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Application Document 15

Caledonia North Habitats Regulations Appraisal Derogation Case

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Acronyms and Abbreviations

AEoSI	Adverse Effect on Site Integrity
AOMC	Atlantic Meridional Overturning Circulation
AR6	Assessment Report 6
BEIS	Department for Business, Environment and Industrial Strategy
CfD	Contract for Difference
cSAC	candidate Special Area of Conservation
Defra	Department of Agriculture, Environment and Rural Affairs
DESNZ	Department for Energy Security and Net Zero
DTA	David Tyldesley Associates
EC	European Commission
EEC	European Economic Community
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
EU	European Union
GHG	Greenhouse Gas
GVA	Gross Value Added
GW	Gigawatt
HRA	Habitat Regulations Appraisal
IPCC	Intergovernmental Panel on Climate Change
IROPI	Imperative Reasons of Overriding Public Interest
LSE	Likely Significant Effect
MHWS	Mean High Water Springs

NETS	National Electricity Transmission System
nm	Nautical Mile
OECC	Offshore Export Cable Corridor
OfTI	Offshore Transmission Infrastructure
OfTO	Offshore Transmission Owner
OnTI	Onshore Transmission Infrastructure
OSP	Offshore Substation Platform
OWF	Offshore Wind Farm
pSPA	Potential Special Protection Area
REZ	Renewable Energy Zone
SAC	Special Area of Conservation
SCI	Site of Community Importance
SMP	Sectoral Marine Plan
SNCB	Statutory Nature Conservation Body
SPA	Special Protection Area
UK	United Kingdom
WTG	Wind Turbine Generator

Executive Summary

There is an imperative global need to help address the climate change emergency through decarbonisation of energy supplies, for the primary purpose of preserving life on planet Earth. There is also a clear and urgent need to ensure Scottish and UK communities are protected from the effects of an unstable energy supply and unaffordable energy costs.

This derogation case document and supporting documentation provide all the necessary information to support a clear and overriding case for the Caledonia North phase of the Caledonia Offshore Wind Farm (OWF) in significantly helping to meet these objectives.

Details around the background to both the Caledonia North application and the derogation provisions themselves are provided, alongside detail around the consultation undertaken regarding the derogation case. The prior stages of the HRA process undertaken for Caledonia North are discussed, primarily the outcomes of the Caledonia North Report to Inform Appropriate Assessment (RIAA) wherein it was determined that an adverse effect on site integrity (AEoSI), in-combination with other plans or projects, could not be ruled out using the guidance approach for the Forth Islands Special Protection Area (SPA) (Gannet *Morus bassanus*), Sule Skerry and Sule Stack SPA (Puffin *Fratercula arctica*), Buchan Ness to Collieston Coast SPA (Kittiwake *Rissa tridactyla*), Troup, Pennan and Lion's Head SPA (Kittiwake), and East Caithness Cliffs SPA (Guillemot *Uria aalge* and Kittiwake). For guillemot and puffin, this derogation case is without prejudice, based on the fact that the Applicant Approach in the Caledonia North RIAA concluded no AEoSI for those two species. The derogation provisions will be required if Caledonia North is to achieve consent.

The derogation case concludes that there is an urgent need for Caledonia North to become operational as soon as possible, primarily to help address the global climate change emergency but also for other reasons of overriding public interest (building on the evidence presented within the Statement of Need), therefore helping to ensure key policies and targets both at a national and international level are met.

The evidence presented includes demonstration of the absence of feasible alternative solutions to Caledonia North, as assessed against the core project objectives, and also that Caledonia North has a strong and robust case for imperative reasons of overriding public interest. The deliverability of Caledonia North is also highlighted, whereby the site location (Moray Firth) and proximity to shore, technology choices (such as HVAC and use of bottom-fixed foundations), consenting strategy and existing competence from delivery of Moray East and Moray West OWFs in the same area support the ability of Caledonia North to be in the 'first phase' of ScotWind delivery.

Given the establishment of AEoSI within the Caledonia North RIAA, compensation measures are required to offset the potential impacts of Caledonia North and preserve the coherence of the National Site Network. These measures have been established within a suite of supporting documents appended to the derogation case, and they are considered appropriate and sufficiently comprehensive to ensure the overall coherence of the National Site Network is maintained.

The document therefore provides the evidence required by the Scottish Ministers to conclude that Caledonia North passes the tests set out within the Habitats Regulations Appraisal derogation provisions and can therefore be granted consent.

1 Introduction

1.1 Background Information

- 1.1.1.1 In January 2022, as part of the ScotWind leasing round, Ocean Winds UK Ltd. was successfully awarded an Option Agreement granting exclusive rights to develop an Offshore Wind Farm (OWF) within the NE4 Plan Option, which is located within the outer Moray Firth, off the north-east coast of Scotland.
- 1.1.1.2 Ocean Winds is progressing the proposals for this OWF, which has been named the Caledonia OWF, via the newly incorporated limited company of Caledonia Offshore Wind Farm Ltd (the Applicant). The terms of the Option Agreement are dependent upon the Applicant being awarded all key consents and permissions to construct and operate the OWF from the relevant regulatory authorities.
- 1.1.1.3 The Applicant is seeking to deliver electricity to the National Energy Transmission System (NETS) from 2030. Caledonia OWF will have an indicative generation capacity of 2 gigawatts (GW); however, this is indicative and does not represent a cap on the generation capacity in a consenting context. Due to the volume of NETS reinforcement works required to connect offshore wind projects, the Applicant is expecting Caledonia OWF to be connected to the NETS in phases. To support with the deliverability of these phases, the Applicant is submitting two offshore consent applications (Section 36 and associated Marine Licences) for Caledonia OWF.
- 1.1.1.4 The two consent applications for each of the phases of the Caledonia OWF are referred to as:
- Caledonia North; and
 - Caledonia South.
- 1.1.1.5 The division into two discrete application areas allows for flexibility to phase the build out of the application areas in either order, including flexibility in project design in order to deploy the most appropriate turbine technology/foundation type, thus improving deliverability. The sequencing of how Caledonia North and Caledonia South can be brought forward is discussed in more detail in Volume 1, Chapter 5: Proposed Development Phasing of the accompanying Environmental Impact Assessment Report (EIAR). Given this requirement for flexibility, this derogation case has been prepared for Caledonia North exclusively, with a separate derogation case for Caledonia South presented within Application Document 16: Caledonia South Habitats Regulations Appraisal Derogation Case.
- 1.1.1.6 The Caledonia North application is to construct and operate all infrastructure which will be sited within the Caledonia North Site (bottom-fixed foundation Wind Turbine Generators (WTGs), Inter-Array/Interconnector Cables, Offshore Substation Platform(s) (OSPs)) as well as the Caledonia North Offshore Export

Cable Corridor (OECC) and Landfall Site on the Aberdeenshire coast up to Mean High Water Springs (MHWS). Whilst the Applicant intends to develop and construct the Offshore Transmission Infrastructure (OfTI) and Onshore Transmission Infrastructure (OnTI), under current regulations, these assets will ultimately be transferred to and operated by an Offshore Transmission Owner (OfTO).

1.2 Summary of Caledonia North

1.2.1.1 Caledonia North is located within the NE4 Plan Option identified in the Scottish Government's Sectoral Marine Plan (SMP) for Offshore Wind Energy (Scottish Government, 2020a¹). The Caledonia North Site (Array Area) is approximately 218.5km² in size with the north limit approximately 28km from Wick and the southern limit of the site being approximately 48km from Banff.

