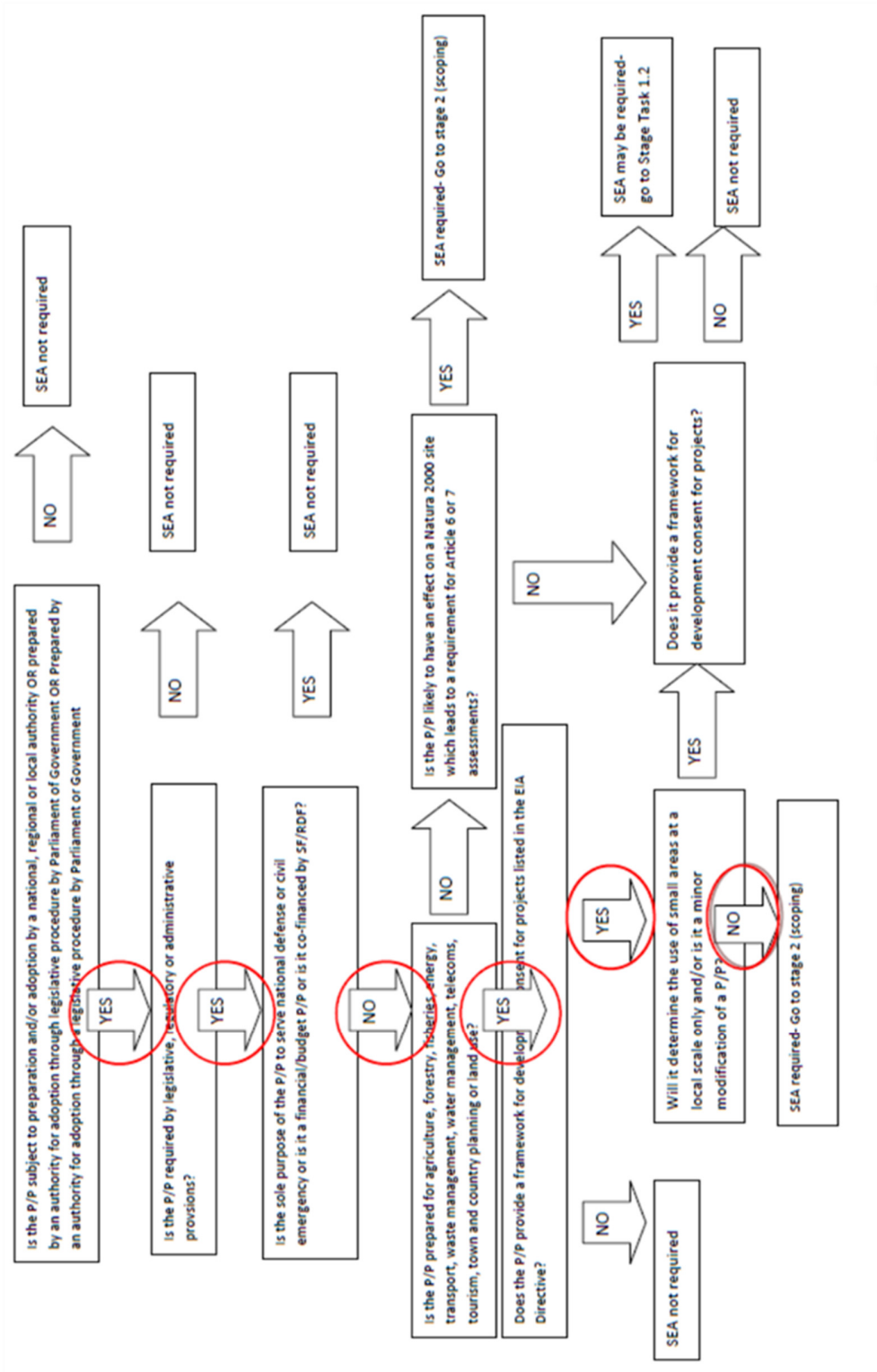
The first condition is met on the basis that the proposed revised WEDG are planning guidance prepared for the energy sector. The second condition is also met as the proposed revised WEDG, which may include mandatory specific requirements, contribute towards the framework for development consent for 'Installations for the harnessing of wind power for energy production (wind farms)' as listed in Annex II of the Environmental Impact Assessment Directive 2011/92/EU.

When the proposed revised WEDG are finalised and issued by the Minister for Housing, Planning and Local Government under Section 28 of the Planning and Development Act 2000, as amended, planning authorities and An Bord Pleanála will be required to have regard to the Guidelines and must apply any ***specific planning policy requirements*** as may be included in the revised Guidelines in carrying out their functions under Section 28(1C) of the Act.

In addition, legal advice on foot of a judgment of the European Court of Justice (C-290/15 Patrice D'Oultremont and others v Region Wallone), indicates that having regard to the requirements of the SEA Directive and the judgment, an SEA of the proposed revised WEDG is required.

The next step in the SEA process requires definition of the scope and level of detail of the information to be included in the Environmental Report. This scoping is the focus of this report.

Figure 1.1 Prescreening Check- Decision Tree



2. Review of the Wind Energy Development Guidelines 2006

2.1 Background

The DHPLG is currently conducting a review of its Wind Energy Development Guidelines 2006 with the intention to produce revised Wind Energy Development Guidelines 2018. This work is being carried out in association with the Department of Communications, Climate Action and the Environment (DCCAE) which is responsible for renewable energy policy. The new Guidelines will apply to future planning applications for new onshore wind energy developments and not to the repowering or renewals of existing wind energy developments currently in operation.

The 2006 Guidelines offer advice to planning authorities on planning for wind energy through the development plan process and in determining applications for planning permission. The Guidelines are also intended to ensure a consistency of approach throughout the country in the identification of suitable locations for wind energy development and the treatment of planning applications for wind energy developments. They should also be of assistance to developers and the wider public in considering wind energy development proposals.

The review of the Guidelines is being undertaken to reflect technological developments in the wind energy sector and to strike a balance between the concerns of local communities and the need to invest in indigenous energy projects which support Ireland's renewable energy targets.

This review builds upon a targeted public review of the Guidelines commenced in late 2013 which focused on noise, proximity, and shadow flicker. The present review has been expanded to consider the strengthening of provisions relating to community consultation, as well as addressing safety aspects and a separate issue relating to the application of the Environmental Impact Assessment Directive on projects.

It is intended that once the review is complete, the revised Guidelines will be issued by the Minister for Housing, Planning and Local Government under Section 28 of the Planning and Development Act 2000, as amended (the Act). It is likely that the Guidelines will contain some 'specific planning policy requirements' under Section 28(1C) of the Act. Planning authorities and An Bord Pleanála will be required to have regard to these Guidelines and to apply any 'specific planning policy requirements' of the Guidelines in carrying out their functions. It is also proposed that there will be a number of technical appendices developed to assist planning authorities in relation to noise assessment, monitoring and the setting of planning conditions. The revised Guidelines will therefore apply to future wind energy development proposals.

2.1 "Preferred Draft Approach" to the revised Guidelines

There are a wide range of community, spatial planning, energy policy, environmental, technological and industry considerations that need to be balanced within the review of the Guidelines.

The package of measures that has emerged as part of the "preferred draft approach" is being developed in the light of the commitment under the Programme for Government to strike a better balance between addressing the concerns of local communities whilst maintaining Ireland's ability to deliver on its binding

energy policy obligations. The "preferred draft approach" focuses on a number of key aspects including, sound/noise, visual amenity, setback distance, shadow flicker, consultation obligations, community dividend and grid connections.

As higher level government policy, the "preferred draft approach" sets the broad scope of the review of the Guidelines and it is within this scope that SEA alternatives will be considered.

2.1.1 Sound/Noise

Noise Limits

The "preferred draft approach" proposes noise restriction limits consistent with World Health Organisation standards, proposing a relative rated noise limit of 5dB(A) above existing background noise within the range of 35 to 43dB(A), with 43dB(A) being the maximum noise limit permitted, day or night. The noise limits will apply to outdoor locations at any residential or noise sensitive properties.

Sounds containing certain characteristics specific to wind turbines (e.g. tonal, low frequency and amplitude modulation) are frequently perceived to be more intrusive than those that do not. The rated limit will take account of these certain noise characteristics and, where identified, permitted noise limits will be further reduced to mitigate for these.

Noise Monitoring

Updated noise measures are being proposed in tandem with the introduction of a new noise monitoring regime in relation to wind farms with local authorities enforcing planning conditions supported by the Environmental Protection Agency who will provide independent noise monitoring of wind farms. Where there is evidence of non-compliance with noise limits, wind turbines will be required to be turned off until compliance with the noise limits is proven.

Detailed technical guidance is being developed in relation to noise assessment, monitoring and the setting of planning conditions to assist planning authorities and developers in this regard.

2.1.2 Visual Amenity Setback

The 'preferred draft approach' proposed for visual amenity comprises a setback distance, of 4 times the tip height between a wind turbine and the nearest point of the curtilage of any residential property, subject to a mandatory minimum setback of 500 metres.

The potential for visual disturbance can be considered as dependent on the scale of the proposed turbine and the associated distance. Thus a setback which is the function of size of the turbine should be key to setting the appropriate setback. Setback requirements would also be subject to compliance with noise limits.

2.1.3 Shadow Flicker

Shadow Flicker occurs when the sun is low in the sky and the rotating blades of a wind turbine casts a moving shadow which, if it passes over a window in a nearby house or other property results in a rapid change or flicker in the incoming sunlight. The time period in which a neighbouring property may be affected by shadow flicker is completely predictable.

The 'preferred draft approach' proposes that technology and appropriate modelling at design stage to eradicate the occurrence of shadow flicker must be confirmed in all planning applications for wind energy development.

Moreover, there will be clearly specified measures for automatic wind turbine shut down, where the issue arises as a condition planning permission. In effect, no neighbouring property will experience the occurrence of shadow flicker.

2.1.4 Consultation Obligations

It is proposed that there will be an obligation on the developer of a wind energy project to consult with communities, prior to submitting a planning application.

Planning authorities will take into account the degree to which the proponents of wind energy projects have meaningfully and properly consulted with and facilitated public participation in developing and refining their proposals. Projects should reflect broadly based community perspectives, should explain the potential benefits of a project and should seek to establish relationships with the community on a long-term basis.

Community Report

Planning applications must contain a Community Report prepared by the applicant which will specify how the final proposal reflects community consultation. The Community Report must also outline steps taken to ensure that the proposed development will be of enduring economic benefit to the communities concerned.

2.1.5 Community Dividend

Community benefit/dividend will be a core component of future wind farm development with both community ownership and part-ownership of wind energy projects by local communities being encouraged.

Wind farm developers will also be required to take steps to ensure that the proposed development will be of enduring economic benefit to the communities concerned. While the precise benefit will vary according to the nature and scale of a project and the local communities' preferred options regarding the nature of the community benefit, it is essential that applicants/developers offer a form of community benefit that provides for a tangible long-term dividend to the community.

Community benefit may encompass a range of measures that a project can bring to local areas. For the majority of projects, this is associated with the level of economic benefit, widely defined, that a project brings to a community. Whether in the form of local jobs and training opportunities, energy efficiency measures, and contributions in kind to local assets and facilities, it is important that community benefit is a core component of future wind farm development. Models to support community participation will be implemented as part of the new Renewable Electricity Support Scheme under development by the DCCAE.

The 'preferred draft approach' for the consultation obligations and community dividend proposals will be further supported by the "Code of Practice for Wind Energy Developments – Guidelines for Community Engagement", issued by the DCCAE in December 2016 for the wind industry sector.

2.1.6 Grid Connection

From a visual amenity aspect, undergrounding of cable connections from wind farms to the transmission and distribution system is the most appropriate solution, except where specific ground conditions or technical considerations make this impractical.

2.1.7 Other Elements of the Review

A number of technical appendices are being developed to assist planning authorities in relation to noise assessment, monitoring and the setting of planning conditions. The review provides an opportunity to update the Guidelines in relation to safety aspects, developments in relation to EIA requirements and compliance and the incorporation of the Interim Guidelines for Planning Authorities on Statutory Plans, Renewable Energy and Climate Change (July 2017). The review will also involve a general textual and references update of the Guidelines.

3. Environmental Assessment Process

3.1 Strategic Environmental Assessment (SEA)

Strategic Environmental Assessment (SEA) is a process for evaluating, at the earliest appropriate stage, the environmental quality and consequences of policy, plan or programme initiatives by statutory bodies. The purpose is to ensure that the environmental consequences of plans and programmes are assessed both during their preparation and prior to adoption. The SEA process also gives interested parties an opportunity to comment on the environmental impacts of the proposed plan or programme and to be kept informed during the decision making process.

The European Directive (2001/42/EC) on the Assessment of the Effects of Certain Plans and Programmes on the Environment (the SEA Directive), was transposed into national legislation in Ireland by the European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004 (S.I. 435/2004) and the Planning and Development (Strategic Environmental Assessment) Regulations 2004 (S.I. 436/2004). Both pieces of legislation were amended in 2011 under S.I. 200/2011 and S.I. 201/2011. The SEA process is comprised of the following principle steps:

- Screening: Decision on whether or not an SEA of the revised Wind Energy Development Guidelines is required;
- Scoping: Consultation with the defined statutory bodies on the scope and level of detail to be considered in the assessment;
- Environmental Assessment: An assessment of the likely significant impacts on the environment as a result of the revised Wind Energy Development Guidelines leading to the production of an Environmental Report;
- Consultation on the draft revised Wind Energy Development Guidelines and associated Environmental Report;
- Evaluation of the submissions and observations made on the draft revised Wind Energy Development Guidelines and Environmental Report prior to finalising the Guidelines;
- Issuance of an SEA Statement identifying how environmental considerations and consultation have been integrated into the final revised Wind Energy Development Guidelines.

Figure 3.1 shows the key steps required to complete the statutory SEA process in accordance with the Regulations.

Figure 3.1 Overview of SEA Process

3.1.1 SEA Screening Stage

The SEA Directive requires that certain plans and programmes, prepared by statutory bodies, which are likely to have a significant impact on the environment, be subject to the SEA process. A screening of the review of the Wind Energy Development Guidelines 2006 for SEA was undertaken by the DHPLG after which it was determined that the administrative provisions of Article 9(1) of the European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations (S.I. 435 of 2004), as amended, have been met and that an SEA is required.

3.1.2 SEA Scoping Stage

The main objective of scoping is to identify key issues of concern that should be addressed in the assessment of the plan and the appropriate level of detail to which they should be considered.

Under Article 5 (4) of the SEA Directive, the competent authority preparing the plan or programme is required to consult with specific "environmental authorities" (statutory consultees) on the scope and level of detail of the information to be included in the Environmental Report. The competent authority in relation to the proposed revised WEDG is the DHPLG. The statutory consultees for SEA undertaken under European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations (S.I. 435 of 2004), as amended, are set out in Article 9(5). It is noted however that recently, a number of government departments have changed name and certain responsibilities have migrated between these newly named departments. The SEA legislation has not yet been updated to reflect these changes however, for clarity the relevant new department is noted in the Table 3.1.

Table 3.1 Statutory Consultees for SEA (S.I. 435 of 2004), as amended

Statutory Consultees under National SEA Legislation	Newly Named Departments
Environmental Protection Agency (EPA)	N/A
Department of Arts, Heritage and the Gaeltacht	Department of Culture, Heritage and the Gaeltacht (DCHG)
Department of Communications, Energy and Natural Resources	Department of Communications, Climate Action and the Environment (DCCAE)
Department of Agriculture, Food and the Marine (DAFM)	N/A

While the issuance of a Scoping Report is not a formal requirement of the SEA Regulations, it is recommended as good practice. A Scoping Report can inform stakeholders about the key environmental issues and the key elements of the plan/programme. In addition, the Scoping Report can be used as a tool to generate comments from stakeholders on the scope and approach of the SEA. This Scoping Report has been compiled by SEA consultants on behalf of DHPLG as the competent authority for the plan.

As part of the statutory scoping of the SEA for the review of the Wind Energy Development Guidelines, designated consultees for SEA in Ireland have been consulted with. In addition, transboundary consultation has been undertaken with Northern Ireland. An earlier, draft version of this final SEA Scoping Report was circulated to the national statutory consultees as well as with the relevant authority for SEA in Northern Ireland: the Department of Agriculture, Environment and Rural Affairs (DAERA).

To further facilitate meaningful discussion, a workshop was convened in January 2018 with invites sent to the statutory consultees.

Discussions during the workshop (see Appendix I "SEA Scoping Workshop Agenda and Minutes") and formal written submissions received from each of the consultees (see Appendix II "SEA Scoping Submissions and Responses") informed this final report and will be considered in preparation of the Environmental Report and the revised Wind Energy Development Guidelines.