1.2.1.2 A summary of the infrastructure within Caledonia North is provided below:

- Up to 77 WTGs to be installed across the Caledonia North Site using bottom-fixed foundations;
- Up to two OSPs which transform electricity generated by the WTGs to a higher voltage allowing more efficient transmission to shore;
- Up to 77 inter-array cables which connect the WTGs together;
- One interconnector cable which connects the OSPs to each other; and
- Up to two offshore export cable circuits within the Caledonia North OECC which will be laid between the OSPs and Landfall Site.

1.3 Legal Framework

1.3.1 Historical European Legislation

1.3.1.1 The Habitats Directive (92/43/EEC) on the conservation of natural habitats and of wild fauna and flora (the 'Habitats Directive'), protects habitats and species of European nature conservation importance. Together with the Council Directive (2009/147/EC) on the conservation of wild birds (the 'Birds Directive'), the Habitats Directive established a network of internationally important sites, designated for their ecological status. Special Areas of Conservation (SACs), designated under the Habitats Directive, promote the protection of flora, fauna and habitats; and Special Protection Areas (SPAs), designated under the Birds Directive in order to protect rare, vulnerable and migratory birds. These sites combined to create a Europe wide 'Natura 2000' network of designated sites, which are referred to as 'European sites'. The overall aim of the network is to protect Europe's most vulnerable species and habitats throughout their natural range, promoting biodiversity and species recovery (where populations are in unfavourable conditions).

1.3.1.2 The key aspects of the Habitats Directive relating to the authorisation of plans or projects that may adversely impact European sites are contained within Article 6(3) and 6(4) of the Habitats Directive. Article 6(3) describes the process to determine if a plan or project would have an adverse effect on site integrity (AEoSI) of a designated site and if the plan or project may proceed. Article 6(4) describes a derogation process so that those plans or projects that concluded AEoSI at one or more designated sites may be developed, provided they meet certain requirements.

1.3.1.3 Article 6(3) states:

“Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives. In the 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”.

1.3.1.4 Article 6(4) states:

“If, in spite of a negative assessment of the implications for the site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature, the Member State 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. Where the site concerned hosts a priority natural habitat type and/or a priority species, the only considerations which may be raised are those relating to human health or public safety, to beneficial consequences of primary importance for the environment or, further to an opinion from the Commission to other imperative reasons of overriding public interest”.

1.3.2 Scotland and UK Habitats Legislation

1.3.2.1 The Habitats and Birds Directives were transposed into UK legislation through a series of regulations. Terrestrial areas of the UK, and territorial waters out to 12 nautical miles (nm), are covered under by The Conservation (Natural Habitats,&c.) Regulations 1994 and in respect of section 36 Applications by The Conservation of Habitats and Species Regulations 2017 (“the 2017 Regulations”), with waters beyond 12nm, to the extent of the British Fishery Limits and UK Continental Shelf Designated Area, covered under The Conservation of Offshore Marine Habitats and Species Regulations 2017 (“Offshore Regulations”) (collectively referred to here as the Habitats Regulations). The Habitats Regulations incorporate all SPAs into the definition

of 'European sites' and, consequently, the protections afforded to European sites under the Habitats Directive apply to SPAs designated under the Birds Directive.

- 1.3.2.2 The provisions of Article 6(3) and 6(4) of the Habitats Directive are reflected in Regulations 48 and 49 of the 1994 Regulations, Regulations 63 and 64 of the 2017 Regulations and Regulations 28 and 29 of the 2 Offshore Regulations referenced above. For the purposes of this document Regulations 63 and 64 of the 2017 will be used. These provisions are mirrored in the other Habitats Regulations.
- 1.3.2.3 The UK left the European Union (EU) on Exit Day, 31 January 2020, followed by Completion Day on 31 December 2020. The EU Exit Regulations (2019) establish any EU Exit-related changes to the Habitats Regulations, with these considered to have no material implications on the requirement or process for an assessment for Caledonia North on designated sites.
- 1.3.2.4 Through the Habitats Regulations and the EU Exit Regulations, the core of the assessment of impacts on European sites remains unchanged, aside from a few terminology changes. In particular, the Habitats Regulations continue to use the term 'European sites', but they now comprise a UK network which is called the 'National Site Network' (previously they were part of Natura 2000). Therefore, references in the Habitats Regulations to the 'coherence of Natura 2000' must now be read as references to the coherence of the UK's National Site Network. It is noted that this derogation case considers both the UK's National Site Network and international transboundary sites together, and they are collectively referred to as the 'European Site Network' throughout this report.
- 1.3.2.5 The process to assess the potential impact of a plan or project on designated sites through the Regulations is referred to in Scotland as a Habitat Regulations Appraisal (HRA), and is accepted to be a four-stage process as follows:
- Stage 1: Screening for the potential of a likely significant effect (LSE);
 - Stage 2: Appropriate Assessment;
 - Stage 3: The Derogation Provisions.
- 1.3.2.6 This derogation case presents Stage 3 of the HRA process, with Stage 1 and Stage 2 presented within the HRA Screening Report (Application Document 12) and Caledonia North Report to Inform Appropriate Assessment (RIAA) (Application Document 13) respectively. It is worth noting that under the Habitats Regulations, the types of designated sites considered are SACs, candidate SACs (cSACs), SPAs, potential SPAs (pSPAs), and Sites of Community Importance (SCIs). Ramsar sites (as designated under the Ramsar Convention) are also afforded the same protection as National Sites by UK and Scottish Government policy.

1.4 Overview of HRA Stages 1 and 2: Screening and Appropriate Assessment

- 1.4.1.1 Under the Habitats Regulations, the Appropriate Assessment is to be undertaken by the relevant ‘competent authority’, which for Section 36 Consent and Marine Licence applications, is the Scottish Ministers. However, the Applicant has an obligation to provide such information as the Scottish Ministers may reasonably require for the purposes of carrying out an Appropriate Assessment.
- 1.4.1.2 It is stated within the Habitats Regulations (Regulation 63) that:
- "63.(1) A competent authority, before deciding to undertake, or give any consent, permission or other authorisation for, a plan or project which—*
- (a) is likely to have a significant effect on a European site or a European offshore marine site (either alone or in combination with other plans or projects), and*
- (b) is not directly connected with or necessary to the management of that site, must make an appropriate assessment of the implications of the plan or project for that site in view of that site's conservation objectives".*
- 1.4.1.3 The identification of LSE, as required by Regulation 63(1), is commonly referred to as Stage 1 of the HRA process, where an applicant will conduct a screening exercise and provide a HRA Screening Report to inform the competent authority of identified potential effects. While it is the responsibility of the competent authority to undertake an Appropriate Assessment for the project, the Applicant must provide any evidence necessary for competent authority to reasonably undertake the Appropriate Assessment, as described in Regulation 63(2). This information is presented within a RIAA, and is Stage 2 of the process.
- 1.4.1.4 A plan or project may be given consent by the competent authority at the end of Stage 2, provided that the competent authority can conclude beyond reasonable scientific doubt that there is no AEoSI on any designated European site (including international sites), as per Regulation 63(5). If the competent authority concludes that there will be an AEoSI on a European site, then the derogation process (i.e., HRA Stage 3 and Stage 4 as detailed below) are required for the plan or project to still achieve consent.
- 1.4.1.5 The full assessments for the Caledonia North as part of Stage 1 and Stage 2 are presented within the HRA Screening Report (Application Document 12) and Caledonia North RIAA (Application Document 13) respectively. It was concluded within the Caledonia North RIAA that an AEoSI, in-combination with other plans or projects, could not be ruled out using the guidance approach for the Forth Islands SPA (Gannet), Sule Skerry and Sule Stack SPA (Puffin), Buchan Ness to Collieston Coast SPA (Kittiwake), Troup, Pennan, and Lion's Head SPA (Kittiwake), and East Caithness Cliffs SPA (Guillemot and Kittiwake). For guillemot and puffin, this derogation case is without prejudice,

based on the fact that the Applicant Approach in the Caledonia North RIAA concluded no AEO SI for those two species. Therefore, this requires Caledonia North to consider Stage 3 as presented within this report.

1.5 Overview of HRA Stage 3: The Derogation Provisions

1.5.1.1 As described above, where Stage 2 concludes an AEO SI, the derogation process must be undertaken as Stage 3 of the HRA process. Regulation 64 states the derogation process as follows:

"64.(1) If the competent authority is satisfied that, there being no alternative solutions, the plan or project must be carried out for imperative reasons of overriding public interest (which, subject to paragraph (2), may be of a social or economic nature), it may agree to the plan or project notwithstanding a negative assessment of the implications for the European site or the European offshore marine site (as the case may be).

(2) Where the site concerned hosts a priority natural habitat type or a priority species, the reasons referred to in paragraph (1) must be either—

(a) reasons relating to human health, public safety or beneficial consequences of primary importance to the environment; or

(b) any other reasons which the competent authority, having due regard to the opinion of the [appropriate authority], considers to be imperative reasons of overriding public interest".

1.5.1.2 Following this guidance, Stage 3 is broken up into several key tests, namely demonstrating that there are no alternative solutions (Section 4), and that there are IROPI (Section 5). If the competent authority is content that these tests have been met, and it is considered that Caledonia North should proceed with AEO SI, any necessary compensatory measures must be developed for the affected site and species to offset the potential impacts of the Caledonia North (Section 6).

1.5.1.3 If both of the tests are met and the competent authority is satisfied that compensatory measures can be secured, then Caledonia North may proceed.

1.5.1.4 All relevant provisions within the 2017 Regulations are presented in Table 1-1 below for reference for the remainder of this report.

Table 1-1: Derogation Provisions (as taken from the 2017 Regulations).

Regulation	Detail
63 (1)	'A competent authority, before deciding to undertake, or give any consent, permission or other authorisation for, a plan or project which (a) is likely to have a significant effect on a European site or a European offshore marine site (either alone or in combination with other plans or projects), and (b) is not directly connected with or necessary to the management of that site, must make an appropriate assessment of the implications of the plan or project for that site in view of that site's conservation objectives'.
63 (2)	'A person applying for any such consent, permission or other authorisation must provide such information as the competent authority may reasonably require for the purposes of the assessment or to enable it to determine whether an appropriate assessment is required'.
63 (5)	'In the light of the conclusions of the assessment, and subject to regulation 64, the competent authority may agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the European site or the European offshore marine site (as the case may be)'.
64 (1)	'If the competent authority is satisfied that, there being no alternative solutions, the plan or project must be carried out for imperative reasons of overriding public interest (which, subject to paragraph (2), may be of a social or economic nature), it may agree to the plan or project notwithstanding a negative assessment of the implications for the European site or the European offshore marine site (as the case may be)'.
64 (2)	'Where the site concerned hosts a priority natural habitat type or a priority species, the reasons referred to in paragraph (1) must be either (a) reasons relating to human health, public safety or beneficial consequences of primary importance to the environment; or (b) any other reasons which the competent authority, having due regard to the opinion of the [appropriate authority], considers to be imperative reasons of overriding public interest'.

1.6 HRA Process to Date and the Applicant's Position on AEoSI

- 1.6.1.1 As dictated above and stated within Regulation 63(2), the Applicant must provide the competent authority with the relevant information required for an Appropriate Assessment to be undertaken. All relevant information on Stage 1 and Stage 2 to date can be found in the HRA Screening Report (Application Document 12) and Caledonia North RIAA (Application Document 13).
- 1.6.1.2 It was concluded within the Applicant's RIAA for Caledonia North that an AEoSI, in-combination with other plans or projects, could not be ruled out using the guidance approach for the Forth Islands SPA (Gannet), Sule Skerry and Sule Stack SPA (Puffin), Buchan Ness to Collieston Coast SPA (Kittiwake), Troup, Pennan and Lion's Head SPA (Kittiwake), and East Caithness Cliffs SPA (Guillemot and Kittiwake). For guillemot and puffin, this derogation case is

without prejudice, based on the fact that the Applicant Approach in the Caledonia North RIAA (Application Document 13) concluded no AEoSI for those two species.

- 1.6.1.3 No AEoSI conclusions, alone or in combination, were reached for all other sites considered in the Caledonia North RIAA (Application Document 13).

1.7 Summary of Consultation to Date

- 1.7.1.1 Consultation with relevant stakeholders is a key part of the HRA process, especially for statutory nature conservation bodies (SNCBs) in relation to the development of compensation measures.
- 1.7.1.2 The Applicant has consulted with SNCBs and other stakeholders to ensure all interested parties are aware of the project developments. Key meetings are summarised in Table 1-2.

Table 1-2: Key consultation to date.

Date	Summary
01 June 2023	Initial discussions with NatureScot, RSPB and Marine Directorate around the HRA process and potential requirement for a derogation case/compensatory measures.
13 November 2023	Ornithological discussions with NatureScot and RSPB, including early considerations for longlist/shortlist compensatory measures.
01 July 2024	Further discussions with NatureScot and RSPB around proposed compensation measures (ornithological). Stakeholders provided feedback on measures and discussed reasonable expectations on the how developed the measures could be at consent application stage given the range of uncertainties and the potential number offshore wind farm projects seeking consent in a similar time period.
Quarterly meetings	The Applicant shared updates with MD-LOT and NatureScot regarding the development of the Derogation Case and potential Compensatory measures as part of quarterly project update meetings.

1.8 Supporting Information

1.8.1.1

Given the nature of the derogation case, presented as Stage 3 of the HRA process, this report inherently is based on and is partnered with several other documents. Not all of the information presented within the supporting documents is repeated here; however, references will be provided where relevant. All of the supporting documents of relevance to this derogation case are as follows:

- Volume 1, Chapter 3: Proposed Development Description (Offshore);
- Volume 1, Chapter 6: Site Selection and Alternatives;
- Volume 6, Chapter 2: Socio-economics, Tourism and Recreation;
- Application Document 13: Caledonia North Report to Inform Appropriate Assessment);
- Application Document 15, Appendix 15-1: Caledonia North Statement of Need;
- Application Document 15, Appendix 15-2: Caledonia North Compensation Long List and Short List;
- Application Document 15, Appendix 15-3: Caledonia North Compensation Plan and Site Selection; and
- Application Document 15, Appendix 15-4: Caledonia North Outline Implementation and Monitoring Plan.

2 HRA Derogations Guidance and Precedent

2.1 Guidance

2.1.1.1 Various guidance notes have been considered in drafting this derogation case, including Scottish, UK and EU guidance. While Scottish and UK guidance are likely the most appropriate due to the implementation of the Habitats Regulations, given the Habitats Directives underpinned the core principles of the HRA process EU guidance is still of relevance.

2.1.1.2 Key Scottish guidance includes the following:

- Scotland's Energy Strategy and Just Transition Plan: Ministerial statement (Scottish Government, 2023²);
- DTA (2015³) – Habitats regulations appraisal of plans: Guidance for plan-making bodies in Scotland;
- DTA (2021a, in draft⁴) – Policy guidance document on demonstrating the absence of Alternative Solutions and imperative reasons for overriding public interest under the Habitats Regulations for Marine Scotland;
- DTA (2021b⁵) – Framework to Evaluate Ornithological Compensatory Measures for Offshore Wind. Process Guidance Note for Developers. Advice to marine Scotland;
- Scottish Government (2015⁶) – Scotland’s National Marine Plan: A Single Framework for Managing Our Seas;
- Scottish Government (2020b⁷) – Policy paper ‘EU Exit: The Habitats Regulations in Scotland’;
- Marine Directorate (2024⁸) – Marine Licensing and consenting: Habitats Regulations Appraisal; and
- Scottish Natural Heritage (2010⁹)ⁱ – Natura Casework Guidance: How to consider proposals affecting SACs and SPAs in Scotland. The essential quick guide.