3.1.3 Environmental Assessment

An assessment of the likely significant impacts on the environment as a result of the proposed revised WEDG will be undertaken in due course. This will include, as relevant, a description of the baseline, an assessment of likely significant impacts, mitigation measures to offset negative impacts and provision of a monitoring programme. The output from this stage is an Environmental Report. Further details on these issues are presented later in this document. In parallel to this assessment, Appropriate Assessment (AA) Screening (and Stage 2 AA where necessary) and Strategic Flood Risk Assessment (SFRA) Screening will also be undertaken and these will inform the SEA and development of the proposed revised WEDG.

Public consultation will be carried out on the draft proposed revised WEDG, the SEA Environmental Report and associated documentation in support of the AA and SFRA, if screened in. The submissions and

observations made on these documents will be reviewed and considered during finalisation of the revised WEDG.

The assessments will examine proposed changes to the original Guidelines for significant environmental effects, including any effects on European Sites. Further public consultation maybe required where relevant and appropriate.

It will be essential to ensure integration of the SEA process into the Guidelines and vice-versa. It will be necessary to show how the Guidelines have been informed by the SEA in the SEA Environmental Report.

3.1.4 SEA Statement

An SEA Statement identifying how environmental considerations and consultation have been integrated into the proposed revised WEDG will be provided for information alongside the final revised WEDG**.**

3.1.5 SEA Guidance

The Environmental Report will contain the findings of the assessment of the likely significant effects on the environment resulting from implementation of the proposed revisions to the Wind Energy Development Guidelines 2006. It will reflect the requirements of the SEA Directive (2001/42/EC) on the assessment of the effects of certain plans and programmes on the environment and also the transposed regulations in Ireland (S.I. 435/2004) as amended in 2011. The following principal sources of guidance will be used during the overall SEA process and during preparation of the Environmental Report.

- SEA Spatial Information Sources, April 2017 (or any subsequent version), Environmental Protection Agency.
- SEA Scoping Guidance Document, July 2017 (or any subsequent version), Environmental Protection Agency.
- Integrating Climate Change into Strategic Environmental Assessment in Ireland – A Guidance Note, 2015, Environmental Protection Agency.
- Developing and Assessing Alternatives in SEA – Good Practice Guidance, 2015, Environmental Protection Agency.
- Strategic Environmental Assessment (SEA) Pack, 2016, Environmental Protection Agency.
- Environmental Protection Agency's 2012 Review of SEA Effectiveness in Ireland.
- GISEA Manual, 2017, Environmental Protection Agency.
- Integrated Biodiversity Impact Assessment, 2007, EPA Strive Programme 2007-2013.
- Strategic Environmental Assessment (SEA) Checklist - Consultation Draft. January 2008.
- Development of Strategic SEA Methodologies, Synthesis Report, 2003, EPA.
- Implementation of SEA Directive (2001/42/EC). Assessment of Certain Plans and Programmes on the Environment. Guidelines for Regional Authorities and Planning Authorities, 2004, Department of Environment, Heritage and Local Government.
- Guidance on SEA. Department of Communications, Energy and Natural Resources.

3.1.6 Department Circulars

In addition the Department of the Environment, Community and Local Government have issued a number of relevant circulars in relation to SEA which will have relevance for the environmental assessment of the proposed revised WEDG and will be taken into account during the course of the SEA.

These circulars are as follows:

- PSSP 6/2011: 'Further Transposition of the EU Directive 2001/42/EC on Strategic Environmental Assessment (SEA)'.
- Circular PL 9 of 2013: 'Article 8 (Decision Making) of EU Directive 2001/42/EC on Strategic Environmental Assessment (SEA) as amended'.

3.2 Appropriate Assessment (AA)

The EU Habitats Directive places strict legal obligations on member states to ensure the protection, conservation and management of the habitats and species of conservation interest in all European Sites. The Habitats Directive has been transposed into Irish law by the Planning and Development Act 2000 (as amended) and the European Communities (Birds and Natural Habitats) Regulations 2011 (as amended).

Article 6 of the Directive obliges member states to undertake an 'appropriate assessment' (AA) for any plan or project which may have a likely significant effect on any European Site. The outcomes of such AAs fundamentally affect the decisions that may lawfully be made by competent national authorities in relation to the approval of plans or projects.

Article 6(3) states:

Any plan or project not directly connected with or necessary to the management of the [European] site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subjected to appropriate assessment of its implications for the site in view of the site's conservation objectives. In light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public.

Article 6(4) states:

If, in spite of a negative assessment of the implications for the [European] site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest [IROPI], including those of a social or economic nature, Member States shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted.

The proposed revised WEDG are not directly connected to the conservation of any European Sites, however as national Guidelines they will be examined for having the potential to impact on habitats and species for which Special Areas of Conservation (SAC) and Special Protection Areas (SPA) have been designated. In acknowledgement of this, early consideration has been given to the need for AA and an AA screening will be carried out in parallel to the SEA Scoping. If required, a Natura Impact Statement (NIS) will be prepared. The NIS will consider the potential for the emerging policy and measures to impact on the integrity of any European Sites, in view of the conservation objectives of the site.

It is noted that there are requirements of the Birds and Habitats Directives that are not encompassed by AA (e.g. annex IV species as per Articles 12 and 13 of the Habitats Directive, landscape features outside designated sites which are of major importance for wild flora and fauna as per Article 10 of the Habitats Directive and disturbance and deterioration of bird habitats as per article 4(4) of the Birds Directive) and these will be addressed in the SEA.

3.3 Strategic Flood Risk Assessment (SFRA)

The proposed revised WEDG will be subject to a high-level flood risk screening as to the applicability and requirement of Strategic Flood Risk Assessment in compliance with 2009 Flood Risk Management Guidelines. The findings of the screening will be integrated into the SEA and the recommendations arising will be integrated into the revised Guidelines, as appropriate.

4. Other relevant plans and programmes

As part of the SEA process, it will be necessary to consider the environmental protection objectives, established at the international; European and national level which are relevant to the proposed revised WEDG and how they have been taken into account during the preparation of the final WEDG. In particular the interaction of the environmental protection objectives and standards included within these plans and programmes with the Guidelines requires consideration. For the purposes of scoping, the list below summarises key related legislation and documents which will be considered.

A more detailed list will be compiled as part of the Environmental Report and suggestions are welcomed as part of the scoping consultation as to environmental protection objectives that are relevant to the Guidelines. However it is noted that this is not intended to be a register of all legislation / plans/ policies /programmes but rather an examination of the key environmental protection objectives relevant to the Guidelines.

Table 4.1 International and EU Legislation, Plans/Policies/Programmes

International and EU Legislation	International and EU Plans/Policies/Programmes
▪ SEA Directive (2001/42/EC) ▪ EIA Directive (11/92/EU as amended) ▪ EU Habitats Directive (92/43/EEC) ▪ EU Birds Directive (2009/147/EC- codified version of 79/409/EEC) ▪ EU Water Framework Directive (2000/60/EC) and associated directives which have been subsumed as follows: Drinking Water Abstraction Directive; Sampling Drinking Water Directive; Exchange of Information on Quality of Surface Freshwater Directive; Shellfish Directive; Freshwater Fish Directive; Groundwater (Dangerous Substances) Directive; and Dangerous Substances Directive. ▪ EU Drinking Water Directive (98/83/EC) ▪ EU Bathing Water Directive(revised) 2006 [2006/7/EC] ▪ Groundwater Directive (2006/118/EC), ▪ EU Sewage Sludge Directive (86/278/EEC) ▪ EU Urban Waste Water Treatment Directive (91/271/EEC) ▪ EU Nitrates Directive (91/676/EC) ▪ EU Integrated Pollution Prevention Control Directive (2008/1/EC)	▪ The Seventh Environmental Action Programme (EAP) of the European Community 2013- 2020 ▪ The EU Biodiversity Strategy ▪ Bern Convention (Convention on the Conservation of European Wildlife and Natural Habitats) ▪ Kyoto Protocol 1997 ▪ Bali Road Map 2007 ▪ Cancun Agreements 2010 ▪ Doha Climate Gateway 2012 ▪ 2030 EU Climate and Energy Framework ▪ Clean Energy for All Europeans EU 2016 Package ▪ Paris Agreement (COP21) ▪ EU Climate Change Programme (ECCP II) ▪ The Valletta Convention (1992) ▪ EU Common Agricultural Policy ▪ EU REACH Initiative ▪ Stockholm Convention ▪ Ramsar Convention ▪ OSPAR Convention ▪ EU Green Infrastructure Strategy ▪ European 2020 Strategy for Growth

International and EU Legislation	International and EU Plans/Policies/Programmes
▪ EU Plant Protection (Products) Directive 2009/127/EC ▪ EU Floods Directive (2007/60/EC) ▪ EU Marine Strategy Framework Directive (2008/56/EC) ▪ EU Renewables Directive (2009/28/EC) ▪ EU Biofuels Directive (2003/30/EC) ▪ Indirect Land Use Change Directive (2012/0288(COD)) ▪ Alternative Fuels Infrastructure Directive 2014/94/EU ▪ EU Energy Efficiency Directive (2012/27/EU) ▪ EU Seveso Directive 2012/18/EU ▪ EU Soils Directive ▪ EU Air Framework Directive 2008/50/EC ▪ EU Fourth Daughter Directive (2004/107/EC) ▪ EU Noise Directive 2002/49/EC ▪ EU Floods Directive (2007/60/EC) ▪ EU Environmental Liability Directive (2004/35/EC) ▪ EU Maritime Spatial Planning Directive (2014/89/EU) ▪ UK Marine Policy Statement ▪ Marine and Coastal Access Act 2009 ▪ Marine (Northern Ireland) Act 2013 ▪ European Landscape Convention (2000)	

Table 4.2 National Legislation, Plans/Policies/Programmes

National Legislation	National Plans/Policies/Programmes
▪ Planning and Development Act 2000 (as amended) ▪ European Communities (Environmental Assessment of Certain Plans and Programmes Regulations 2004, (S.I. 435 of 2004) as amended by S.I. 200 of 2011 ▪ The Wildlife Act 1976 and Wildlife (Amendment) Act 2000 ▪ European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. 477 of 2011 as amended)	▪ Irelands National Renewable Energy Action Plan 2010 (Irish Government submission to the European Commission) ▪ Strategy for Renewable Energy 2012-2020 ▪ White Paper on Energy Policy - Ireland's Transition to a Low Carbon Energy Future 2015-2030 ▪ National Climate Mitigation Plan 2017 ▪ National Policy Position on Climate Action and Low Carbon Development (2014)

National Legislation	National Plans/Policies/Programmes
▪ Waste Management Act 1996 as amended ▪ Local Government (Water Pollution) Acts 1977-1990 ▪ Water Services Act 2007-2013 ▪ European Communities (Water Policy) Regulations 2003, (S.I. 722 of 2003) ▪ European Communities (Water Policy) Regulations of 2014 (SI 350 of 2014) ▪ European Communities Environmental Objectives (Surface Water) Regulations (S.I. 272 of 2009) ▪ European Communities Environmental Objectives (Groundwater) Regulations of 2010 (SI 9 of 2010) ▪ European Communities Environmental Objectives (FPM) Regulations 2009 (S.I. 296 of 2009) ▪ European Communities Environmental Objectives (Groundwater) Regulations 2010 (S.I. 9 of 2010) ▪ European Communities (Good Agricultural Practice for Protection of Waters) Regulations 2014 (S.I. No. 31 of 2014) ▪ Bathing Water Quality Regulations 2008 (S.I. 79 of 2008) ▪ Bathing Water Quality (Amendment) Regulations 2011 (S.I. 351 of 2011) ▪ Climate Action and Low Carbon Development Act 2015 ▪ Infrastructure and Capital Investment Plan 2016-2021	▪ National Climate Change Adaptation Framework 2012 to be superseded by National Adaptation Framework ▪ National Clean Air Strategy [in prep] ▪ National Energy Efficiency Action Plan for Ireland 2007-2020 ▪ Offshore Renewable Energy Development Plan ▪ All Island Grid Study 2008 ▪ Eirgrid's Grid25 Strategy ▪ Eirgrid's Implementation Programme ▪ Bioenergy Plan [in prep] ▪ Renewable Electricity Policy and Development Framework [in prep] ▪ National Water Resources Plan [in prep] ▪ Seafood Operation Programme 2014 ▪ Aquaculture Plan 2014 ▪ The National Biodiversity Action Plan 2017-2021 ▪ National Peatlands Strategy 2011 ▪ Construction 2020 ▪ National Heritage Plan (2002) ▪ Project Ireland 2040 National Planning Framework ▪ Sustainable Development: A Strategy for Ireland (1997) ▪ National Landscape Strategy for Ireland 2015 – 2025 ▪ National Landscape Character Assessment (in/pending preparation) ▪ National Hazardous Waste Management Plan (EPA) 2014-2020 ▪ Rural Development Programme 2014-2020 ▪ Forestry Programme 2014-2020 ▪ Foodwise 2025 ▪ Smarter Travel 'A New Transport Policy for Ireland' 2009-2020 ▪ Investing in our Transport Future – A Strategic Investment Framework for Land Transport ▪ National Ports Policy 2013 ▪ National Aviation Policy 2015

National Legislation	National Plans/Policies/Programmes
	▪ National Policy Framework for the Development of Alternative Fuels Infrastructure for Transport 2017 ▪ National Catchment Flood Risk Assessment and Management Programme (in/pending preparation) ▪ Ministerial Guidelines such as Sustainable Rural Housing Guidelines and Flood Risk Management Guidelines ▪ HSE Healthy Ireland Framework for Improved Health and Wellbeing 2015-2025 ▪ Marine Spatial Plan for Ireland (in/pending preparation) ▪ Northern Ireland's Environment Authority's Wind Energy Development in Northern Ireland's Landscapes ▪ Draft River Basin Management Plan for Ireland ▪ Northern Ireland's Planning Service's "Renewable Energy: Wind Farm Development Information Leaflet"

Table 4.3 Regional, County and Local Plans/Policies/Schemes

Regional, County and Local Plans/Policies/Schemes
▪ Regional Planning Guidelines, to be replaced by Regional Spatial and Economic Strategies (in/pending preparation) ▪ River Basin Management Plans 2009-2015 ▪ Plan for Forestry and Freshwater Pearl Mussel in Ireland [in prep] ▪ Catchment Flood Risk Assessment and Management Studies including associated Flood Risk Management Plans ▪ NPWS Conservation Plans and/or Conservation Objectives for SAC and SPAs ▪ Regional Waste Management Plans 2015 ▪ Greater Dublin Area (GDA) Transport Strategy 2016-2035 ▪ Transport Strategy for the Cork Metropolitan Area [in prep] ▪ Land Use Plans including County Development Plans, Local Area Plans and Planning Schemes and associated provisions relating to infrastructure development (including renewable energy development) and environmental protection and management ▪ County Heritage and Biodiversity Plans ▪ Groundwater Protection Schemes ▪ Local Community and Economic Plans

5. Scoping

5.1 Geographic Scope

The purpose of the proposed revised WEDG is to provide advice to planning authorities on catering for wind energy through the development plan and development management processes. The WEDG are also intended to ensure a consistency of approach throughout the country in the identification of suitable locations for wind energy development and the treatment of planning applications for such developments. The proposed revised WEDG will set the national planning policy context for local authority plan-making and the determination of planning applications and appeals by planning authorities and An Bord Pleanála.

5.2 Temporal Scope

In line with the SEA Directive, short, medium and long-term impacts (including reference to secondary, cumulative, synergistic, permanent and temporary, positive and negative effects) will be considered during the assessment.

5.3 Scoping of Strategic Environmental Assessment Topics

In accordance with S.I. 435 of 2004, as amended, consideration has been given to whether the environmental effects, both positive and negative, of the proposed revised WEDG are likely to be significant. The SEA will look at the likely significant effects on the environment on issues such as population, human health, biodiversity, flora and fauna, soil, water, air, climatic factors, material assets, cultural heritage (including architectural and archaeological heritage), landscape and the interrelationship between the above factors.

Potential significant environmental issues to be considered in the environmental report are identified under the subsections below. These environmental issues relate to the aquatic (including freshwater and marine) as well as terrestrial environment.

5.3.1 Population and Human Health[1]

Key supporting national policy: *HSE Healthy Ireland Framework for Improved Health and Wellbeing 2015-2025, DHPLG Project Ireland 2040 National Planning Framework*

SEA Issue	Scope In/Out	Potential Significant Environmental Issues for Consideration in the Environmental Report
Population and Human Health	**In**	▪ Implications for spatial distribution of population and associated vectors ▪ Human health and interactions with environmental vectors, including with respect to issues including noise, shadow flicker, water quality, amenity ▪ Implications for use and access to amenities ▪ Use of mitigation including buffers, technology and community consultations ▪ Air craft safety
SEA Objectives		*PHH1 (and AC2): To protect populations and human health from exposure to incompatible wind energy development such as that which may arise from noise, shadow flicker or landslides/bog bursts, for example* *PHH2 (and L2): To protect use of and access to amenities including rights of way, parks, playing fields and walk and cycle ways*
SEA Targets		*PHH1 (and AC2): Avoid wind energy developments which would be likely to result in deterioration in human health arising from environmental factors* *PHH2 (and L2): To avoid and minimise disruption to use of and access to amenities including rights of way, parks, playing fields and walk and cycle ways*

[1] Also see issues under Soil, Water, Air and Climatic Factors and Landscape.