2.1.1.3 Key UK guidance includes the following:

- Department for Environment, Food and Rural Affairs (Defra, 2012)¹⁰ – Habitats Directive: guidance on the application of article 6(4);
- Defra (2021a¹¹) – Policy paper ‘Changes to the Habitats Regulations 2017’;
- Defra (2021b¹²) – Draft best practice guidance for developing compensatory measures in relation to Marine Protected Areas;
- DTA (2021c¹³) – The Habitats Regulations Assessment Handbook; and

ⁱ In 2020, Scottish Natural Heritage was re-branded as NatureScot; however, its legal persona and statutory functions has remained unchanged.

- Department for Energy Security and Net Zero (DESNZ, 2022¹⁴) – Net Zero Strategy: Build Back Greener.

2.1.1.4 Key EU guidance includes the following:

- European Commission (EC) (2018¹⁵) – Managing Natura 2000 Sites (MN 2000): The provisions of Article 6 of the Habitats Directive 92/43/EEC; and
- EC (2021a¹⁶) – Guidance document on wind energy developments and EU nature legislation;
- EC (2021b¹⁷) – Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC and Annex (the EC Methodological Guidance).

2.2 Planning Precedent

2.2.1.1 To date, four OWF derogation cases have been submitted to the Scottish Ministers, for the West of Orkney, Berwick Bank, Green Volt, and Ossian projects. At the time of writing, Green Volt is the only project to have achieved consent. It is worth noting that the derogation cases submitted for both West of Orkney and Green Volt projects were all approached on a 'without prejudice' basis (where it was concluded no AEO SI on all European sites, including offshore marine sites, within the respective RIAAs), whereas the Berwick Bank and Ossian RIAAs concluded AEO SI on several SPAs therefore requiring Stage 3 of the HRA process.

2.2.1.2 Green Volt was granted consent in 2024 following the Appropriate Assessment (AA) by the Scottish Ministers, with the Minister's disagreeing on the 'without prejudice' nature of the derogation case, however ultimately determining that the project did not have any alternative solutions, IROPI are sufficient for the project, and adequate compensation was designed and securable.

2.2.1.3 In addition to preceding Scottish projects, the Applicant has also considered the approach used on several UK OWFs which have received consent on the basis of a derogation case. These are, in chronological order of consent award, as follows:

- Hornsea Three OWF (consented 2020; Department for Business, Energy & Industrial Strategy (BEIS), 2020a¹⁸);
- Norfolk Boreas OWF (consented 2021; BEIS, 2021¹⁹);
- Norfolk Vanguard OWF (consented 2022; BEIS, 2022a²⁰);
- East Anglia ONE North OWF (consented 2022; BEIS, 2022b²¹);
- East Anglia TWO OWF (consented 2022; BEIS, 2022c²²);
- Hornsea Four OWF (consented 2023; DESNZ, 2023²³);
- Sherringham and Dudgeon Extension Projects (consented 2024; DESNZ, 2024²⁴).

3 The Need for Caledonia North

3.1 Overview

3.1.1.1 Underpinning all of the assessments of alternative solutions and IROPI is the need for Caledonia North, demonstrating why it should proceed following the conclusions of AEO SI identified within the Caledonia North RIAA (Application Document 13). There are several key considerations that can be used to define the need for Caledonia North, all relating to Scottish and UK energy policies, including:

- **Climate Change, Net Zero and Decarbonisation:** the importance of meeting Scottish and UK Government targets relating to climate change and net zero to mitigate global climate change;
- **Security of Supply:** the importance of energy independence from imported sources;
- **Affordability of Supply:** ensuring the energy is available to consumers at the lowest possible cost to ensure the highest quality of life; and
- **Socio-Economic benefits of the Just Transition:** Creating stable employment opportunities and improvement of local economy through increased investment.

3.1.1.2 The Caledonia North Statement of Need (Application Document 15, Appendix 15-1) presents the full needs case for Caledonia North, with some of the key aspects presented within this report.

3.2 Climate Change, Net Zero and Decarbonisation

3.2.1 The Climate Emergency

3.2.1.1 Climate change is the largest threat to both humanity and the natural environment, on a global scale. Climate change is not a recent phenomenon, with international summits and agreements being held and established for several decades. These are organised by the United Nations (UN). The first piece of legally binding international policy reflecting the climate change emergency was The Paris Agreement, as adopted in 2015 by 196 UN Member States, including the UK and, therefore, Scotland.

3.2.1.2 The Member States signed up to the Paris Agreement agreed to the following:

- A long-term goal of keeping the increase in global average temperature to well below 2°C above pre-industrial levels;
- An aim to limit the increase to 1.5°C since this would significantly reduce risks and the impacts of climate change;

- The need for global greenhouse gas (GHG) emissions to peak as soon as possible; and
- Undertake rapid reductions thereafter in accordance with the best scientific guidance available.

3.2.1.3 Given the significance of this agreement, all subsequent Scottish and UK policies and legislation relating to the mitigation of climate change is based on The Paris Agreement.

3.2.1.4 As of the 6th Assessment Report (AR6) published by the Inter-Governmental Panel on Climate Change (IPCC), published in parts between August 2021 and March 2023, human-induced warming has already resulted in a 1°C increase when compared to pre-industrial levels. AR6 is a document of significant size and importance and is therefore assessed in full within the Caledonia North Statement of Need (Application Document 15, Appendix 15-1) accompanying the application for Caledonia North. The key messages from AR6 include the following:

- Without urgent and large-scale reductions in GHG, limiting warming close to 1.5°C or even 2°C will be unattainable;
- Any delay in concerted global action will result in the loss of a livable future;
- Global GHG emissions must peak before 2025 and be reduced by 43% by 2030 in order to limit warming to around 1.5°C; and
- Major changes in the energy sector are required to lead this reduction, primarily a reduction in fossil fuel usage, widespread electrification, improved energy efficiency and the adoption of alternative fuels.

3.2.1.5 The main conclusion of the AR6 report is that there is a chance humanity can combat climate change in the timescale required, however as of the time of the report, it was increasingly unlikely.

3.2.1.6 The urgency of climate action has been recognised on a national level as well as international, with the Scottish Government officially declaring a 'Climate Emergency' in April 2019 (Scottish Government, 2019²⁵). A rapid and immediate change to non-fossil fuel energy sources is considered the best way to counter climate change within the timescales required.

3.2.2 Net Zero

3.2.2.1 Net Zero is considered to be the only way of achieving long-term survivability against climate change.

3.2.2.2 The legal obligations to achieve Net Zero for Scotland and the UK have been further enforced through additional legislation, namely:

- Climate Change (Scotland) Act 2009, as amended by the Climate Change (Emissions Reduction Targets) (Scotland) Act 2019; and

- The Climate Change Act 2008, as amended by the Climate Change Act 2008 (2050 Target Amendment) Order 2019.

3.2.2.3 The targets for Net Zero are set to 2045 and 2050 in Scotland and the UK respectively. Additional interim targets are also in place, including a 90% reduction target by 2040 within Scotland.

3.2.2.4 Furthermore, the need for Caledonia North is greater than just the established targets, it is widely accepted that countries must go above and beyond their own national targets to try and counter climate change as quickly as physically possible, for the sake of the global population. Caledonia North further helps accomplish this by not only adding to renewable energy targets, but by reducing and replacing existing carbon emitting energy sources.