5.3.2 Biodiversity, Flora and Fauna[2]

Key supporting national policy: *National Biodiversity Action Plan 2017-2021.*

SEA Issue	Scope In/Out	Potential Significant Environmental Issues for Consideration in the Environmental Report
Biodiversity Flora and Fauna	**In**	Arising from both construction and operation of wind energy development and associated infrastructure, implications for: ▪ Protection and management of biodiversity in designated sites[3] (including European Sites and Wildlife Sites) and Annexed habitats and species, listed species, ecological connectivity and non-designated biodiversity and flora and fauna. ▪ Habitat loss, fragmentation and deterioration, including patch size and edge effects. ▪ Disturbance and displacement of protected species such as birds and bats. Use of mitigation including location selection criteria and buffers
SEA Objectives		*BFF1: To ensure compliance with the Habitats and Birds Directives with regard to the protection of European Sites and Annexed habitats and species* [4] *BFF2: To ensure compliance with Article 10 of the Habitats Directive with regard to the management of features of the landscape which - by virtue of their linear and continuous structure or their function act as stepping stones (designated or not) - are of major importance for wild fauna and flora and essential for the migration, dispersal and genetic exchange of wild species* *BFF3: To avoid significant impacts on relevant habitats, species, environmental features or other sustaining resources in designated sites including Wildlife Sites and Areas of Special Scientific Interest and to ensure compliance with the Wildlife Acts 1976-2010 with regard to the protection of listed species*
SEA Targets		*BFF1: Maintenance of favourable conservation status for all habitats and species protected under National and International legislation to be unaffected by implementation of the Guidelines*[5] *BFF2: No significant ecological networks or parts thereof which provide functional connectivity to be lost without remediation resulting from development provided for by the Guidelines* *BFF3i: Avoid significant impacts on relevant habitats, species, environmental features or other sustaining resources in designated sites including Wildlife Sites and Areas of Special Scientific Interest resulting from development provided for by the Guidelines* *BFF3ii: No significant impacts on the protection of listed species*

[2] Also see issues under Soil and Water.
[3] These sites include: Special Areas of Conservation; Special Protection Areas; Natural Heritage Areas (NHAs): Proposed NHAs; Nature Reserves and Refuges for Fauna or Flora; Wildfowl Sanctuaries; National Parks; UNESCO Biosphere Reserves and World Heritage Sites designated for biodiversity reasons; Areas of Special Scientific Interest; and Margaritifera Sensitive Areas.
[4] 'Annexed habitats and species' refer to those listed under Annex I, II & IV of the EU Habitats Directive and Annex I of the EU Birds Directive.
[5] Except as provided for in Section 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/project to proceed; and
(c) adequate compensatory measures in place.

5.3.3 Soil[6]

***Key supporting national policy**: no specific national or EU policy available. Existing EU policies relate to soil in the context of waste, water, agriculture etc.*

SEA Issue	Scope In/Out	Potential Significant Environmental Issues for Consideration in the Environmental Report
Soil	**In**	▪ Protection of designated sites of geological heritage ▪ Soil/subsoil/geological stability and interactions with landslides or bogbursts ▪ Erosion of peatlands as a result of wind farm and ancillary infrastructure (e.g. roads) development, alone and in combination with forestry ▪ Ecological and ecological function of the soil resource ▪ Areas of mineral/aggregate potential ▪ Use of mitigation including soil pollution prevention measures and landslide/bogburst susceptibility assessment
SEA Objectives		*S1: To avoid damage to the stability of soil* *S2: To minimise damage to the hydrogeological and ecological function of the soil resource*
SEA Targets		*S1i: For all grants of permission to consider the findings of landslide/bogburst susceptibility assessments* *S1ii: No landslides or bogbursts occurring as a result of new wind energy or associated development from these Guidelines* *S2: To minimise reductions in soil extent and hydraulic connectivity*

[6] Also see issues under Water and Biodiversity, Flora and Fauna.

5.3.4 Water[7]

***Key supporting national policy**: River Basin Management Plan and Programme of Measures; Marine Strategy Framework Directive and Programme of Measures; Water Services Strategic Plan (Irish Water).*

SEA Issue	Scope In/Out	Potential Significant Environmental Issues for Consideration in the Environmental Report
Water	**In**	▪ Interactions with Status of Surface and Ground Water Bodies, including quality, flow and/or morphological issues ▪ Interactions with entries to the WFD Register of Protected Areas (ecological and human value) ▪ Drainage issues, including quality of run-off, arising from wind farms and any ancillary infrastructure such as access roads ▪ Flood Risk Management ▪ Providing for run-off attenuation in peatlands
SEA Objectives		*W1: To contribute towards maintaining and improving, where possible, the quality and status of surface waters* *W2: To contribute towards maintaining and improving, where possible, the chemical and quantitative status of groundwaters* *W3: To comply as appropriate with the provisions of the Planning System and Flood Risk Management: Guidelines for Planning Authorities (DEHLG, 2009)*
SEA Target(s)		*W1: 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[8]* *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* *W3: Avoid wind energy developments which are at elevated risk of flooding or would significantly increase flood risk elsewhere*

[7] Also see issues under Soil and Biodiversity, Flora and Fauna.

[8] 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.

5.3.5 Air and Climatic Factors[9]

***Key supporting national policy**: National Clean Air Strategy [in prep]; Smarter Travel 'A New Transport Policy for Ireland' 2009-2020; Bioenergy Plan [in prep]; National Policy Framework for the Development of Alternative Fuels Infrastructure for Transport 2017; Renewable Electricity Policy and Development Framework [in prep]; National Policy Position on Climate Action and Low Carbon Development (2014)*

SEA Issue	Scope In/Out	Potential Significant Environmental Issues for Consideration in the Environmental Report
Air and Climatic Factors	**In**	▪ Positive effects arising from contribution towards achievement of overall renewable energy targets ▪ Positive effects arising from contribution towards achievement of electricity from renewable energy targets ▪ Positive effects arising from contribution towards achievement of greenhouse gas emissions targets ▪ Positive effects arising from contributions towards reducing emissions of pollutants to air ▪ Noise emissions from wind energy developments and potential interactions with human health ▪ Construction emissions, back-up generators ▪ Use of mitigation (noise) including buffers and technology ▪ Carbon emissions balance when developing wind farms and peat extraction is needed.
SEA Objectives		*AC1: To contribute towards the achievement of targets relating to renewable energy and greenhouse gas emissions* *AC2 (and PHH1): To protect populations and human health from exposure to incompatible wind energy development such as that which may arise from noise, shadow flicker or landslides/bog bursts, for example*
SEA Targets		*AC1: Increase in generation of electricity from wind energy development to contribute towards achievement of targets relating to renewable energy and greenhouse gas emissions in line with rolling Government targets* *AC2 (and PHH1): Avoid wind energy developments which would be likely to result in deterioration in human health arising from environmental factors*

[9] Also see issues under Population and Human Health.

5.3.6 Material Assets[10]

SEA Issue	Scope In/Out	Potential Significant Environmental Issues for Consideration in the Environmental Report
Material Assets	**In**	▪ Maximising use of existing infrastructure ▪ Potential impact on road networks as result of the movement of the component parts of turbines ▪ Residual wastes from construction and wastes post-decommissioning to be disposed of in line with higher level waste management policies
SEA Objectives		MA1: To maximise the use of existing infrastructure and services
SEA Targets		MA1: All lower tier assessments to address reasonable alternatives for the location of new wind energy developments, and where existing infrastructural assets such as sub-stations, powerlines and roads already exist within proposed development areas, then such assets should be considered for sustainable use by the proposed development where the assets have capacity to absorb the new development.

[10] Also see issues under Cultural Heritage, Landscape, Water, Soil, Biodiversity, Flora and Fauna and Air and Climatic Factors.

5.3.7 Cultural Heritage[11]

***Key supporting national policy**: Built Heritage Policy; Architectural Heritage Policy; National Landscape Strategy; Culture 2025.*

SEA Issue	Scope In/Out	Potential Significant Environmental Issues for Consideration in the Environmental Report
Cultural Heritage	**In**	▪ Designated and unknown archaeological heritage including entries to the Record of Monuments and Places, underwater archaeology, entries to the Northern Ireland Sites and Monuments Record and Northern Ireland Areas of Significant Archaeological Interest and Archaeological Potential ▪ Architectural heritage as designated or included within the National Inventory of Architectural Heritage, Records of Protected Structures and Northern Ireland's Listed Buildings and Historical Parks and Gardens ▪ Context of archaeological and architectural heritage ▪ Indivisibility and interrelationships between monuments and structures within the wider landscape, including cross-border indivisibility and interrelationships
SEA Objectives		*CH1: To contribute towards the protection of archaeological heritage (including entries to the Record of Monuments and Places) and its context* *CH2: To contribute 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*
SEA Targets		*CH1: Contribution towards the protection of archaeological heritage (including entries to the Record of Monuments and Places) and its context* *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*

[11] Also see issues under Landscape.

5.3.8 Landscape[12]

***Key supporting national policy**: National Landscape Strategy*

SEA Issue	Scope In/Out	Potential Significant Environmental Issues for Consideration in the Environmental Report
Landscape	**In**	▪ Landscape designations such as landscape character areas (including Northern Ireland Regional Landscape Character Areas), landscape sensitivity and value areas, high amenity zones, scenic views and prospects and land use objectives relating to landscape protection ▪ Characteristics such as elevation, slope and landcover ▪ National Parks, ▪ Special Amenity Order Areas ▪ UNESCO World Heritage Sites ▪ Landscape interactions in marine and island areas where there may be limited assimilative capacity
SEA Objectives		*L1: To avoid or, where infeasible, minimise conflicts with the appropriate protection of statutory designations relating to the landscape, including those included in the land use plans of planning authorities* *L2 (and PHH2): To protect use of and access to amenities including rights of way, parks, playing fields and walk and cycle ways*
SEA Targets		*L1: No unmitigated conflicts with the appropriate protection of statutory designations relating to the landscape* *L2 (and PHH2): To avoid and minimise disruption to use of and access to amenities including rights of way, parks, playing fields and walk and cycle ways.*

[12] Also see issues under Cultural Heritage and Population and Human Health.

6. Preliminary Environmental Baseline

6.1 Introduction

In line with the SEA Directive, an environmental baseline will be complied for the SEA Environmental Report that will accompany the proposed revised WEDG. This baseline will address: the relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the Guidelines; the environmental characteristics of areas likely to be significantly affected; and any existing environmental problems which are relevant to the Guidelines. Any environmental problems will be identified where known from published sources and contextualised where identified.

Information which is relevant to lower tier planning and project development and associated environmental assessments will be identified (note that Article 5 of the SEA Directive, in accordance with the established European principle of subsidiarity, requires that the Environmental Report includes the information that may reasonably be required taking into account, inter alia, the extent to which certain matters are more appropriately assessed at different levels in that process in order to avoid duplication of the assessment).

The baseline will reflect the strategic nature of the proposed revised WEDG and will be presented under the following headings:

- Population (P);
- Human Health (HH);
- Biodiversity, Flora and Fauna (BFF);
- Soils (S);
- Water (W);
- Air and Climatic Factors (AC);
- Material Assets (MA);
- Cultural Heritage (CH); and
- Landscape (L).

The data sources that will be used to compile the current state of the environment are identified in Section 6.2.

6.2 Baseline Data Sources

It will be key that the current state of the environment is described using the most up to date environmental data, information and reports. Where updates of significant environmental data and associated reports become available during the SEA process, consideration will be given to incorporating the new information into the description of the current state of the environment. Where data gaps are found for particular aspects of the current state of the environment, the significance of these data gaps will be clearly stated. In addition, it will be stated whether these gaps can be reasonably and realistically addressed during the SEA process.

A key document that will be referenced will be the EPA State of the Environment Report which was published in Q4 2016. The broad environmental messages identified by this EPA report relate to:

- ***Environment and Health and Wellbeing -*** Recognising the benefits of a good quality environment to health and wellbeing.
- ***Climate Change -*** Accelerate mitigation actions to reduce greenhouse gas emissions and implement adaptation measures to increase our resilience in dealing with adverse climate impacts.
- ***Implementation of Legislation*** - Improve the tracking of plans and policies and the implementation and enforcement of environmental legislation to protect the environment.

The proposed revised WEDG will be put in context in relation to these three components and furthermore will have regard to the key topic messages of: Restore & Protect Water Quality; Sustainable Economic Activities; Nature & Wild Places; and Community Engagement

It is intended to utilise Geographical Information Systems (GIS) where appropriate to display and analyse information relevant to the region. Table 6.1 provides a preliminary overview of each of the SEA Topics that will be outlined in the SEA baseline. The table also includes a non-exhaustive list of the potential data sources that will be used to compile the baseline and in addition it outlines the preliminary extent of the assessment based on these available data sources. Given the strategic nature of proposed revised WEDG, it is recognised that there are limitations on the extent of the scope of an environmental assessment and therefore it is beneficial to outline such limitations at this early stage.

Table 6.1 Baseline Data Sources and Extent of Assessment

SEA Topic	Potential Data Sources for SEA of the Guidelines and lower tier assessments[13]	Potential Extent of Assessment based on Data Sources
Population and Human Health	Central Statistics Office (CSO) database Information on other environmental components including Soils, Water and Air Research on potential wind farm impacts such as noise, shadow flicker, water quality, amenity	National datasets are available for population density and distribution. The potential impacts of the Guidelines on human health will be assessed with reference to impacts upon environmental vectors considered under other headings by the assessment, including Soils, Water and Air. Identification of information that should be used in lower tier assessments.

[13] Emerging online sources including EPA funded Maynooth All-Island Research Observatory Environmental Sensitivity Mapping project and associated webtool (NUIM/UCD) to be utilised under various topics as relevant

SEA Topic	Potential Data Sources for SEA of the Guidelines and lower tier assessments[13]	Potential Extent of Assessment based on Data Sources
Biodiversity, Flora and Fauna	National Parks and Wildlife Service (NPWS) online database Site Management Plans National Biodiversity Data Centre Irelands National Biodiversity Plan Invasive Species Ireland website WFD Ireland website River Basin Management Plans MSFD Ireland website EPA Geoportal Species/habitats information from organisations such as Birdwatch Ireland and Eurobats Department of Agriculture, Environment and Rural Affairs Northern Ireland: designated sites online resources; Review of the Impact of Onshore Wind Energy Development on Biodiversity (2014); and Onshore Renewable Electricity Action Plan SEA	National and regional datasets are available for aspects relating to biodiversity, flora and fauna. Given the scale of the Guidelines the assessment will be focussed on designated sites such as SPAs, SACs and NHAs. Identification of information that should be used in lower tier assessments.
Soils	GSI Landslide Events GSI Landslide Susceptibility Modelling GSI Geological Heritage Teagasc Soil Types	National high level datasets are available for soil related issues. Identification of information that should be used in lower tier assessments.
Water	EPA ENVision (Environmental Mapping); EPA Geoportal EPA database reports including but not limited to: Water Quality in Ireland (latest available); Integrated Water Quality Reports (latest available); and Quality of Estuarine and Coastal Waters (latest available) National Catchment Flood Risk Management Programme (CFRAM), Office of Public Works (OPW)	National datasets are available for surface water, groundwater and PFRA areas. Identification of information that should be used in lower tier assessments.
Air and Climatic Factors	EPA national state of the environment reports for greenhouse gas emissions and air quality EPA local air quality monitoring EPA Irelands Greenhouse Gas Emission Projections Sustainable Energy Ireland (SEAI), Energy in Ireland Reports UCC/NUIG www.climateireland.ie Portal	National state of the environment reports available for greenhouse gas emissions and projections, renewable and wind energy electricity generation and air quality. Identification of information that should be used in lower tier assessments.

SEA Topic	Potential Data Sources for SEA of the Guidelines and lower tier assessments[13]	Potential Extent of Assessment based on Data Sources
Material Assets	Information on existing infrastructure such as turbines, sub-stations, powerlines and roads Annual waste reports	Identification of information that should be used in lower tier assessments.
Architectural, Archaeological and Cultural, Heritage	National Monuments Service (Archaeological Survey Database) National Inventory of Architectural Heritage Availability of Records of Protected Structures NIAH Garden Survey Indivisibility and interrelationships between monuments and structures within the wider landscape, including cross-border Demesne landscapes Environmental Sensitivity Mapping Department for Communities datasets on Northern Ireland's Historic Environment including those relating to Areas of Significant Archaeological Interest, Archaeological Potential, Listed Buildings and Historical Parks and Gardens	National datasets are available for archaeology and architectural heritage, however the scale of the datasets are directed towards local project specific sources. Identification of information that should be used in lower tier assessments.
Landscape	County level landscape designations in Ireland National landscape mapping when available Department of Agriculture, Environment and Rural Affairs Northern Ireland: Regional Landscape Character Areas and land use plan designations; and Onshore Renewable Electricity Action Plan SEA There are no national datasets available for landscape and the information that is available at a county level is not consistent across all of the counties. This means that there is a potential data gap with respect to landscape.	Limited Identification of information that should be used in lower tier assessments.

7. Proposed Framework for Assessing Environmental Effects

A key purpose of scoping is to set out sufficient details about the proposed methodological framework for the assessment of environmental effects to allow the consultees to form a view on this matter. It is proposed to use an objectives-led assessment which will involve comparing alternatives against defined SEA Environmental Objectives for each of the identified issue areas.

The preceding sections have identified the environmental characteristics and key environmental issues relating to the Guidelines and the key influences from external plans, policies and strategies. This section uses that information to set out a series of SEA environmental objectives, indicators and associated targets. These will be used in the environmental report to predict the likely environmental effects of the Guidelines. The use of these objectives ensures that following this scoping stage the SEA focuses only on those issues that are most relevant and significant to the review of the Guidelines.

Set out in Table 7.1 are the SEA objectives that are being considered to test the potential environmental impacts of the Guidelines. These objectives are based on the current understanding of the key environmental issues identified. The detailed assessment criteria are examples of the issues that will be considered during the assessment of whether the plan, including alternatives, meets the proposed SEA objectives.

Table 7.1- SEA Environmental Objectives

Related to SEA Topic(s)	Objectives	Targets	Indicators
Population and Human Health (PHH)	PHH1 (and AC2): To protect populations and human health from exposure to incompatible wind energy development such as that which may arise from noise, shadow flicker or landslides/bog bursts, for example	PHH1 (and AC2): Avoid wind energy developments which would be likely to result in deterioration in human health arising from environmental factors	PHH1 (and AC2): Number of instances of deterioration in human heath resulting from wind energy development (including associated development) permitted by planning authorities adhering to the Guidelines
	PHH2 (and L2): To protect use of and access to amenities including rights of way, parks, playing fields and walk and cycle ways	PHH2 (and L2): To avoid and minimise disruption to use of and access to amenities including rights of way, parks, playing fields and walk and cycle ways	PHH2 (and L2): Disruption to use of and access to amenities including rights of way, parks, playing fields and walk and cycle ways resulting from wind energy development (including associated development) permitted by planning authorities adhering to the Guidelines

Related to SEA Topic(s)	Objectives	Targets	Indicators
Biodiversity, Flora and Fauna (BFF)	BFF1: To ensure compliance with the Habitats and Birds Directives with regard to the protection of European Sites and Annexed habitats and species 14	BFF1: Maintenance of favourable conservation status for all habitats and species protected under National and International legislation to be unaffected by implementation of the Guidelines[15]	BFF1: Conservation status of habitats and species as assessed under Article 17 of the Habitats Directive
	BFF2: To ensure compliance with Article 10 of the Habitats Directive with regard to the management of features of the landscape which - by virtue of their linear and continuous structure or their function act as stepping stones (designated or not) - are of major importance for wild fauna and flora and essential for the migration, dispersal and genetic exchange of wild species	BFF2: No significant ecological networks or parts thereof which provide functional connectivity to be lost without remediation resulting from development provided for by the Guidelines	BFF2: Percentage change in functional connectivity without remediation resulting from wind energy development (including associated development) permitted by planning authorities adhering to the Guidelines
	BFF3: To avoid significant impacts on relevant habitats, species, environmental features or other sustaining resources in designated sites including Wildlife Sites and Areas of Special Scientific Interest and to ensure compliance with the Wildlife Acts 1976-2010 with regard to the protection of listed species	BFF3i: Avoid significant impacts on relevant habitats, species, environmental features or other sustaining resources in designated sites including Wildlife Sites and Areas of Special Scientific Interest resulting from development provided for by the Guidelines	BFF3i: Number of significant impacts on relevant habitats, species, environmental features or other sustaining resources in designated sites including Wildlife Sites and Areas of Special Scientific Interest resulting from wind energy development (including associated development) permitted by planning authorities adhering to the Guidelines
		BFF3ii: No significant impacts on the protection of listed species	BFF3ii: Number of significant impacts on the protection of listed species resulting from wind energy development (including associated development) permitted by planning authorities adhering to the Guidelines

[14] 'Annexed habitats and species' refer to those listed under Annex I, II & IV of the EU Habitats Directive and Annex I of the EU Birds Directive.
[15] Except as provided for in Section 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/project to proceed; and (c) adequate compensatory measures in place.

Related to SEA Topic(s)	Objectives	Targets	Indicators
Soil (S)	S1: To avoid damage to the stability of soil	S1i: For all grants of permission to consider the findings of landslide/bogburst susceptibility assessments S1ii: No landslides or bogbursts occurring as a result of new wind energy or associated development from these Guidelines	S1i: Consideration of landslide/bogburst susceptibility assessments by the development management process at planning authorities S1ii: Number of landslides or bogbursts resulting from wind energy development (including associated development) permitted by planning authorities adhering to the Guidelines
	S2: To minimise damage to the hydrogeological and ecological function of the soil resource	S2: To minimise reductions in soil extent and hydraulic connectivity	S2: Development management process at planning authorities to ensure that changes in soil extent and hydraulic connectivity are minimised

Related to SEA Topic(s)	Objectives	Targets	Indicators
Water (W)	W1: To contribute towards maintaining and improving, where possible, the quality and status of surface waters	W1: 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[16]	W1: 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 wind energy development (including associated development) permitted by planning authorities adhering to the Guidelines
	W2: To contribute towards maintaining and improving, where possible, the chemical and quantitative status of groundwaters	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	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
	W3: To comply as appropriate with the provisions of the Planning System and Flood Risk Management: Guidelines for Planning Authorities (DEHLG, 2009)	W3: Avoid wind energy developments which are at elevated risk of flooding or would significantly increase flood risk elsewhere	W3: Number of incompatible developments which are at elevated risk of flooding or would significantly increase flood risk elsewhere resulting from permission by planning authorities adhering to the Guidelines

[16] 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.

Related to SEA Topic(s)	Objectives	Targets	Indicators
Air and Climatic Factors (AC)	AC1: To contribute towards the achievement of targets relating to renewable energy and greenhouse gas emissions	AC1: Increase in generation of electricity from wind energy development to contribute towards achievement of targets relating to renewable energy and greenhouse gas emissions in line with rolling Government targets	AC1i: Percentage electricity consumption from renewable energy AC1ii: Amount of renewable energy electricity from wind energy
	AC2 (and PHH1): To protect populations and human health from exposure to incompatible wind energy development such as that which may arise from noise, shadow flicker or landslides/bog bursts, for example	AC2 (and PHH1): Avoid wind energy developments which would be likely to result in deterioration in human health arising from environmental factors	AC2 (and PHH1): Number of instances of deterioration in human heath resulting from wind energy development (including associated development) permitted by planning authorities adhering to the Guidelines
Material Assets (MA)	MA1: To maximise the use of existing infrastructure and services	MA1: All lower tier assessments to address reasonable alternatives for the location of new wind energy developments, and where existing infrastructural assets such as sub-stations, powerlines and roads already exist within proposed development areas, then such assets should be considered for sustainable use by the proposed development where the assets have capacity to absorb the new development	M1: Addressing of reasonable alternatives (within SEA Environmental Reports and Environmental Impact Assessment Reports, where relevant) for the location of new wind energy developments within areas that already accommodate turbines, sub-stations, powerlines and roads until these areas reach capacity

Related to SEA Topic(s)	Objectives	Targets	Indicators
Cultural Heritage (CH)	CH1: To contribute towards the protection of archaeological heritage (including entries to the Record of Monuments and Places) and its context	CH1: Contribution towards the protection of archaeological heritage (including entries to the Record of Monuments and Places) and its context	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 wind energy development (including associated development) permitted by planning authorities adhering to the Guidelines
	CH2: To contribute 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	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	CH2: Percentage of entries to the Record of Protected Structures and Architectural Conservation Areas and their context protected from significant adverse effects resulting from wind energy development (including associated development) permitted by planning authorities adhering to the Guidelines
Landscape (L)	L1: To avoid or, where infeasible, minimise conflicts with the appropriate protection of statutory designations relating to the landscape, including those included in the land use plans of planning authorities	L1: No unmitigated conflicts with the appropriate protection of statutory designations relating to the landscape	L1: Number of unmitigated conflicts with the appropriate protection of statutory designations relating to the landscape, resulting from wind energy development (including associated development) permitted by planning authorities adhering to the Guidelines
	L2 (and PHH2): To protect use of and access to amenities including rights of way, parks, playing fields and walk and cycle ways	L2 (and PHH2): To avoid and minimise disruption to use of and access to amenities including rights of way, parks, playing fields and walk and cycle ways	L2 (and PHH2): Disruption to use of and access to amenities including rights of way, parks, playing fields and walk and cycle ways

7.1 Indicators and Targets

The Indicators and Targets (and associated Strategic Environmental Objectives) will be considered and updated over the duration of the baseline data collection and assessment, and through the consultation process.

Measurements for indicators generally come from existing monitoring sources. Existing monitoring sources include those maintained by planning authorities and the relevant environmental bodies e.g. the Environmental Protection Agency, the National Parks and Wildlife Service or the National Monuments Service.

The establishment of a system for collating compliance of wind energy developments, granted permission, with the relevant provisions contained within the Guidelines will be explored.

7.2 Impacts, Mitigation and Monitoring

In line with the requirements in the legislation the likely significant effects on the environment will be assessed. This includes reference to secondary, cumulative, synergistic, short, medium and long term, permanent and temporary, positive and negative effects as well as the interrelationships between the environmental issue areas. Where possible and practical, assessment of these impacts will be quantitative. Any problems encountered during the assessment of impacts, including technical difficulties and/or lack of information, will be highlighted and described, as appropriate.

With regard to cumulative impacts, the use and application of Geographical Information Systems (GIS) will be considered, where possible, at the various key stages in the SEA process. GIS, along with other methodologies and depending on the availability of relevant spatial data, will assist in determining the cumulative vulnerability of various environmental resources nationally / regionally for the Guidelines.

Where significant adverse impacts are identified during the SEA process, relevant and appropriate mitigation measures will be provided in the Environmental Report. High level provisions that may be integrated into the draft proposed WEDG (in addition to those set out in the "preferred draft approach"), subject to the outcome of the SEA process, include those relating to: the protection of European Sites and protected species (such as birds and bats); the undertaking of lower-tier environmental assessments (SEA/EIA/AA/FRA), including in compliance with the most up-to-date legislation; Construction and Environmental Management Plans; and the taking into account of environmental sensitivities and opportunities – including those relating to ecology – in site location, extent, layout and design.

The SEA Directive requires that the significant environmental effects of the implementation of plans and programmes are monitored. The SEA Environmental Report that will accompany the WEDGs will detail the measures which will be used in order to monitor the likely significant effects of implementing the Guidelines. Monitoring can enable, at an early stage, the identification of unforeseen adverse effects and the undertaking of appropriate remedial action. The detailed monitoring programme provided by the SEA will include indicators, sources of indicators, responsibilities and reporting arrangements (including frequency and dissemination arrangements). As part of the monitoring programme, relevant and

appropriate thresholds will be included to determine when remedial action is required for the particular aspect of the environment being monitored. The SEA will seek to use existing monitoring reporting arrangements, as relevant and appropriate, to inform monitoring.

7.3 Outline of Alternatives

The assessment of reasonable alternatives as part of the SEA process is required as part of an Environmental Report under Article 5(1) of the SEA Directive. Alternatives can be described as a range of options available to the guideline makers for delivering the objectives of the Guidelines. The identification of alternatives enables more informed decision-making and the assessment allows more sustainable options to be identified. The strategic alternatives to be considered must be realistic, reasonable and relevant. Recent EPA guidance on development of alternatives will be considered in the development of alternatives.

As higher level government policy, the "preferred draft approach" (please refer to Section 2.1) sets the broad scope of the review of the Guidelines and it is within this scope that SEA alternatives will be considered.

8. Next Steps

The process is currently at a stage where this SEA Scoping Report has been prepared.

Taking into account the content of this report and continuous scoping of the SEA, an SEA Environmental Report will be prepared that will accompany the Draft Guidelines on public display.

In parallel to this assessment, Appropriate Assessment (AA) Screening (and AA where necessary) and Strategic Flood Risk Assessment (SFRA) Screening will also be undertaken and these will inform the SEA and development of the proposed revised WEDG.

Appendix I: SEA Scoping Workshop Agenda and Minutes

Agenda and Minutes

Strategic Environmental Assessment (SEA)
Scoping Workshop for the
Wind Energy Development Guidelines

Department of Housing, Planning and Local Government, Custom House, Dublin 1

2 pm, 22nd January 2018

Attendees from Environmental Authorities
Tadhg O'Mahony (by VC), Tara Higgins (by VC) and Cian O'Mahony, EPA[1]
Paul Ahern, DCCAE[2]
Jervis Good and Nicky Matthews, DCHG[3]

Regrets
Mark Hammon, Northern Ireland Environmental Authority
Liz McDonnell, DAFM[4]

Departmental Attendees
Eamonn Kelly, Ciara Gallagher and Niamh Drew, DHPLG[5]
Philip Newsome, DCCAE[6]
Kasia Kozlowska, David L'Estrange (Chair), Conor Skehan and Andrew Torsney, CAAS Ltd.

Agenda Item 1: **Introductions**

Agenda Item 2 (a): **Overview of WEDGs progress to date – provided by Niamh Drew**

- Focused review of the Guidelines started in 2013
- In line with the published Draft Preferred Approach for the WEDGs, the revision to the Guidelines will focus on issues including Noise Limits, Noise Monitoring, Visual Amenity Setback, Shadow Flicker, Consultation Obligations and Community Dividend.
- Draft revised Guidelines, incorporating the draft preferred approach, will go on public display at the beginning of March.
- Public display will be for a greater amount of time than the minimum statutory requirement.

Agenda Item 2 (b): **Overview of SEA process to date – provided by David L'Estrange**

- SEA is being undertaken on the new Guidelines
- AA and SFRA Screening are also being undertaken
- The SEA is currently at the scoping stage whereby environmental authorities are being consulted on the issues that the SEA will consider as well as the level of detail to which they will be addressed

[1] Environmental Protection Agency
[2] Department of Communications, Climate Action and Environment
[3] Department of Culture, Heritage and the Gaeltacht
[4] Department of Agriculture, Food and the Marine
[5] Department of Housing, Planning and Local Government
[6] Department of Communications, Climate Action and Environment

- A Draft SEA Scoping Report has been circulated to environmental authorities
- Suggestions or recommendations made will be documented and considered for integration into the SEA Scoping Report

Agenda Item 3: **Input from environmental authorities**

Table 1 (overleaf) identifies Scoping Questions that were used to inform input from environmental authorities. Issues raised by environmental authorities and associated responses are provided at Table 2.

The DAERA response to the scoping notice was also briefly outlined.

Agenda Item 4: **Timeline for written scoping submissions**

The closing date for submissions is 24th January 2018 however submissions received by 2nd February will be considered.

Agenda Item 5: **AOB**

No other business identified.

Table 1: Scoping Questions to inform input from Environmental Authorities

Question No.	Section of Draft SEA Scoping Report	Question
1	4	Should any additional plans, programmes etc. be included?
2	5	Should any additional "Potential Significant Environmental Issues for Consideration in the Environmental Report" be included?
3	5 and 7	Should any additional SEA objectives, targets or indicators be included?
4	6	Should any additional potential sources of information or associated extents of assessment be included?