3.2.3 Decarbonisation

3.2.3.1 Decarbonisation refers to the act of reducing the carbon footprint of energy use throughout Scotland and the UK. Reducing the amount of GHG produced will greatly help to minimise the warming effect caused by anthropogenic activities. It is considered that the only way to truly achieve Net Zero, is by urgently increasing the use of renewable energy and removing the release of GHG as a byproduct from other hydrocarbon-based energy sources.

3.2.3.2 The Scottish Energy Strategy sets out targets for 2030 to supply the equivalent of 50% of the energy for Scotland's heat, transport and electricity consumption from renewable sources; and to increase by 30% the productivity of energy use across the Scottish economy (Scottish Government, 2017²⁶).

3.2.3.3 The scale of decarbonisation within Scotland is established through the draft Energy and Just Transition Plan (Scottish Government, 2023²⁷). This document sets out clear strategies, policy positions and a route map of actions to provide focus towards the government targets. There is a significant focus on the transition to Net Zero, including key considerations of affordability, job opportunities and ownership for local communities.

3.2.4 The Energy Gap

3.2.4.1 There is currently a gap between the decarbonisation policies in place, and the pathway required to limit warming to 1.5°C, as illustrated in Figure 3-1 (Climate Action Tracker, 2023²⁸). The current policies do not appear to be sufficient to meet the required targets and, although renewable energy projects are being deployed at scale, there is still no guarantee of achieving the established Net Zero targets. Furthermore, considering the global threat of climate change, it is considered that there is no upper limit to the amount of renewable energy projects that should be considered for Scotland, or the UK. It is also considered that all nations should contribute as much as they

can to combatting the climate emergency regardless of individual nation policies.

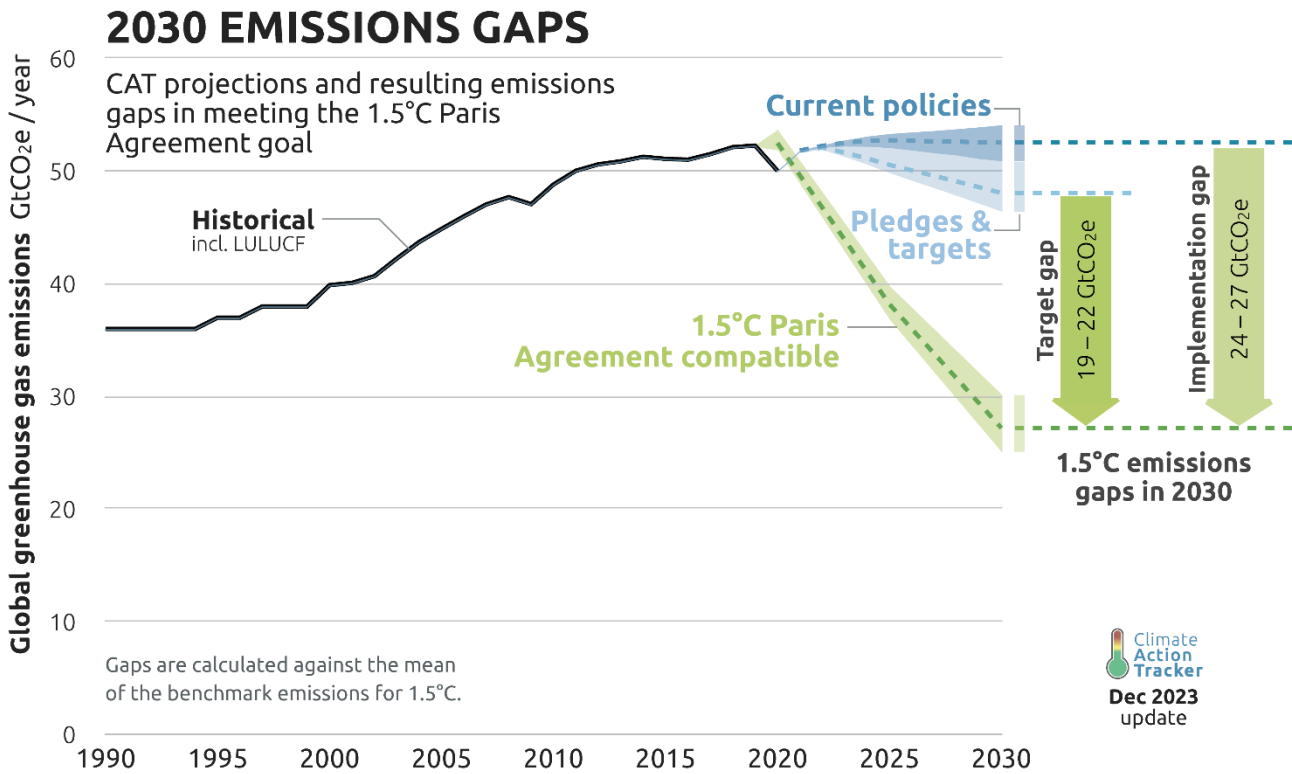


Figure 3-1: The Emission Gap between current policies and the Paris Agreement compliant targets.

3.2.5 Need for Additional Offshore Wind Deployment

3.2.5.1 The Crown Estate and Crown Estate Scotland have access to a significant amount of offshore seabed which has the potential for developments. Associated with this, comes a significant amount of offshore wind resource. Given the scale of climate change as a global threat, it is considered that as much of that resource as possible should be allocated for renewable energy usage.

3.2.5.2 As stated within the Caledonia North Statement of Need (Application Document 15, Appendix 15-1), there is a significant amount of Scottish and UK Government policy setting out the need for large scale offshore wind, including:

- Energy White Paper (DESNZ, 2020²⁹) – evidences the need for renewable energy and specifically offshore wind with respect to climate change and legislative targets;
- British Energy Security Strategy (HM Government, 2022³⁰) – setting a target of 50 GW of offshore wind by 2030;

- Overarching National Policy Statement for Energy (EN-1) (DESNZ, 2023a³¹) – sets out the UK government policy on the need for large scale projects to deliver the UK’s energy targets;
- National Policy Statement for renewable energy infrastructure (EN-3) (DESNZ, 2023b³²) – sets out the imperative need for electricity generation from renewable sources, with specific reference to the key role of offshore wind, as an essential element for the transition to net zero and meeting statutory targets;
- Offshore Wind Policy Statement (Scottish Government, 2020³³) - targeting 11GW of offshore wind capacity by 2030;
- Scotland’s National Marine Plan (Scottish Government, 2015⁶) - includes the objectives of developing more offshore wind, including contributing to the 2030 decarbonisation target of 50g CO₂/kWh;
- SMP for Offshore Wind Energy (Scottish Government, 2020a¹) - identifies 15 Plan Option areas split across 4 regions in Scottish waters, with a potential generation capacity of 10 GW of renewable energy;
- Scotland’s Energy Strategy Position Statement (Scottish Government, 2021³⁴) – considers offshore wind as a key part of the Scottish Energy Strategy in the future, with particular respect given to offshore wind being a priority area for international engagement;
- Net Zero Strategy for the UK (DESNZ, 2022¹⁴) – Build Back Greener, setting a target that the UK’s electricity will come from low carbon sources, including offshore wind by 2035;
- UK Offshore Wind Sector Deal (BEIS, 2020b³⁵) – deepens the integration between the UK Government and the offshore wind industry, committing to support, guidance and financial systems;
- Electricity System Operator National Grid ESO: Future Energy Scenarios (National Grid ESO, 2023³⁶) requirement for 38 – 47 GW offshore wind in 2030, 68 – 83 GW in 2040, and 87 – 113 GW by 2050; and
- Great British Energy Bill (DESNZ, 2024b³⁷) - The Bill aims to deliver on one of the new government’s first steps for change by setting up Great British Energy (GBE), a publicly owned company headquartered in Scotland to invest in clean, home-grown energy.