Table 1: Issues raised by environmental authorities and associated responses

No.	Authority	Issue Raised	Response
1	DCHG	Need to ensure robust AA screening and proceed to Stage 2 where appropriate	AA Screening will be robust and will proceed to Stage 2 where appropriate, as identified in the SEA Scoping Report
2	DCHG	Need to take into account Case Law including that relating to renewal of wind farms	Case law will inform the preparation of the Guidelines and the assessments. The scope of the Guidelines' review will be expanded upon in the SEA Scoping Report (the new Guidelines will only apply to planning applications for future wind farm developments and will not apply to the renewal/repowering of existing wind farms).
3	DCHG	The AA should examine the feasibility of locating wind farms in SPAs	The AA will consider potential effects of wind farms on European Sites including SPAs
4	EPA	The SEA should consider interactions with the following plans/ programmes/ policies etc.: • Renewable Electricity Policy and Development Framework (in/pending preparation) • National Landscape Character Assessment (in/pending preparation) • Regional Spatial and Economic Strategies (in/pending preparation) • Grid25 Implementation Plans • WFD River basin management plans • CFRAMS Flood Risk Management Plans • Regional waste management plans • Plan for Forestry and Freshwater Pearl Mussel in Ireland (in/pending preparation) • Marine Spatial Plan for Ireland (in/pending preparation) • Offshore Renewable Energy Development Plan (OREDP)	Where not included within the SEA Scoping Report under Section 4 "Other relevant plans and programmes" these plans/ programmes/ policies etc. will be included.
5	DCHG	Species level information from organisations such as NPWS (Hen Harrier Dataset), Birdwatch Ireland (Important Bird Areas) and Eurobats could be a useful source of information, including for lower tier assessments	Species/habitats information from organisations such as Birdwatch Ireland and Eurobats will be identified as a "Potential Data Source" on Table 6.1 of the SEA Scoping Report
6	DCHG	Whether to issue Further Information requests or EIA Planning Conditions could be an issue at project level	Such issues are beyond the scope of the review and may be addressed by other governmental Guidelines
7	DCHG	There are various potential issues associated with wind farm development within peatlands: • Erosion of peatlands as a result of wind farm and ancillary infrastructure (e.g. roads) development, alone and in combination with forestry • Providing for run-off attenuation in peatlands • Carbon emissions balance when developing wind farms and peat extraction is needed.	These issues will be incorporated into the SEA Scoping Report as "Potential Significant Environmental Issues"

No.	Authority	Issue Raised	Response
8	EPA	Will there be separate Guidelines for noise monitoring	Additional information and requirements with respect to noise will be included in the revision of the Guidelines
9	EPA	There is a potential data gap in environmental information with respect to landscape	To note this potential data gap in Table 6.1 of the SEA Scoping Report
10	EPA	EPA funded mapping of environmental data and sensitivity mapping could be a useful data source	To identify these data sources as "Potential Data Sources" on Table 6.1 of the SEA Scoping Report
11	EPA	Cross border issues in border counties is an important issue and it would be useful to consider Guidelines in Northern Ireland for Wind Energy Development	The following documents will be included under Section 4 "Other relevant plans and programmes": • Northern Ireland's Environment Authority's Wind Energy Development in Northern Ireland's Landscapes • The Planning Service's "Renewable Energy: Wind Farm Development Information Leaflet"
12	EPA	Flood risk issues including availability of second phase of CFRAMS maps for agricultural lands and local communities in the future	The Guidelines will be subject to a high-level flood risk screening, the findings of which will be integrated into the SEA. Recommendations arising will be integrated into the revised Guidelines.
13	EPA	It will be essential to ensure integration of the SEA process into the Guidelines and vice-versa. Communication and the Plan-preparation/SEA iterative process is essential. It is essential to show how the Plan has been informed by the SEA in the SEA Environmental Report.	Agreed. Additional text will be added to Section 3.1.3 "Environmental Assessment" identifying the approach for this.
14	EPA	Specific consideration should be given to landscape interactions in marine and island areas where there may be limited assimilative capacity	Landscape interactions in marine and island areas where there may be limited assimilative capacity will be incorporated into the SEA Scoping Report as "Potential Significant Environmental Issues" under the topic of Landscape
15	EPA and DCHG	Suggested updates to SEA objectives, indicators and targets: • Target for Soil S1ii: suggest adding "from these Guidelines at the end of the Target" • Objectives, targets and indicators relating to Water: suggest adding reference to assessments under Article 4 of the Water Framework Directive. • Identify interactions between environmental topics under each environmental topic. • Indicator BFF2: suggest replacing "loss of" with "change in"	All of these suggestions will be considered for integration into the SEA Scoping Report.

No.	Authority	Issue Raised	Response
16	DCCAE	The DCCAE are broadly satisfied with the Scoping Report and it addresses the most important issues. Potential positive effects include those relating to air and climatic factors and the achievement of targets relating to renewable energy and greenhouse gas emissions. It will be important to consider the Energy White Paper, the National Mitigation Plan and European policy addressing renewable energy and environmental protection.	The SEA will identify the positive effects, as well as the negative effects, of implementing the Guidelines, including those relating to air and climatic factors and the achievement of targets relating to renewable energy and greenhouse gas emissions. The Energy White Paper, the National Mitigation Plan and European policy addressing renewable energy and environmental protection are included within the SEA Scoping Report and will be considered by the SEA process.
17	EPA	The status of the Preferred Draft Approach and associated implications for SEA alternatives should be considered.	The status of the Preferred Draft Approach and its implications for SEA alternatives will be identified in the SEA Scoping Report.
18	DCHG	In addition to the "Potential Significant Environmental Issues" identified in Section 5 of the Scoping Report, indivisibility and interrelationships between monuments and structures within the wider landscape should be included To identify the following additional data sources in the SEA Scoping Report: • NIAH Garden Survey • Indivisibility and interrelationships between monuments and structures within the wider landscape • Demesne landscapes • World Heritage Sites • Environmental Sensitivity Mapping	To add indivisibility and interrelationships between monuments and structures within the wider landscape to the "Potential Significant Environmental Issues" at Section 5 of the Scoping Report. To identify the following additional data sources in the SEA Scoping Report: • NIAH Garden Survey • Indivisibility and interrelationships between monuments and structures within the wider landscape • Demesne landscapes • Environmental Sensitivity Mapping
19	Various	Other high-level provisions that may be integrated into the revision of the Guidelines (in addition to those set out in the Preferred Draft Approach) subject to the outcome of the SEA process include those relating to the protection of European Sites, the undertaking of lower-tier environmental assessments (SEA/EIA/AA/FRA), Construction and Environmental Management Plans, taking into account environmental sensitivities and opportunities – including those relating to ecology – in site location, extent, layout and design	These issues will be consider later in the assessment process.
20	Various	Any environmental problems should be identified where known from published sources and contextualised where identified	Any environmental problems will be identified where known from published sources and contextualised where identified
21	EPA	What is the plan for monitoring and reporting on indicators	The SEA will include a detailed monitoring programme including indicators, sources of indicators, responsibilities and reporting arrangements (including frequency and dissemination arrangements). The SEA will seek to use existing monitoring reporting arrangements to inform monitoring.

Appendix II: SEA Scoping Submissions and Responses

SEA Scoping Submissions and Responses – January/February 2018 and October 2018

A. Submissions from the Department of Agriculture, Food and the Marine

January 2018 Submission

No.	Submission Text	Response
1	Any revised guidelines must include a requirement to review the impact of the development on site drainage and also the impact of the access roads/tracks separately to the impact of the actual wind turbines.	Recommendations are being integrated into the Guidelines in relation to these issues. It is noted that the existing Guidelines that are already in force and legislative requirements relating to EIA require consideration of such issues.
2	The impact of the access roads/tracks needs to be reviewed in relation to their impact on site drainage, road drainage, run-off from the roads, etc.	Drainage issues, including quality of run-off, arising from wind farms and any ancillary infrastructure such as access roads are included as "Potential Significant Environmental Issues for Consideration in the Environmental Report" detailed under Section 5.3.4 of the SEA Scoping Report.

October 2018 Submission

No.	Submission Text	Response
1	If the proposed developments will involve the felling or removal of any trees, the developer must obtain a Felling License from this Department before trees are felled or removed. A Felling Licence application form can be obtained from Felling Section, Department of Agriculture, Food and the Marine, Johnstown Castle Estate, Co. Wexford. Tel: 076-1064459, Web https://www.agriculture.gov.ie/forestservice/treefelling/treefelling/ A Felling Licence granted by the Minister for Agriculture, Food and the Marine provides authority under the Forestry Act 2014 to fell or otherwise remove a tree or trees and/or to thin a forest for silvicultural reasons. The Act prescribes the functions of the Minister and details the requirements, rights and obligations in relation to felling licences. The principal set of regulations giving further effect to the Forestry Act 2014 are the Forestry Regulations 2017 (S.I. No. 191 of 2017). The developer should take note of the contents of Felling and Reforestation Policy document which provide a consolidated source of information on the legal and regulatory framework relating to tree felling; https://www.agriculture.gov.ie/media/migration/forestry/treefelling/FellingReforestationPolicy240517.pdf . In order to ensure regulated forestry operations in Ireland accord with the principles of sustainable forest management (SFM) , as well as fulfilling the requirements of other relevant environmental protection laws, the Department (acting through its Forest Service division) must undertake particular consultations and give certain matters full consideration during the assessment of individual Felling Licence applications.	The Guidelines are planning guidelines and focus on the planning requirements in relation to wind energy developments. All other consents outside of planning must also be complied with. As the Guidelines do not mention all other consents/ requirements that must be complied with, it would not be appropriate to single out this one consent process.

No.	Submission Text	Response
	This includes consultation with relevant bodies, the application of various protocols and procedures (e.g. Forest Service Appropriate Assessment Procedure), and the requirement for applicants on occasion to provide further information (e.g. a Natura Impact Statement). Consequently, when the Forest Service is considering an application to fell trees, the following applies: 1. The interaction of these proposed works with the environment locally and more widely, in addition to potential direct and indirect impacts on designated sites and water, is assessed. Consultation with relevant environmental and planning authorities may be required where specific sensitivities arise (e.g. local authorities, National Parks & Wildlife Service, Inland Fisheries Ireland, and the National Monuments Service); 2. Where a tree Felling Licence application is received, the Department will publish a notice of the application before making a decision on the matter. The notice shall state that any person may make a submission to the Department within 30 days from the date of the notice. The notices for 2018 are published online at: https://www.agriculture.gov.ie/ forestservice/publicconsultation/ environmentalimpactassessmenteiapublicconsultationforafforestationforestroadconstructionandfellinglicenses2018/ 3. Third parties that make a submission or observation will be informed of the decision to grant or refuse the licence and on request details of the conditions attached to the licence, the main reasons and considerations on which the decision to grant or refuse the licence was based, and where conditions are attached to any licence, the reasons for the conditions. Both third parties and applicants will be also informed of their right to appeal any decision within 28 days to the Forestry Appeals Committee. Felling Licence decisions for 2018 are published online at: https://www.agriculture.gov.ie/forestservice /publicconsultation/environmentalimpactassessment-2018registerofdecisions/	

B. Submissions from the Department of Culture, Heritage and the Gaeltacht

January 2018 Submission

No.	Submission Text	Response
1	**<u>Nature Conservation</u>** The Department refers to your correspondence of 20/12/17 regarding the review of the 2006 Wind Energy Development Guidelines, and the preparation of new 2018 guidelines. Reference is also made to the documentation provided, including the draft SEA scoping document, and to the SEA scoping workshop which was held on 22/01/18 and was attended by staff of this Department.	Noted.
2	*Context of observations* The current observations are offered to assist your Department in meeting the obligations that arise in relation to European sites, other nature conservation sites, natural habitats and protected species, and biodiversity in general in the context of the new guidelines and the environmental assessments that may be required. While the context of your correspondence is the scope of the SEA, the opportunity has been taken to make observations in relation to the guidelines and the appropriate assessment process.	Noted.
3	This submission should be read as a whole by any teams or individuals involved in the preparation of the guidelines and any associated reports. It is expected that the advice and observations of the Department at the SEA scoping workshop will be taken into account, and only key points are reiterated below. These observations are not exhaustive and are made without prejudice to any observations or recommendations that may be made by the Minister and this Department in the future.	Noted.

No.	Submission Text	Response
4	The guidelines should provide the most up-to-date advice and guidance for competent authorities on the SEA, EIA and AA processes, including screening, and taking the specific requirements of current legislation (and legislation in preparation) into account. This is particularly important where legislation and jurisprudence post-date available guidance documents on the environmental assessment processes. The failure of competent authorities to demonstrate that there has been full compliance with the requirements of the assessment processes, including in decision making, has been a reason for the negative outcomes of a number of wind energy projects.	As higher level government policy, the Departments' "referred draft approach" sets the broad scope of the review of the Guidelines. The revised Guidelines will offer advice to planning authorities on planning for wind energy through the development plan process and in determining applications for planning permission. They sit in a wider framework of policy, planning legislation and other detailed guidance on SEA, EIA and AA. Where significant adverse impacts are identified during the SEA process, relevant and appropriate mitigation measures will be provided in the Environmental Report. High level provisions that may be integrated into the revision of the Guidelines (in addition to those set out in the Preferred Draft Approach), subject to the outcome of the SEA process, include those relating to: the protection of European Sites and protected species (such as birds and bats); the undertaking of lower-tier environmental assessments (SEA/EIA/AA/FRA), including in compliance with the most up-to-date legislation; Construction and Environmental Management Plans; and the taking into account of environmental sensitivities and opportunities – including those relating to ecology – in site location, extent, layout and design.
5	*Environmental assessments required* The Department understands that it has been determined that the revised guidelines constitute a 'plan' for the purposes of the SEA Directive and associated legislation, and will be subject to SEA. It is also understood that screening for appropriate assessment is being carried out. Among other things, consideration should be given to whether the guidelines constitute a: • 'land use plan' for the purposes of Part XAB, Section 177R of the Planning and Development Act, 2000 as amended • 'plan' for the purposes of Part 1 of the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477 of 2011) (as amended) This is required to establish which legislation, if any, applies to the appropriate assessment process, including the screening stage, and to establish the plan-maker's obligations, whether as the competent authority or public authority, in relation to appropriate assessment. A public authority making a plan is obliged to notify the Minister for CHG if an appropriate assessment is required.	It has been established that the Guidelines are a 'plan' for the purposes of the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477 of 2011) (as amended). The Minister of Culture, Heritage and the Gaeltacht will be notified at public display of the Draft Guidelines that a Stage 2 AA is being undertaken.
6	The guidelines as a whole must be subject to any screenings or environmental assessments required.	The review of the Guidelines is being subject to SEA. In parallel to this assessment, a Stage 2 Appropriate Assessment is being undertaken and a Flood Risk Statement is being prepared; these are informing the SEA and development of the proposed revised WEDG.

No.	Submission Text	Response
7	It is understood that the revised Wind Energy Development Guidelines will refer only to *new* onshore wind energy developments (including extensions of existing wind farms) which have not previously been granted planning permission, and not to modifications, upgrading or renewals of wind energy developments which have already received planning permission or have been constructed. However, it is assumed that where planning permission has lapsed without commencement of construction, the revised Wind Energy Development Guidelines will apply to any new planning applications for such developments. Notwithstanding the above, there should also be consideration of, and reference to, any applicable plans and associated guidance, and to EirGrid's Implementation Plan 2017-2022, in general and not only in the context of the assessment of cumulative and in-combination effects.	Initially, it was the intention that the new Guidelines would apply to future planning applications for new onshore wind energy developments and not to the repowering or renewals of existing wind energy developments currently in operation. However, it was subsequently decided that, as well as applying to planning applications for new onshore wind energy developments, all elements and provisions of the new Guidelines will also apply equally to applications relating to the repowering or renewal of existing wind energy developments currently in operation. On foot of this decision to update the scope of the Guidelines, a decision was made to issue new SEA scoping notices to environmental authorities. The Department made a subsequent submission in response to this new notice and this submission (October 2018) is responded to below. Reference has been made to the Eirgrid's Grid25 Strategy and Implementation Programme under Section 4. "Other relevant plans and programmes".
8	While the Specific Planning Policy Requirements are to form the core of the changes in the revised Guidelines, if SEA is required, then it should be carried out for the Guidelines in their entirety.	The SEA will consider potential likely significant environmental effects arising from proposed revised Guidelines, to consist of the existing 2006 Guidelines with the new revisions to same.

No.	Submission Text	Response
9	Some paragraphs and appendices of the 2006 Guidelines are now out-of-date and need to be revised to include up-to-date documentation and recommendations. A supplementary list of some suggested documentary amendments may be forwarded in the next week or so, although it will be up to the specialist assessors to ensure a comprehensive up-date in the final draft. However, examples of some general issues may need to be considered in the SEA Scoping are: • Carbon emissions from peatland sites being excavated for wind energy developments are not generally undertaken in wind energy EIAs. The use of carbon calculator has been developed in Scotland (http://www.gov.scot/WindFarmsAndCarbon). • Unintended conflicts in application of general guidance, e.g. the need for attenuation ponds in wind energy development in upland peatland to avoid downstream erosion of salmon spawning gravels in streams and rivers, and issues with the excavation and stability of peatlands for such a purpose. • The use of planning conditions by planning authorities to 'make-up' for deficiencies in EIS and NIS (Natura Impact Statements), especially concerning baseline data (see p. 24 of the 2006 guidelines, paragraph 4, last sentence). • Implication of a 'balancing decision' by planning authorities with regard to effects on designated sites (e.g. see p. 24 of the 2006 guidelines, paragraph 5). • Potential confusion of mitigation and compensatory measures when considering projects which are likely to have an adverse effect on sites. Paragraph 6 on p. 24 of the 2006 guidelines should reflect Article 6(4) of the EU Habitats Directive more clearly. In particular, the European Commission (2011) guidance document, Wind Energy Development and Natura 2000, should be taken into account.	Comments on specific parts of the Guidelines will be considered as part of the review of the Guidelines. All parts of the review of the Guidelines, including those arising in response to the issues raised in the Department's submission shall be considered by the SEA and AA. "Drainage issues, including quality of run-off, arising from wind farms and any ancillary infrastructure such as access roads" and "Providing for run-off attenuation in peatlands" have been included in the SEA Scoping Report as "Potential Significant Environmental Issues for Consideration in the Environmental Report". The European Commission (2011) guidance document, Wind Energy Development and Natura 2000, will be taken into account by the AA process.
10	It is recommended that the option of an additional Specific Planning Policy Recommendation of excluding any new wind energy developments from upland Special Protection Areas is included in the screening for appropriate assessment.	Where potential effects are identified by the AA, mitigation will be recommended as relevant. This option was not considered necessary in the recommending of mitigation.
11	In addition, the guidance document, Bird sensitivity mapping for wind energy developments and associated infrastructure in the Republic of Ireland (BirdWatch Ireland, 2015) should be considered in the screenings and environmental assessments required.	Species level information from organisations such as Birdwatch Ireland is identified as a "Potential Data Source" on Table 6.1 of the SEA Scoping Report
12	*SEA – Biodiversity, flora and fauna* Biodiversity is generally defined as the variety of life on earth. An outline of key elements of biodiversity of potential relevance to the strategy is given in Appendix 1, and includes sites, habitats, species of flora and fauna, and ecological networks. There are interrelationships between biodiversity, flora and fauna and most other environmental issues or topics, including population, human health, water, soil, air, climatic factors, landscape, and possibly architectural and archaeological heritage. The potentially significant effects of the strategy on these interdependencies should be explored and assessed in the SEA.	The "Potential Significant Environmental Issues for Consideration in the Environmental Report" identified under Section 5 of the SEA Scoping Report address these issues. Interrelationships between biodiversity and flora and fauna and other environmental components will be considered by the SEA.
13	There will be overlaps and linkages between biodiversity, flora and fauna in SEA, and sites, habitats and species of relevance to the appropriate assessment and Articles 6(3) and 6(4) of the Habitats Directive. SEA should address all such issues in general, as well as any other relevant provisions of the Habitats and Birds Directives, including in respects of Article 6(1), 6(2) and 10 of the Habitats Directive, and associated national legislation. See also the general duties of a public authority below.	The "Potential Significant Environmental Issues for Consideration in the Environmental Report" identified under Section 5 of the SEA Scoping Report address these issues.

No.	Submission Text	Response
14	The strategy should be developed to integrate biodiversity considerations in a positive, proactive and precautionary way, and this should be reflected in the text and content of the strategy, including its aims, objectives and policies, as well as in any associated maps. The findings and recommendations of SEA should be assimilated into the strategy, and should modify its content where necessary.	The review of the Guidelines will integrate environmental considerations as relevant and appropriate. The SEA will make recommendations for integration into the Guidelines and the SEA Environmental Report will identify how environmental considerations have been integrated into the Guidelines.
15	The biodiversity, flora and fauna section of the Environmental Report should be prepared by or in conjunction with a suitably qualified ecologist(s), and other specialists as necessary, and in conjunction with the NIS (if required) to ensure full integration of biodiversity issues and concerns. The EPA's *Integrated Biodiversity Impact Assessment* best practice guidance is of relevance in this regard.	The biodiversity, flora and fauna section of the SEA Scoping Report will be informed by material and publications prepared by qualified ecologists, including in relation the findings of the AA process that is being undertaken alongside the preparation of the SEA process. Many elements of Integrated Biodiversity Impact Assessment as detailed in the EPA's (2013) Practitioner's Manual will be aligned with in undertaking SEA for the Guidelines.
16	*SEOs* The Environmental Report is required to contain information on environmental protection objectives which are established at international to national level, and are relevant to the strategy. For biodiversity, flora and fauna, these should integrate with the objectives and obligations of other directives such as the Habitats Directive, the Birds Directive, the Water Framework Directive and the Floods Directive, and with the Wildlife Acts, 1976-2000, and the National Biodiversity Plan.	SEA Environmental Objectives The SEA Environmental Report will contain information on environmental protection objectives that are established at international to national level, and are relevant to the Guidelines. The objectives are also included in the SEA Scoping Report and include those relating to biodiversity and flora and fauna.
17	*SEA monitoring* The monitoring programme should be clearly set out and developed in such a manner as to ensure it will identify the effects on the environment that will or may arise, and to monitor the effectiveness of any mitigation measures on which the assessment relies. While it may be considered efficient to use monitoring programmes that are already in place and run by other authorities, it is important to establish that these are in fact designed in such a way that they will identify the effects anticipated from the particular strategy in question. As such, it is important to understand the objectives, methodologies, parameters, assumptions, etc. of any existing monitoring programme that is proposed to be used in such a way. It is advisable to set out clearly where responsibilities for monitoring programmes lie, and their frequency and reporting/publication arrangements, as well as the procedures that will be put in place to ensure that there is a response mechanism to any unforeseen or undesirable negative effects/results, and that remedial action will be taken, if necessary.	The SEA Directive requires that the significant environmental effects of the implementation of plans and programmes are monitored. The SEA will detail the measures which will be used in order to monitor the likely significant effects of implementing the Guidelines. Monitoring can enable, at an early stage, the identification of unforeseen adverse effects and the undertaking of appropriate remedial action. The detailed monitoring programme provided by the SEA will include indicators, sources of indicators, responsibilities and reporting arrangements (including frequency and dissemination arrangements). As part of the monitoring programme, relevant and appropriate thresholds will be included to determine when remedial action is required for the particular aspect of the environment being monitored. The SEA will seek to use existing monitoring reporting arrangements, as relevant and appropriate, to inform monitoring.

No.	Submission Text	Response
18	*Available guidance* Existing EU and Irish guidance on SEA and appropriate assessment should be followed in general terms when carrying out the environmental assessments, but cognisance should also be taken of changes in the interpretation and application of Directives and national legislation arising from European and Irish jurisprudence, particularly in respect of Article 6 of the Habitats Directive. There should be due regard to the terminology, stages and tests of the assessment processes as set out in relevant legislation, notably in the case of the appropriate assessment process. Where legislation updates or amends elements of existing guidance, the former should be used or applied in preference in all cases.	Legislation, case law and guidance will inform the preparation of the Guidelines and the assessments.
19	*Available ecological information* The National Parks and Wildlife Service website (www.npws.ie) is a key source of data, information and publications on nature conservation sites and biodiversity issues of potential relevance to the plan area and the environmental assessment(s) required. This includes site boundaries, site synopses, lists of qualifying interests (SACs) and special conservation interests (SPAs), conservation objectives (European sites), features of interest (NHAs), and dates of site designation. GIS datasets are available for download for nature conservation sites, and for certain habitats and species arising from various sources, including national surveys. Other NPWS-held data on habitats and species may be requested by submitting a 'Data Request Form'. Site-specific conservation objectives (SSCOs), and associated backing documents, are available for some European sites on the NPWS website. GIS datasets associated with site-specific conservation objectives are also available for download: https://www.npws.ie/protected-sites/conservation-management-planning/conservation-objectives . For all other European sites, generic conservation objectives are available and the most up-to-date versions should be used and referenced in any relevant documents. The full scope of conservation objectives should be used, as appropriate, to guide and inform the scope of the scientific assessment and analysis in an NIS. The most recent version of the conservation objectives should be used and referenced, and each of the individual conservation objectives of relevance should be addressed separately. The Habitats Directive Article 17 reports for 2007 and 2013, which should be consulted, are available from http://www.npws.ie/article-17-reports-0. The national report on Article 12 of the Birds Directive, at http://www.npws.ie/news/birds-directive-article-12-reporting, should also be consulted. The national habitat surveys that have been undertaken, and their resulting reports, should be consulted, including for information regarding the definitions and evaluations that have been developed for Annex I habitat types in Ireland. Data on biodiversity and ecological features will be available from various other sources including, for example: • Other organisations, e.g. National Biodiversity Data Centre, BirdWatch Ireland, Bat Conservation Ireland, etc. • SEA Environmental Reports for other plans and programmes • NIRs/NISs and other reports for other plans	The "National Parks and Wildlife Service (NPWS) online database" is included as a "Potential Data Sources for SEA of the Guidelines and lower tier assessments" in the SEA Scoping Report. This database will also be used as relevant by the AA.

No.	Submission Text	Response
20	*Appropriate assessment* The following advice is offered in the event that screening determines that an appropriate assessment is required. General notes on screening for appropriate assessment and the preparation of an NIS are included in Appendices 3 and 4, respectively, and should be taken into account where relevant. As outlined above, there should be due regard to the terminology, stages and tests of the appropriate assessment process as set out in relevant legislation. The terminology in Section 2.2.3 of the SEA scoping report should be reviewed in line with the applicable legislation. Screening for appropriate assessment is carried out to assess, in view of best scientific knowledge and in view of the conservation objectives of the relevant European site(s), if the plan, on its own or in combination with other plans or projects is likely to have a significant effect on the European site(s). The precautionary principle should be applied in reaching such determinations, i.e. where there is uncertainty or a lack of data or information, it should not be assumed that significant effects will not result. The potential in-combination effects of the following will need to be taken into account when carrying out screening for appropriate assessment and when preparing the NIS and carrying out the appropriate assessment. When an appropriate assessment is carried out by a public authority (or competent authority under planning legislation), it is required to take account of the (final) NIS, and should also address the content of submissions made where issues or concerns are raised regarding the likely effects on European sites. Any subsequent changes to a plan should also be assessed. Case law of the Court of Justice of the European Union (e.g. case C-258/11) has established that an appropriate assessment cannot have lacunae, and must contain complete, precise and definitive findings and conclusions with regard to the implications of a project for the conservation objectives and integrity of a European site or sites. The decision-making authority has obligations to address scientific uncertainties or discrepancies, including matters raised by other parties, particularly in relation to the implications for European sites and their conservation objectives in the appropriate assessment. The term, NIR, has application only in the case of statutory land use plans as defined in Part XAB of the Planning and Development Act, 2000 as amended. As defined in Part 1 of the European Communities (Birds and Natural Habitats) Regulations, 2011, and including DHPCLG, the EPA and local authorities 6 (e.g. judgment of Justice Barton (Irish High Court, January 2016) in the case of Balz and others versus An Bord Pleanála); the final determinations should demonstrate how the differing scientific opinions were resolved, noting the standards of the appropriate assessment as outlined above.	This advice relating to AA will be taken into account by the AA that is being carried out alongside the SEA and the review of the Guidelines. Legislation, case law and guidance will inform the preparation of the Guidelines and the assessments. A specific comment regarding “terminology in Section 2.2.3 of the SEA scoping report” has been made, however there is no Section 2.2.3 in the SEA Scoping Report. The terminology included in the SEA Scoping Report has been reviewed and is considered correct.

No.	Submission Text	Response
21	*General duties of a public authority* Your attention is drawn to Regulation 27 of the 2011 Regulations as this places particular duties on all public authorities in relation to European sites. Among other things, this includes a duty to exercise all functions, including but not only consent functions, in compliance with, and so as to secure compliance with the requirements of the Habitats and Birds Directives and the 2011 Regulations. Public authorities are obliged, when exercising their functions, to take appropriate steps to avoid in European sites the deterioration of natural habitats and the habitats of species, as well as disturbance of species for which a site has been designated insofar as this disturbance could be significant in relation to the objectives of the Habitats Directive. All public authorities are advised to incorporate such obligations into their plans and programmes, and associated assessments, as required and relevant. This could usefully include the development of systems that will monitor and ensure the compliance of "downstream" projects with these obligations, as well as any internal mechanisms that may be needed to ensure compliance.	Duties identified under Regulation 27 of the 2011 Regulations are noted.
22	Appendix 1, 2, 3 and 4	The information provided within these appendices will be considered throughout the SEA and AA processes.

October 2018 Submission

No.	Submission Text	Response
1	Nature Conservation A previous submission was made by the Department on 25 January 2018, on foot of the previous SEA Scoping Request, and the observations made therein should be taken into account when assessing the plan as it applies to upgrade, repowering or renewal of existing projects. The following additional points can be made, however, specifically relating to repowering or renewal of existing projects.	Noted. These submissions are identified above.
2	1. Renewed or repowered wind energy developments, within Special Protection Areas (SPAs) or upstream of (candidate) Special Areas of Conservation (SACs), will nearly always require appropriate assessment of their effects on the SPA or SAC, before permission for their extension of planning permission can be granted.	The need to undertake AA Screening (and further stages of AA, as relevant) for all applications for permission will be identified by the revised Guidelines.
3	2. Renewed or repowered wind energy developments, within 250m outside the boundary of upland SPAs designated for hen harrier, will nearly always require appropriate assessment of their effects on the SPA, before permission for their extension of planning permission can be granted.	The need to undertake AA Screening (and further stages of AA, as relevant) for all applications for permission will be identified by the revised Guidelines.
4	3. Renewed or repowered wind energy developments, in the catchment of SAC rivers designated for freshwater pearl mussel (as mapped in the European Union Environmental Objectives (Freshwater Pearl Mussel) (Amendment) Regulations 2018 (S.I. 355 of 2018), will nearly always require an appropriate assessment of their effects on the SAC, before permission for their extension of planning permission or repowering can be granted.	The need to undertake AA Screening (and further stages of AA, as relevant) for all applications for permission will be identified by the revised Guidelines.
5	4. Since the previous submission by this Department, there has been a significant judgement by the Court of Justice of the European Union which may affect the assessment of wind energy renewal and upgrade applications for planning permission in Special Protection Areas (SPAs). In Case C-164/17 (Peter Sweetman and Edel Grace vs. An Bord Pleanála, ESB Wind Development Ltd., and Coillte and the Department of Arts, Heritage and the Gaeltacht) the Court of Justice ruled that "the fact that the project includes measures to	Legislation, case law and guidance will inform the preparation of the Guidelines and the assessments.

No.	Submission Text	Response
	ensure that, after an appropriate assessment of the implications of the project has been carried out and throughout the lifetime of the project, the part of the site that is in fact likely to provide a suitable habitat will not be reduced and indeed may be enhanced may not be taken into account for the purpose of the assessment that must be carried out in accordance with Article 6(3) of the Habitats Directive to ensure that the project in question will not adversely affect the integrity of the site concerned; that fact falls to be considered, if need be, under Article 6(4) of the Habitats Directive." This particular case involved a wind farm project within a SPA designated for hen harrier in Co. Tipperary. Because it is considered that hen harriers avoid, or are ineffective at, hunting within 250m of operating turbines, it is concluded that this zone represents unavailable habitat during the operational lifetime of the wind farm. This unavailable habitat can be made up by providing suitable habitat elsewhere in the harrier's range (e.g. by early felling of forestry before the canopy closes). However, the Court ruled that this cannot be taken as mitigation (during the Article 6(3) appropriate assessment) but must be considered to be compensation (under the Article 6(4) process). In practical terms, this may mean that an existing wind-farm within a hen harrier SPA, which applies for extension of its planning permission or for an upgrade or repowering, may only be granted planning permission where it can pass the tests of Article 6(4) of the EU Habitats Directive. These are that the project is for imperative reasons over-riding public interest (which can be of a social or economic nature), that there are no alternatives, and that compensatory habitat is provided.	The need to undertake AA Screening (and further stages of AA, as relevant) for all applications for permission will be identified by the revised Guidelines.
6	5. Another Court of Justice of the European Union judgement, which could affect both new and renewing or upgrading wind farm projects, is Case C-323/17 (People over wind and Peter Sweetman vs. Coillte). The Court ruled that "Article 6(3) of Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora must be interpreted as meaning that, in order to determine whether it is necessary to carry out, subsequently, an appropriate assessment of the implications, for a site concerned, of a plan or project, it is not appropriate, at the screening stage, to take account of the measures intended to avoid or reduce the harmful effects of the plan or project on that site." This Judgement may result in an increased number of wind-farm projects requiring appropriate assessment. This includes project-types, such as wind-farm projects in the catchments of rivers designated as SACs, which may in the past have been screened out for appropriate assessment on the basis that significant effects on a European site(s) could be avoided by taking mitigation measures into account as part of the screening process.	Legislation, case law and guidance will inform the preparation of the Guidelines and the assessments. The need to undertake AA Screening (and further stages of AA, as relevant) for all applications for permission will be identified by the revised Guidelines.