3.2.5.3 It is clear through the wide range of policy regarding offshore wind developments that the deployment of further offshore wind is critical in delivering climate change policy going forward into 2030 and beyond.

3.2.5.4 Currently, the UK has 11.3 GW of operational wind developments, with a forecast of 19.5 GW by the mid-2020s. However, as shown in Figure 3-2 (National Grid ESO, 2023³⁶), a significant increase in the amount of offshore wind is required to meet any of the modelled scenarios, even the ‘Falling Short’ model which still fails to meet the necessary targets. The target for 50 GW of offshore wind to be installed by 2030 is met only in the ‘Leading the Way’ scenario, including non-networked and networked wind. Therefore, it is

considered that there is a significant need to develop offshore wind at scale as soon as possible to ensure that relevant targets are met.

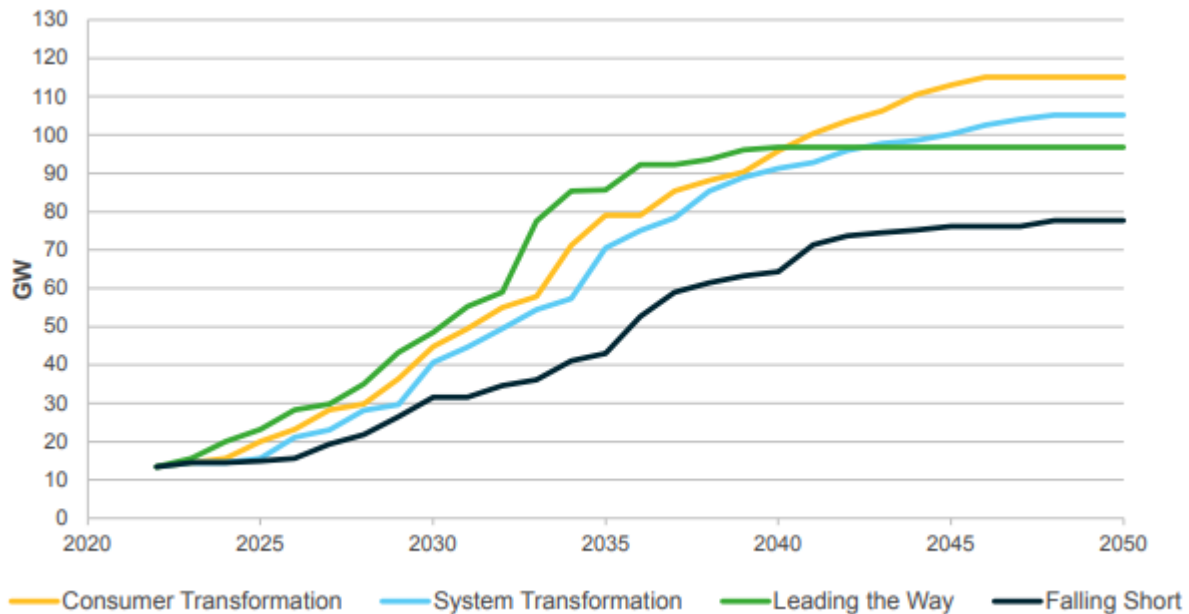


Figure 3-2: Offshore wind capacity in GW, excluding non-networked wind.

3.2.5.5 Additionally, it is worth noting that while many OWF projects are proposed, not all will be developed through to commercial operation, and several of those that do are likely to be at reduced capacities than initially proposed. Therefore, it is imperative that as many OWF projects are consented as possible, to ensure that Scotland and the UK has the best chance possible to meet relevant policy targets.

3.2.5.6 It is clear that a significant increase in offshore wind is required to decarbonise Scotland and the UK’s energy supply, and it must be done with great urgency to achieve all the relevant targets, both international and national.

3.3 Security of Supply

3.3.1.1 Energy security is an important issue for both the UK and Scotland, and it is considered essential for the health and safety for citizens, on top of increasing prosperity and commercial growth within the country. Energy security has become of much greater concern in the last few years due to both the Covid-19 pandemic and Russia's illegal invasion of Ukraine, which has resulted in a significant increase in the price of imported gas and coal (over 200% and 100% in 2021, respectively).

3.3.1.2 Given the nature of the GB grid, the energy sourced from Scottish Waters will be exported to other parts of the UK and vice versa. Therefore, while Scotland has its own decarbonisation and development targets, a wider UK

context must be considered when assessing availability and security of energy.

- 3.3.1.3 The most imperative aspect of energy security is ensuring that there is enough electricity within the GB-wide system to cover the peak demand, including any unexpected increases in usage, with adequate additional energy to account for any losses in input (e.g., closure of a power station). While currently there is technology able to store the generated energy during times of low usage/ over-production so that it may be released when usage is higher than anticipated, with the increasing electricity demand across both the UK and Scotland, increases in the number of sources is key to improving the resilience of the system.
- 3.3.1.4 In addition to increasing the supply of electricity, the type of energy is an important aspect to consider for security. Recent world events (e.g., Covid-19 pandemic and Russia’s invasion of Ukraine) have demonstrated the significance of the UK’s reliance on imported hydrocarbons specifically. Given the renewable energy resource within the UK, it is considered that the move to renewable sources within the UK is urgent for climate change, decarbonisation, political stability and a reduction in dependence on foreign states.
- 3.3.1.5 With the above said, it is considered that having a diverse range of sources is imperative to energy security, with a variety of sources adding resilience to the system, therefore ensuring that if there is a loss of one source, there are enough alternatives to fill the gap. Given the current reliance on fossil fuels within the UK, it is considered that the increased development of alternative sources, including renewable electricity, is key to increasing the diversity of UK supply. Given the resources available in Scotland and the UK, the infrastructure already in place and the ability to deploy at scale, it is considered that solar and wind will make up the majority of the renewable sources to be used to achieve Net Zero.
- 3.3.1.6 With offshore wind already established in Scotland connecting to an existing transmission system, increasing the amount of offshore wind is considered to be a logical step in reducing Scotland’s reliance on imported sources. It is also working towards decarbonisation to achieve Net Zero, as early as possible compared to the rest of the UK and other nations.

3.4 Affordability of Supply

- 3.4.1.1 It is stated within the Offshore Wind Policy Statement (Scottish Government, 2020³⁸) that:

“Offshore wind is one of the lowest cost forms of electricity generation at scale, offering cheap, green electricity for consumers, with latest projects capable of generating power at below wholesale electricity prices”.

- 3.4.1.2 It is therefore considered that increasing the supply of offshore wind electricity will work to improve the affordability of supply. This is especially relevant in the current economic climate with the recent cost of living crisis, especially in relation to energy (e.g., increase in the price of imported gas and coal (over 200% and 100% in 2021 respectively).
- 3.4.1.3 Scotland is considered to have a significant amount of seabed resource available for exploitation, which makes the large-scale development of offshore wind an achievable way to increase the supply of low-cost energy.
- 3.4.1.4 Additionally, policy is already in place for OWFs to ensure that the price of energy produced is affordable for customers through the Contract for Difference (CfD) auction process for generation assets and the offshore transmission owner regime for transmission assets. These policies work to increase investment in the industry by providing a longer-term fiscal framework which also promotes competitive pressures which benefits customers. Furthermore, as the offshore wind industry has continued to develop and technology improves, the efficiency of infrastructure (e.g., foundations, WTGs) has continued to increase, which has enabled offshore wind to remain competitive when compared to other energy generation technologies.
- 3.4.1.5 OWFs have also been proven to be affordable at scale for consumers, unlike other low-carbon projects (e.g., tidal or nuclear) which have not been developed to the same scale and are less technically and commercially feasible with more questions around their deliverability at the scale required. While any, and all, low-carbon-based projects will be essential to reach Scotland's decarbonisation targets, only offshore wind is considered established enough to produce a significant amount of affordable energy in the required short-term timescales.