C. Submissions from the Department of Communications, Climate Action & Environment

February 2018 Submission

No.	Submission Text	Response
1	It is of the utmost importance that the SEA takes into account the potential positive effects of wind energy development include those relating to air and climatic factors and the achievement of targets relating to renewable energy and avoided greenhouse gas emissions.	This importance is recognised under Section 5 of the SEA Scoping Report with the following "Potential Significant Environmental Issues for Consideration in the Environmental Report" identified: • Positive effects arising from contribution towards achievement of overall renewable energy targets • Positive effects arising from contribution towards achievement of electricity from renewable energy targets • Positive effects arising from contribution towards achievement of greenhouse gas emissions targets • Positive effects arising from contributions towards reducing emissions of pollutants to air
2	It will be important that the SEA considers national and EU level policy context for addressing global climate change and low carbon development including: • The National Policy Position on Climate Action and Low Carbon Development with the objective of achieving transition to a competitive low carbon, climate resilient economy by 2050 and reducing CO_2 emissions by at least 80% compared to 1990 levels by 2050. • The 2015 Energy White Paper. • The 2017 first National Mitigation Plan. • European policy addressing renewable energy and environmental protection in particular the EU's 2030 Climate and Energy Framework and the Clean Energy Package.	The National Policy Position on Climate Action and Low Carbon Development, the Energy White Paper, the National Mitigation Plan and European policy addressing renewable energy and environmental protection are included within the SEA Scoping Report and are being considered by the SEA process.

October 2018 Submission

No.	Submission Text	Response
1	The impact of applying the revised WEDG's to repowering and, in particular, renewal (understood as meaning extension of permitted lifetime), of existing wind farms, may be substantial. Adopting the new noise guidance for existing wind farms may exclude the continued operation of many wind turbines within these and reduce the viable site area of many wind farms. The potential loss of existing renewable electricity generation may render it more difficult for Ireland to make its contribution to achieving ambitious EU 2030 renewable energy targets. Typically wind farms are granted planning permission with a 20-year life, though well maintained wind turbines may have an operational life of 30 years or more. A minority of wind farms have planning permission for an indefinite life. The permitted life of some wind farms commences from the date of receipt of planning permission, rather than from completion of construction. We do not have exact statistics on the numbers of wind farms falling within each of these categories, as such information is not readily available in planning data published online. However, we can calculate that wind farms totaling 119MW in 2020, 517MW in 2025, and 1374MW in 2030, will have been 20 years or more in operation. The fact that a substantial cohort of wind farms may have permitted life commencing from the permitting date rather than the date of completion of construction is evidenced by extension of permitted wind farm life being sought and granted for at least 10 wind farms in recent years for wind farms of less than 10 years in operation. If this cohort is more substantial than commonly appreciated, the impact of applying the revised WEDG's may be particularly serious. D/CCAE feel it would be prudent to quantify the extent to which existing wind farms will need to apply for planning permission to continue operations and the capacity that could be deemed 'at risk' given the revised Wind Energy Guidelines. An understanding of the impact of this decision will be critical in the development of Ireland's first National Energy and Climate Plan, a first draft of which is due to be submitted by the end of 2018.	This issue will be considered by the SEA, including in the assessment of alternatives for the approach to noise. Relevant Strategic Environmental Objectives that will be used to assess the differences in approaches include: • SEO AC1: To contribute towards the achievement of targets relating to renewable energy and greenhouse gas emissions • SEO AC2 (and PHH1): To protect populations and human health from exposure to incompatible wind energy development such as that which may arise from, for example, noise, shadow flicker or landslides/bog bursts The Guidelines were prepared in conjunction with DCCAE and the CAP is now published.

D. Submissions from the Northern Ireland Environment Agency

January 2018 Submission

No.	Submission Text	Response
1	Biodiversity Flora and Fauna We note that the current guidelines do not highlight the impact of wind energy on bats which can be significantly impacted. We also note that the current review does not intend to update the Natural Heritage chapter. Therefore we would consider that the environmental report should include the implications of the updated guidelines on bats cumulatively if this section is not updated, as this may put populations of the species at risk where they are not considered.	Disturbance and displacement of protected species such as birds and bats is included as a "Potential Significant Environmental Issue" in the Scoping Report. As detailed under Section 7.2 "Impacts, Mitigation and Monitoring" of the SEA Scoping Report, high-level provisions that may be integrated into the revision of the Guidelines (in addition to those set out in the Preferred Draft Approach), subject to the outcome of the SEA process, include those relating to: the protection of European Sites and protected species (such as birds and bats); the undertaking of lower-tier environmental assessments (SEA/EIA/AA/FRA), including in compliance with the most up-to-date legislation; Construction and Environmental Management Plans; and the taking into account of environmental sensitivities and opportunities – including those relating to ecology – in site location, extent, layout and design.
2	The following NI data sources are available for consideration in the assessment of transboundary effects: • Details of the features of designated sites both terrestrial and marine are available at https://www.daera-ni.gov.uk/topics/biodiversity-land-and- landscapes/protected-areas which will allow for transboundary effects to be considered. • The Northern Ireland Regional Landscape Character Assessment series is available at https://www.daera-ni.gov.uk/services/regional-landscape-character- areas-map-viewer which may be of benefit along the border region. • A Review of the Impact of Onshore Wind Energy Development on Biodiversity (2014) is available at https://www.daera-ni.gov.uk/publications/review-impacts- onshore-wind-energy-development-biodiversity . • The following plan may also be relevant as the SEA environmental report highlighted potential significant impacts on birds, bats and landscape from onshore wind energy development, see https://www.economy- ni.gov.uk/articles/onshore-renewable-electricity-action-plan .	This information has been integrated as relevant into the SEA Objectives, Targets and Indicators and the "Potential Data Sources" outlined in the SEA Scoping Report.

No.	Submission Text	Response
3	Marine The main concern we would have would be related to noise disturbance/harm to marine mammals, particularly during construction work. We would like to see this information in their SEA Environmental Report. This would need to be assessed as the marine mammal management unit scale for each species. Marine planning sits alongside and interacts with terrestrial planning systems. Consequently, activities taking place on land can impact on the marine area and vice versa. Consequently, it is important that any impact on the marine environment is also considered within the key aspects of the Preferred Draft Approach. In addition, appropriate account of any transboundary elements with Northern Ireland should also be highlighted with consideration given to potential impacts. To assist you in the consideration of the marine environment and any transboundary elements, attention is drawn to The UK Marine Policy Statement. This Statement sets out the framework for economic, social and environmental considerations that need to be taken into account in the marine planning in UK marine areas, including Northern Ireland.	Section 5 of the SEA Scoping Report details "Potential Significant Environmental Issues for Consideration in the Environmental Report". As detailed in the report these environmental issues relate to the aquatic (including freshwater and marine) as well as terrestrial environment. The UK Marine Policy Statement has been identified under "International and EU Legislation, Plans/Policies/Programmes" under Section 4 "Other relevant plans and programmes". The SEA will consider the potential for likely significant effects in Northern Ireland.
4	The following may also be helpful and referred to within your Report: 1. The EU Maritime Spatial Planning Directive. This Directive sets down the EU's common approach to the planning of maritime areas. It seeks to enable public authorities to organise human activities in the marine area so as to meet various ecological, economic and social objectives. It also requires EU countries to draw up Marine Spatial Plans that should map existing human activities in their marine waters and identify their most effective future spatial development. There must also be co-operation with other EU and non-EU countries. 2. The Marine and Coastal Access Act 2009. This Act introduced a new system of marine management. It provided for, among other things, the preparation of a Marine Policy Statement and Marine Plans for the UK marine area (including the Northern Ireland offshore region) that take account of the Marine Policy Statement. 3. The Marine (Northern Ireland) Act 2013. This Act builds on the provisions contained within the Marine and Coastal Access Act. It establishes a strategic system of marine planning in Northern Ireland's inshore region, including the provision of a Marine Plan and decisions affected by a Marine Plan.	This Directive and legislation have been integrated into the SEA Scoping Report.
5	Historic Environment Historic Environment Division, Department for Communities advises that our datasets on Northern Ireland's Historic Environment are available at the link below. https://www.communities-ni.gov.uk/publications/historic-environment- digital-datasets We would welcome the inclusion of some reference to the importance of considering the impact of proposed turbine developments on cross border heritage assets and their settings.	Various reference has been provided to Northern Ireland designations and cross-border issues under "Potential Significant Environmental Issues for Consideration in the Environmental Report" in Section 5 of the SEA Scoping Report. Such designations have been integrated into the Guidelines. The datasets on Northern Ireland's Historic Environment has been included under the "Potential Data Sources" outlined in Section 6 of the SEA Scoping Report.

October 2018 Submission

No.	Submission Text	Response
1	NIEA to revert with PDF of submission	The SEA and the Guidelines will consider species including bats and there will be new content included in the Guidelines on natural heritage including bats.
2	NIEA to revert with PDF of submission	This information has been integrated as relevant into the SEA Objectives, Targets and Indicators and the "Potential Data Sources" outlined in the SEA Scoping Report.
3	NIEA to revert with PDF of submission	Section 5 of the SEA Scoping Report details "Potential Significant Environmental Issues for Consideration in the Environmental Report". As detailed in the report these environmental issues relate to the aquatic (including freshwater and marine) as well as terrestrial environment. The UK Marine Policy Statement has been identified under "International and EU Legislation, Plans/Policies/Programmes" under Section 4 "Other relevant plans and programmes".
4	NIEA to revert with PDF of submission	This Directive and legislation have been integrated into the SEA Scoping Report.
5	NIEA to revert with PDF of submission	Various reference has been provided to Northern Ireland designations and cross-border issues under "Potential Significant Environmental Issues for Consideration in the Environmental Report" in Section 5 of the SEA Scoping Report. The datasets on Northern Ireland's Historic Environment has been included under the "Potential Data Sources" outlined in Section 6 of the SEA Scoping Report.
6	NIEA to revert with PDF of submission	The European Landscape Convention (2000) has been identified under "International and EU Legislation, Plans/Policies/Programmes" under Section 4 "Other relevant plans and programmes".

E. Submissions from Environmental Protection Agency

February 2018 Submission

No.	Submission Text	SEA/AA/SFRA Response
1	I refer to and acknowledge your correspondence, dated 20th December 2017, in relation to the Review of the 2006 Wind Energy Development Guidelines and the preparation of new, 2018 Guidelines (the Preferred Draft Approach) and accompanying Strategic Environmental Assessment (SEA) Scoping process. We welcome the opportunity to provide comments on the Preferred Draft Approach and associated SEA at this stage in the process. A summary of the key environmental aspects to consider in preparing the Revised Guidelines and SEA are outlined below, while additional specific comments on the Preferred Draft Approach and the Scoping Report are provided in Appendices I and II.	Noted. The information provided within the submission will be considered throughout the SEA and AA processes.
2	The EPA recognises the scale of the challenge facing Ireland to address climate change and reduce our GHG emissions to meet international and EU obligations and increase our resilience in dealing with adverse climate impacts. Our most recent State of Environment Report (SoER) "*Ireland's Environment - An Assessment 2016*" (EPA, 2016) identifies Climate Change as one of the three key systemic issues that need to be tackled in Ireland. Implementation of the actions in the National Mitigation Plan (DCCAE, 2017) and the National Adaptation Framework (DCCAE, 2018) will be key to addressing the challenges posed by climate change. Chapter 11 of the SoER deals specifically with energy and includes a number of key high-level messages. It highlights that the planned transformation of Ireland's energy systems in the coming decades, from fossil fuels to renewables, will require large-scale public and private investment in energy infrastructure, energy efficiency and innovative management systems, including smart distribution and storage systems. It also makes the point that information provision and positive engagement with citizens and stakeholders is essential for the success of this process, to include communities, public bodies, energy providers and users. It will be important that the key messages outlined in the SoER are considered and addressed in the current the review of the 2006 Guidelines and accompanying SEA process. This is with a view to ensuring that Ireland's transition to a low carbon economy and society is achieved in a manner that does not impact negatively on the wider environment and instead maximises the potential co-benefits for communities, human health, air and water quality, biodiversity and other interrelated areas.	Noted. "Ireland's Environment - An Assessment 2016" (EPA, 2016), the "National Mitigation Plan" (DCCAE, 2017) and the "National Adaptation Framework" (DCCAE, 2018) will be all taken into account and identified within the SEA Scoping Report. The broad environmental messages identified by the 2016 EPA State of the Environment Report are detailed in the SEA Scoping Report and will be considered as part of the review of the Guidelines and associated environmental assessments.
3	Fully integrating the findings and recommendations of the SEA into the Revised Guidelines will be key to strengthening its overall positive commitments while ensuring that any significant adverse effects of implementing the Revised Guidelines are mitigated. This will ensure that future wind farm developments are carried out in a way that is sustainable and sympathetic to the wider environment and local communities.	Noted. The SEA Scoping Report recognises that it will be essential to ensure integration of the SEA process into the Guidelines and vice-versa. It will be essential to show how the Guidelines have been informed by the SEA in the SEA Environmental Report.

No.	Submission Text	SEA/AA/SFRA Response
4	*Climate Change Mitigation* The relevant energy-related actions and measures in the National Mitigation Plan should be addressed in the Revised Guidelines.	National Mitigation Plan measures will be considered as part of the review of the Guidelines and associated environmental assessments. The National Mitigation Plan is identified within the SEA Scoping Report under Section 4 “Other relevant plans and programmes" and will be considered as part of the review of the Guidelines and associated environmental assessments.
5	In addition to the above, the Catchment Flood Risk Assessment and Management Studies and the associated Flood Risk Management Plans (FRMPs) to be finalised in early 2018 should be referenced. It should be noted that the second cycle of the Flood Risk Assessment (FRA) process and the FRMP process will commence during 2018. The FRA II will consider the implications of flooding in rural areas as well as the risk to critical infrastructure.	Catchment Flood Risk Assessment and Management Studies including associated CFRAMS Flood Risk Management Plans are identified within the SEA Scoping Report under Section 4 “Other relevant plans and programmes" and will be considered as part of the review of the Guidelines and associated environmental assessments. A Flood Risk Statement is being prepared alongside the revision of the Guidelines and the SEA. This Statement will outline the need for development proposals to comply with “The Planning System and Flood Risk Management - Guidelines for Planning Authorities” (Department of the Environment, Heritage and Local Government and Office of Public Works, 2009) and associated Circular PL 2/2014 (Department of the Environment, Community and Local Government) and will include details on the approach to flood risk management that should be followed by prospective applicants.

No.	Submission Text	SEA/AA/SFRA Response
6	*Noise Standards & Noise Monitoring* We note that the Preferred Draft Approach proposes noise restriction limits consistent with World Health Organisation (WHO) standards, proposing a relative rated noise limit of 5dB(A) above existing background noise within the range of 35 to 43dB(A), with 43dB(A) being the maximum noise limit permitted, day or night. The Preferred Draft Approach does not indicate the metric to be used for noise limits (assumed to be LA90, 10min). In view of the importance of this factor for compliance and enforcement, we recommend that the Revised Guidelines should explicitly state the metric to be used for noise limits. The Revised Guidelines should also specify how Wind Turbine Noise (WTN) characteristics (tonality, amplitude modulation, low frequency noise) are to be incorporated into the determination of a rating level. We welcome that detailed technical guidance is being developed in relation to noise assessment, monitoring and the setting of planning conditions. The aspects referred to above should be addressed in this technical guidance. We also note that the WHO night-time guidelines date back to 2009 and that the WHO is expected to publish new guidelines (including wind). We recommend that consideration is given to the updated WHO noise guidelines upon their publication. The Preferred Draft Approach proposes the introduction of a new noise monitoring regime in relation to wind farms, with local authorities being responsible for enforcing planning conditions supported by the EPA who will provide independent noise monitoring of wind farms. Further clarification and detail is needed in relation to the proposed role of the EPA in the new noise monitoring regime and we look forward to engaging with DHPLG and DCCAE in this regard. We recommend that the proposed monitoring regime should include self-monitoring by wind farm operators in addition to the proposed regulatory oversight mechanisms. In finalising the Revised Guidelines and proposed regulatory regime, there may be merits in considering the existing regulatory regime in Scotland and Denmark.	Additional information and requirements with respect to noise will be included in the revision of the Guidelines. The comments from the EPA with respect to noise will be taken into account when preparing the material in this regard.
7	*Biodiversity* In addition to the requirement to protect designated national and European designated sites in implementing the Preferred Draft Approach, there would be merits in including a requirement for future windfarm developments to integrate available habitat mapping, and green infrastructure/ecological corridors. Including guidelines to control and manage the potential spread of invasive species should also be considered.	High level provisions that may be integrated into the revision of the Guidelines (in addition to those set out in the Preferred Draft Approach), subject to the outcome of the SEA process, include those relating to: the protection of European Sites and protected species (such as birds and bats); the undertaking of lower-tier environmental assessments (SEA/EIA/AA/FRA), including in compliance with the most up-to-date legislation; Construction and Environmental Management Plans; and the taking into account of environmental sensitivities and opportunities – including those relating to ecology – in site location, extent, layout and design. These comments will be taken into account by the SEA, including in the preparation of recommendations for integration into the review of the Guidelines.