3.5 Role of and Need for Caledonia North

- 3.5.1.1 Following the established need for renewable energy in the sections above and within the Caledonia North Statement of Need (Application Document 15, Appendix 15-1; which presents the full needs case for Caledonia North), it is considered that there is an established need for Caledonia North. The primary reasons evidencing this need are:
- The potential delivery of up to 1.1GW of renewable energy, providing a substantial contribution to decarbonisation and Net Zero targets;
 - Decarbonisation is urgent, with as much renewable energy as possible required to mitigate climate change. Caledonia North will not only contribute to the government targets, but begin to counter climate change by offsetting millions of tonnes of CO₂ every year;
 - The loss of potential energy generation by not progressing Caledonia North would need to be produced from other renewable sources, of which options

are limited. It is considered that all potential renewable energy sources are required to combat climate change;

- Energy security is more important than ever, and a diversity of supply is essential to avoid repeating the recent impacts of the Covid-19 pandemic and Russia’s illegal invasion of Ukraine;
- Caledonia North will contribute to the Just Transition away from non-renewable energy sources, particularly relevant to those people who rely on the fossil fuel industry within the Northeast of Scotland;
- Caledonia North is considered to be highly deliverable based on the use of bottom-fixed foundations which have been demonstrated to be appropriate within the Moray Firth (including in the delivery of the adjacent projects Moray East, Moray West and Beatrice), and the use of proven and reliable HVAC technology;
- Design choices and consenting strategies mean Caledonia North can be delivered in the ‘first phase’ of ScotWind projects and quicker than large projects using floating technology. Early delivery reduces risk of supply chain bottlenecks around 2035 and keeps Scotland/UK on track for continued installation and powering of OWF projects; and
- Caledonia North is considerably advanced compared to other Plan Option areas within Scotland enabling the delivery of low cost, low carbon energy sooner than other projects (further supporting the Just Transition).

3.5.1.2

For the above reasons, Caledonia North is therefore considered to be vital to the Scotland’s energy supply through the 2030’s and beyond. If Caledonia North is not undertaken, then not only would the Scottish decarbonisation targets (namely the 2045 target) potentially be more challenging or failed to be met, but Scotland would struggle to deliver the outputs as per the SMP for Offshore Wind Energy (Scottish Government, 2020a¹), Scottish Energy Strategy (Scottish Government, 2017²⁶), UK Net Zero Strategy (DESNZ, 2022)¹⁴ and UK Offshore Wind Sector Deal (BEIS, 2020b³⁵), as well as the targets set by the Climate Change (Scotland) Act 2009, Climate Change (Emissions Reduction Targets) (Scotland) Act 2019, and the (UK) Climate Change Act 2008 (as amended).

4 No Alternative Solutions

4.1 Overview

4.1.1.1

This section demonstrates the absence of alternative solutions to Caledonia North, as required within the derogation provisions, by identifying and assessing whether potential alternatives are feasible. As there is no prescribed process within the Habitats Regulations, and an absence of guidance from the Scottish government, the methodology and approach to demonstrating the absence of alternatives is guided by the appropriate European guidance where possible and previous OWF projects that have submitted derogation cases in both the UK and Scotland. The key guidance documents for the alternatives test are:

- Managing Natura 2000 Sites: The provisions of Article 6(3) of the 'Habitats' Directive 92/43/EEC (2000) published by the EC in 2000 but updated in November 2018 (MN 2000);
- EC Methodological Guidance: Assessment of plans and projects significantly affecting Natura 2000 sites (the Methodological Guidance);
- Guidance document on Article 6(4) of the 'Habitats Directive' 92/43/EEC (Article 6(4) Guidance); and
- Habitats Regulations Appraisal (HRA) Derogations for Offshore Wind Projects in Scotland - Legal Framework for Decisions (CMS, 2021).

4.1.1.2

Several key documents within the EIAR support the assessment of alternatives, with reference made throughout. The key documents are:

- Volume 1, Chapter 3: Proposed Development Description (Offshore);
- Volume 1, Chapter 6: Site Selection and Alternatives; and
- Application Document 4: Caledonia North Planning Statement.

4.2 Approach to Demonstrating the Absence of Alternative Solutions

4.2.1 Introduction

4.2.1.1

As 'no alternative solutions' is not explicitly defined within the Habitats Regulations and there is a limited amount of relevant case law at the UK and EU level, the approach used within this report is based on other previous OWF derogation decisions and relevant Scottish (DTA, 2021a, in draft⁴), UK (Defra, 2012¹⁰) and EC (2021a¹⁶) guidance.

- 4.2.1.2 The assessment of alternatives is presented using the following four step process:
- Step 1: Identification of core project objectives in the context of the identified need;
 - Step 2: Consideration of the 'do nothing' scenario;
 - Step 3: Identification of any feasible alternative solutions that meet core project objectives; and
 - Step 4: Comparative assessment of any feasible alternative solutions on the European Site Network.

4.2.2 Step 1 – Core Objectives of Caledonia North

4.2.2.1 It is considered that for an alternative solution to be considered feasible, it must achieve the same purpose and aim of Caledonia North. Therefore, it is important to the assessment of alternatives that the aims of the original proposal are defined. This is achieved through the core objectives of Caledonia North, to determine if it is theoretically possible to achieve the same results through different methods that have reduced impacts. In the context of the derogation provisions, a feasible alternative solution is one which delivers the same objectives in a way which is less damaging to the European site network when compared to the original proposal.

4.2.2.2 This approach has also been endorsed by the English High Court in *Spurrier*, which commented as follows:

“Even by itself, the noun ‘alternative’ carries the ordinary, Oxford English Dictionary meaning of ‘a thing available in place of another’, which begs the question what are the relevant objectives or purposes which an alternative would need to serve. However, article 6(4) does not refer simply to the absence of an ‘alternative’ but to an ‘alternative solution’, ‘alternative’ appearing as an adjective, which makes this meaning plain beyond any doubt. In our view, ‘an alternative’ must necessarily be directed at identified objectives or purposes; but it is beyond doubt that ‘an alternative solution’ must be so aimed”.

4.2.2.3 Defra (2012¹⁰) similarly states that alternative solutions are limited to those which would deliver the same overall objective as the original proposal. In making this point, it uses the example of an OWF:

“For example, in considering alternative solutions to an offshore wind renewable energy development the competent authority need only consider alternative offshore wind renewable energy developments. Alternative forms of energy generation are not alternative solutions to this project as they are beyond the scope of its objective. Similarly, alternative solutions to a port development will be limited to other ways of delivering port capacity, and not other options for importing freight”.

4.2.2.4 Defra (2021b¹²) guidance echoes this advice as follows:
“Examples of alternatives that may not meet the original objective include a proposal that...offers nuclear instead of offshore wind energy”.

4.2.2.5 Similarly, the Secretary of State stated in the Hornsea Four OWF decision letter the following:

“The Secretary of State does not consider the development of alternative forms of energy generation to meet the objectives for the Development. Alternatives to the Development considered by the Secretary of State are consequently limited either to Do Nothing or to alternative wind farm projects”.

4.2.2.6 In conclusion, the first step is to identify the core objectives of Caledonia North. These core objectives respond to and must be understood in the context of the relevant policies and the needs case which Caledonia North serves, as set out in Section 3 of this report. It is noted that a similar approach has been followed in other Scottish and UK HRA derogation cases for OWF projects. The core objectives are considered within Section 4.3.