No.	Submission Text	SEA/AA/SFRA Response
8	*Key Plans and Programmes* Some key national / regional plans to consider in preparing the Preferred Draft Approach and SEA include the following: - Draft Renewable Energy Policy and Development Framework (in preparation) - Eirgrid GRID Implementation Plan - National Landscape Strategy - Draft National Planning Framework - Regional Spatial and Economic Strategies (in preparation) - National Mitigation Plan - National Adaptation Framework - Proposed Clean Air Strategy - CFRAMs Flood Risk Management Plans - Draft River Basin Management Plan for Ireland 2018-2021 - Marine Spatial Plan for Ireland (in preparation) - Offshore Renewable Energy Development Programme - National Forestry Programme - Forestry and Freshwater Pearl Mussel Plan - Bord na Mona Strategic Framework for the Future Use of Peatlands - Various Local Authority Renewable /Wind Energy Strategies - National Clean Air Strategy - Noise pollutions strategies Additional Plans/Programmes/Strategies to consider, as relevant and appropriate, are included in the attached scoping guidance document.	These plans/ programmes/ policies etc. have been included under Section 4 "Other relevant plans and programmes" of the SEA Scoping Report and will be considered as part of the review of the Guidelines and associated environmental assessments.
9	*Grid and Connection* The Guidelines should include a section addressing relevant aspects related to grid connectivity.	These comments will be considered as part of the review of the Guidelines.
10	*Governance* We recognise that a large number of significant plans and programmes have either recently been adopted or are currently being developed in the energy/climate area, as evidenced in the list above. This brings with it significant opportunities for integrated planning and implementation. The specific aspects of the relevant Plans/ Programmes, Strategies highlighted above and included in the Scoping Guidance should be reflected in adopting an integrated approach to planning and implementation.	These plans/ programmes/ policies etc. have been included under Section 4 "Other relevant plans and programmes" of the SEA Scoping Report and will be considered as part of the review of the Guidelines and associated environmental assessments.

No.	Submission Text	SEA/AA/SFRA Response
11	*Environmental Management Plans (EMPs)* The Guidelines should also address the need for effective implementation of Environmental Management Plans (EMPs) during the construction and operation maintenance and decommissioning phases of wind energy developments. The Guidelines should describe the information to be included in the CEMPs including monitoring and reporting provisions and mitigation measures as well as supervision of construction works. This should ensure the potential for adverse environmental effects are minimised and provisions for remedial actions are included.	High level provisions that may be integrated into the revision of the Guidelines (in addition to those set out in the Preferred Draft Approach), subject to the outcome of the SEA process, include those relating to: the protection of European Sites and protected species (such as birds and bats); the undertaking of lower-tier environmental assessments (SEA/EIA/AA/FRA), including in compliance with the most up-to-date legislation; Construction and Environmental Management Plans; and the taking into account of environmental sensitivities and opportunities – including those relating to ecology – in site location, extent, layout and design. These comments will be taken into account by the SEA, including in the preparation of recommendations for integration into the review of the Guidelines.
12	*Transboundary aspects* It will be important to consider cross-border issues in border counties. There would be merit in considering the guidelines in Northern Ireland for wind energy development. There should be early and meaningful consultation with the relevant NI authorities to ensure that the opportunities and synergies in the renewable energy and other related sectors are realised. There may be merits in adopting an all-island approach to renewable energy. Links should also be made with the Northern and Western Regional Assembly in the context of the RSES preparation process which is currently ongoing.	The following documents have been included under Section 4 "Other relevant plans and programmes" and will be considered as part of the review of the Guidelines and associated environmental assessments: • Northern Ireland's Environment Authority's Wind Energy Development in Northern Ireland's Landscapes • The Planning Service's "Renewable Energy: Wind Farm Development Information Leaflet" • Regional Planning Guidelines, to be replaced by Regional Spatial and Economic Strategies (in/pending preparation)
13	*SEA Alternatives* We note that the initial "Preferred Draft Approach" involves aspects including noise limits, noise monitoring, visual amenity setback, shadow flicker, grid connectivity and engagement with communities.	As higher level government policy, the Preferred Draft Approach sets the broad scope of the review of the Guidelines and it is within this scope that SEA alternatives will be considered.
14	*Potential for Cumulative Effects* In relation to the need to minimise the potential for cumulative effects, the Guidelines should take account of the need to ensure the assimilative capacity of the environment in the context of wind energy development, within specific spatial areas, is also considered.	The potential for cumulative effects on the environment to arise as a result of implementing the Guidelines will be considered by the environmental assessments and taken into account. It is expected that the Guidelines will contain requirements relating to the taking into account of environmental assimilative capacity at lower tiers of decision making.
15	***Scoping Process Guidance*** Guidance on the SEA Scoping Process, including an SEA Pack, Integration Guidance, SEA Checklist, SEA Spatial Information Sources and guidance on Integrating Climate Change into SEA, is available on the EPA website and should be considered in the preparation of the SEA. This can be consulted at the following address: http://www.epa.ie/pubs/advice/ea/ Guidance on Developing and Assessing Alternatives in SEA (EPA, 2015) is also available at: http://www.epa.ie/pubs/advice/ea/developingandassessingalternativesinsea.html	These sources of information will be considered in undertaking the assessment.

No.	Submission Text	SEA/AA/SFRA Response
16	***SEA WebGIS Search and Reporting Tool*** The EPA SEA WebGIS Search and Reporting Tool is a GIS based web application that allows users to explore, interrogate and produce an indicative report on key aspects of the environment in specific geographic areas. These reports are indicative and will provide an overview of key aspects of the environment within a specific plan area. This may be used to inform the SEA screening and scoping stages for Plans and Programmes with reference in the first instance to the land use sector, though it is also applicable to other sector plans. It may be accessed via www.edenireland.ie.	This source of information will be considered in undertaking the assessment.
17	***Environmental Authorities*** Under the SEA Regulations (S.I. No. 435 of 2004, as amended by S.I. No. 200 of 2011), notice should also be given to the following: • The Minister for Housing, Planning and Local Government • Minister for Agriculture, Food and the Marine, and the Minister for Communications, Climate Action and Environment, where it appears to the competent authority that the plan or programme, or modification of the plan or programme, might have significant effects on fisheries or the marine environment • where it appears to the competent authority that the plan or programme, or modification to a plan or programme, might have significant effects in relation to the architectural or archaeological heritage or to nature conservation, the Minister for Culture, Heritage and the Gaeltacht.	Scoping notices have already been sent to the relevant environmental authorities. Note: the Minister for Housing, Planning and Local Government is not an environmental authority for the purposes of S.I No. 435 of 2004 as amended.
18	Feedback provided by the EPA at the recently convened SEA scoping workshop should also be taken into account in preparing the Guidelines and in the SEA process. Further comment will be provided upon receipt of the Draft SEA Environmental Report and Strategy and associated documents during the next statutory consultation phase of the SEA Process.	Noted. Feedback provided by the EPA at the Sea Scoping Workshop has been considered is responded to as part of Appendix I to the SEA Scoping Report.
19	**Appendix I – Specific Comments on the Preferred Draft Approach** *Information in Appendices* We note that the 2006 Guidelines include six appendices, several of which contain important information such as *Appendix 4 Best Practice for Wind Energy Development in Peatlands*. In reviewing the Guidelines, we recommend that consideration should be given to moving significant information of this nature to the main body of the document rather than providing it in an Appendix.	These comments will be considered as part of the review of the Guidelines.

No.	Submission Text	SEA/AA/SFRA Response
20	*Landscape Assessment* In the absence of a National Landscape Characterisation Assessment, there is currently a significant national data gap in environmental information with respect to landscape. This should be noted in the SEA Environmental Report. The need for prioritising undertaking and completing a National Landscape Characterisation Assessment should be considered in the Guidelines. A commitment to the support for the delivery of this key National Landscape Strategy action should also be reflected in the Guidelines. There would be merit in including some reference to islands and other isolated coastal areas in view of the potentially higher vulnerability / lower assimilative capacity of these landscapes. The Guidelines and SEA could promote a possible coordination role for the Regional Assemblies in streamlining landscape character assessments and associated designations within the Region.	These comments will be considered as part of the review of the Guidelines and associated environmental assessments. The need for prioritising undertaking and completing a National Landscape Characterisation Assessment is outside the scope of the Guidelines. There are no national datasets available for landscape and the information that is available at a county level is not consistent across all of the counties. This means that there is a potential data gap with respect to landscape. This has been detailed in the SEA Scoping Report and will be included in the SEA Environmental Report. The issue of landscape interactions in marine and island areas where there may be limited assimilative capacity has incorporated into the SEA Scoping Report under "Potential Significant Environmental Issues".
21	*Monitoring* We recommend that the Preferred Draft Approach address requirements for environmental monitoring and reporting by developers and windfarm operators (noise, biodiversity etc.). This is in the interest of transparency and public information. *Training and Certification* We recommend there would be merit in the Preferred Draft Approach including requirements that contractors carrying out construction and maintenance works, particularly in sensitive locations, undergo relevant environmental-related training. *Comments on the Specific Planning Policy Requirement (SPPR)* We note the proposed three SPPRs currently described in the „Interim Guidelines for Planning Authorities on Statutory Plans, Renewable Energy and Climate Change' (DHPLG, July 2017). SPPR (1) relates to ensuring that key policy documents are acknowledged and documented within the relevant development plan or local area plan. Commitments should be included in the Guidelines requiring implementation of (and being consistent with) these key national policies at a local authority level.	These comments will be considered as part of the review of the Guidelines.
22	**Appendix II – Comments on the Scoping Report** Tables 4.1 to 4.3 outline the list of plans and programmes to be considered as part of the SEA. We recommend that an additional column should be added, indicating the relevance of the plan/programme to the Guidelines. In Table 4.3, reference should also be also made to the Draft National River Basin Management Plan for Ireland (DHPLG). Additionally, the Forestry and Freshwater Pearl Mussel Plan (DAFM), in preparation, could also be referred to.	These plans have been included within the SEA Scoping Report under Section 4 *Other relevant plans and programmes*. The Scoping Report is intended to help communicate and define the scope of the environmental issues which are to be dealt with by the SEA together with the level of detail to which it is intended to address these issues. Information will be included in the SEA Environmental Report indicating the relevance of each plan/programme/policy referred to in Section 4 of the SEA Scoping Report to the Guidelines.

No.	Submission Text	SEA/AA/SFRA Response
23	In *Chapter 5 – Scoping*, section *5.3.1 Population and Human Health* could also include a reference to the *National Planning Framework – Ireland 2040* (DHPLG), as a key supporting national policy which includes commitments to population and human health.	The "Project Ireland 2040 National Planning Framework" has been added to Section 5.3.1 "Population and Human Health".
24	Section 5.3.4 – *Water* could include a specific reference to supporting assessment and implementation of *Article 4.7 of the Water Framework Directive* at a project level. This would align with the approach promoted in Northern Ireland. The EPA-funded Environmental Sensitivity Mapping project (NUIM/UCD) and associated webtool could be a useful data source. The www.climateireland.ie portal could also be utilised as an additional climate change related data source.	This comment will be taken into account by the SEA. Article 4 of the Water Framework Directive has been integrated into the SEA Targets specified under Section 5.3.4 "Water". The cited sources have been included under "Potential Data Sources for SEA of the Guidelines and lower tier assessments" in Section 6 of the SEA Scoping Report.
25	Flood risk issues should be considered. The Revised Guidelines should undergo screening for flood risk. It should be noted that the second phase of CFRAMS mapping will include agricultural lands and rural areas.	Catchment Flood Risk Assessment and Management Studies including associated CFRAMS Flood Risk Management Plans are identified within the SEA Scoping Report under Section 4 "Other relevant plans and programmes" and will be considered as part of the review of the Guidelines and associated environmental assessments. A Flood Risk Statement is being prepared alongside the revision of the Guidelines and the SEA. This Statement will outline the need for development proposals to comply with "The Planning System and Flood Risk Management - Guidelines for Planning Authorities" (Department of the Environment, Heritage and Local Government and Office of Public Works, 2009) and associated Circular PL 2/2014 (Department of the Environment, Community and Local Government) and will include details on the approach to flood risk management that should be followed by prospective applicants.
26	The status of the Preferred Draft Approach and associated implications for SEA alternatives should be considered.	Additional information about the Preferred Draft Approach has been included in the SEA Scoping Report. The Preferred Draft Approach sets the broad scope of the review of the Guidelines and it is within this scope that SEA alternatives will be considered.
27	It will be important that the findings and recommendations to emerge from the SEA are integrated into and reflected in the Revised Guidelines. Close communication and interaction between the Guidelines and SEA teams will be key during the parallel processes. The SEA Environmental Report should document how the SEA process has informed the Revised Guidelines.	Noted. The SEA Scoping Report recognises that it will be essential to ensure integration of the SEA process into the Guidelines and vice-versa. It will be essential to show how the Guidelines have been informed by the SEA in the SEA Environmental Report.
28	In relation to the proposed SEA objectives, indicators and targets: Target for Soil S1ii: consider adding "from these Guidelines at the end of the Target". Objectives, targets and indicators relating to Water: consider including reference to assessments under Article 4 of the Water Framework Directive. Identify interactions between environmental topics under each environmental topic. Indicator BFF2: suggest replacing "loss of" with "change in"	These suggestions have been integrated into the SEA Scoping Report.

No.	Submission Text	SEA/AA/SFRA Response
29	The SEA Environmental Report should include detailed information on the proposed monitoring programme including indicators, data sources, monitoring responsibilities and reporting arrangements. This will be important in the context of transparency and public information.	The SEA Directive requires that the significant environmental effects of the implementation of plans and programmes are monitored. The SEA will detail the measures which will be used in order to monitor the likely significant effects of implementing the Guidelines. Monitoring can enable, at an early stage, the identification of unforeseen adverse effects and the undertaking of appropriate remedial action. The detailed monitoring programme provided by the SEA will include indicators, sources of indicators, responsibilities and reporting arrangements (including frequency and dissemination arrangements). As part of the monitoring programme, relevant and appropriate thresholds will be included to determine when remedial action is required for the particular aspect of the environment being monitored. The SEA will seek to use existing monitoring reporting arrangements, as relevant and appropriate, to inform monitoring.

October 2018 Submission

No.	Submission Text	Response
1	In our earlier SEA scoping submission, made on the 2nd February 2018, we outlined key environmental aspects to consider in preparing the reviewed Guidelines and associated SEA, and provided specific comments on the "Preferred Draft Approach" and Draft SEA Scoping report provided. We welcome that our earlier submission will also be considered at this stage. Some additional aspects to consider are outlined below.	The EPA's earlier submission from February is responded to above.
2	Other Plans and Programmes In addition to the suggested key plans and programmes referred to in our previous submission, the relationship with the National Energy and Climate Plan currently being prepared by DCCAE should also be considered. There is also merit in considering any potential role that the new Office of the Planning Regulator may have in relation to governance aspects of the Guidelines, as appropriate.	The National Energy and Climate Plan [in preparation] is identified within the SEA Scoping Report under Section 4 "Other relevant plans and programmes" and will be considered as part of the review of the Guidelines and associated environmental assessments. The OPR is empowered to review the organisation, systems and procedures used by any planning authority or An Bord Pleanála in the performance of any of their planning functions under the Planning and Development Act 2000. No action required.
3	Additional Resource - Bird Sensitivity Mapping Tool BirdWatch Ireland have prepared a bird wind sensitivity mapping tool for wind energy developments, part funded by the EPA. This is a pre-planning tool to assist developers/planners/ecologists to understand the sensitivity of selected bird species. The tool does not create 'no-go' areas but rather can be used to inform the appropriate siting of wind energy developments. It is hosted on the National Biodiversity Data Centre live maps. There is merit in referring to this tool in the Guidelines as a useful resource to help inform lower	Species level information from organisations such as Birdwatch Ireland is identified as a "Potential Data Source" on Table 6.1 of the SEA Scoping Report.

No.	Submission Text	Response
	level decision making on the siting of wind energy development. See the link below for more information on this tool. www.birdwatchireland.ie/OurWork/PolicyAdvocacy/BirdSensitivityMapping/tabid/1312/Default.aspx.	
4	Environmental Authorities Under the SEA Regulations (S.I. No. 435 of 2004, as amended by S.I. No. 200 of 2011), notice should also be given to the following: • The Minister for Housing, Planning and Local Government • Minister for Agriculture, Food and the Marine, and the Minister for Communications, Climate Action and Environment, where it appears to the competent authority that the plan or programme, or modification of the plan or programme, might have significant effects on fisheries or the marine environment • where it appears to the competent authority that the plan or programme, or modification to a plan or programme, might have significant effects in relation to the architectural or archaeological heritage or to nature conservation, the Minister for Culture, Heritage and the Gaeltacht.	Scoping notices have already been sent to the relevant environmental authorities. Note: the Minister for Housing, Planning and Local Government is not an environmental authority for the purposes of S.I No. 435 of 2004 as amended.