4.2.3 Step 2 – Do Nothing Scenario

4.2.3.1 The second stage to be considered is the ‘do nothing’ scenario, to determine the outcome of not progressing Caledonia North at all. The English courts have cast doubt on the proposition that ‘do nothing’ is a true alternative, although it has been recognised that where there are IROPI this clearly raises the question of whether it is better to do nothing. The ‘do nothing’ scenario is assessed here against the core objectives of Caledonia North, following other previous OWF examples.

4.2.4 Step 3 – Identify Feasible Alternative Solutions

4.2.4.1 If it determined that the ‘do nothing’ option is not a feasible alternative, other options should be identified to see if they meet the core objectives of Caledonia North while avoiding or reducing damage to the European site network as well as not resulting in AEoSI for another designated sites currently unaffected by Caledonia North.

4.2.4.2 It is understood that feasible alternatives could include locating Caledonia North elsewhere, modifications to the size and design of Caledonia North, and modifications to construction and operational methodologies.

4.2.4.3 As mentioned above, the UK Secretary of State concluded in previous derogation cases that alternative forms of energy generation would not count as alternative solutions as they do not meet the outlined objectives. Therefore, alternative generation methods are not considered within this report.

4.2.4.4 The relevant guidance, including prior derogation cases, suggests that a feasible alternative must be financially, legally and technically feasible. It is considered that an alternative would not be feasible if the cost would render Caledonia North unviable or uncompetitive, or if a particular design was considered technically unsound or unsuitable for deployment or would not meet industry safety and regulatory requirements.

4.2.4.5 As for legal feasibility, it is considered that alternative locations can only be within areas/sites currently identified for leasing either by Crown Estate Scotland or The Crown Estate. This is justified within the HRA for East Anglia ONE North OWF, where the Secretary of State concluded:

“The site selection for all offshore wind proposals in the UK is controlled by The Crown Estate leasing process. Sites not within the areas identified by The Crown Estate leasing process or outside of that which the Applicant has secured (the southern East Anglia Zone) are not legally available, and therefore do not represent alternative locations”.

4.2.5 Step 4 – Assessment of Any Identified Alternative Solutions

4.2.5.1 Where feasible alternatives are identified within Step 3, they must then be assessed with respect to their potential impact on the European site network, in addition to the specific site and feature(s) for which AEoSI was concluded. It is worth noting that an alternative solution with an impact less than the original proposal does not result in a fail of the alternatives test as it is considered that there must be a significant material reduction in impact for it to be considered as an effective alternative solution.

4.3 No Alternative Solutions Case: Step 1 – Core Objectives of Caledonia North

4.3.1.1 The core objectives of Caledonia North have been determined based on the need of Caledonia North, as described within the Caledonia North Statement of Need (Application Document 15, Appendix 15-1) and summarised within Section 3. The considered objectives are presented within Table 4-1 and each addresses different aspects of the need case as identified within Section 3.

Table 4-1: Core Objectives of Caledonia North.

Objective	Basis of the Objective
<p>1. Develop and deliver a large-scale OWF that efficiently utilises transmission infrastructure, to generate low carbon electricity to support Scottish and UK decarbonisation targets</p>	<ul style="list-style-type: none"> ▪ Urgent action is needed to deliver decarbonisation and limit global warming to less than 1.5 degrees. ▪ Scottish First Minister declared a climate emergency in April 2019 and Scotland has legally binding targets to reduce greenhouse gas emissions to 'Net Zero' by 2045. ▪ UK Parliament declared a climate emergency in May 2019 and the UK has legally binding targets to reduce greenhouse gas emissions by 78% by 2035 and to 'Net Zero' by 2050. ▪ Delivery at scale is needed to make this change in the time available (e.g. 2045 UK targets). ▪ Recent legislation (e.g. EN-1 and EN-3) specify the importance of offshore wind in meeting these targets.
<p>2. To export electricity to the GB grid to increase energy security</p>	<ul style="list-style-type: none"> ▪ Energy security is a fundamental requirement which keeps the general public safe and healthy and increases prosperity through supporting commercial and industrial growth. Energy security has come into sharp focus in recent times as a result of supply shocks following the Covid-19 pandemic, and more recently due to Russia's illegal invasion of Ukraine. ▪ The development and deployment of low-carbon generation capacity additional to that procured in the existing Capacity Market mechanism would increase the likelihood that the UK would achieve security of supply. ▪ Caledonia North, if consented, would bring forward significant benefits to safeguarding Scotland's future energy security.
<p>3. Maximise generation capacity on appropriate and available Scottish seabed</p>	<ul style="list-style-type: none"> ▪ There is limited suitable seabed available for OWFs in Scotland and, therefore, generation capacity should be maximised within the available suitable seabed to maximise the ability to meet the decarbonisation targets. ▪ The location of Caledonia North is highly suitable for offshore wind and utilises bottom-fixed foundations to optimise use of the Caledonia North Site. ▪ Due to the immediate need for significant growth in offshore wind capacity, developments in any other suitable locations should not be seen as alternatives to Caledonia North because they too will be needed. ▪ Maximising capacity supports the diversity of generation technologies within Scotland and the wider UK and contributes towards security of supply.
<p>4. Deliver low carbon electricity at low cost to the consumer</p>	<ul style="list-style-type: none"> ▪ New low carbon energy generation capacity at the lowest possible cost is needed to deliver a just and fair energy transition. ▪ Economies of scale rising from large scale projects result in a greater efficiency and thereby supports the supply of low carbon electricity at low cost to the consumer.

Objective	Basis of the Objective
5. To support the development of a local Scottish supply chain for future developments	<ul style="list-style-type: none"> ▪ A significant deployment of largescale complex offshore infrastructure must be procured, supplied, built, maintained and operated to deliver on the Scottish government commitments. ▪ Supporting a local supply chain within Northeast Scotland will contribute towards the Just Transition away from fossil fuels. ▪ The scale of Caledonia North means that there will be a positive socio-economic benefit to both Scotland and the UK, particularly the local Northeast Scottish economy.

4.4 No Alternative Solutions Case: Step 2 – Do Nothing Scenario

- 4.4.1.1 The 'do nothing' scenario assesses the potential impacts of not progressing Caledonia North. If Caledonia North does not proceed, a significant area of available seabed suitable for large-scale offshore wind development in Scottish Waters would not be developed. It is considered that all proposed OWFs within Scottish Waters are necessary to meet the UK 2030 targets and the Net Zero 2045 target for Scotland.
- 4.4.1.2 Additionally, the do nothing scenario would hinder decarbonisation and security of supply efforts in the short-term and ignore the clear and urgent need for large scale OWF development within the UK. The targets for decarbonisation, as well as the importance of energy security and affordability mean that all viable OWF projects should be considered for development. It is not appropriate within a climate emergency to 'do nothing'.
- 4.4.1.3 Therefore, the 'do nothing' option is discounted as a feasible alternative to Caledonia North for the reasons summarised in Table 4-2.

Table 4-2: Performance of the 'do nothing' scenario against the project objectives.

Alternative Solution	Objective 1: Develop a large scale OWF to generate low carbon electricity to support Scottish and UK decarbonisation targets	Objective 2: To export electricity to the GB Grid to increase energy security	Objective 3: Maximise generation capacity on appropriate and available Scottish seabed	Objective 4: Delivery low carbon electricity at low cost to the consumer	Objective 5: To support the development of a local Scottish supply chain for future developments
Do nothing	Provides no contribution towards Scottish and UK targets to decarbonise	Provides no contribution to increasing energy security	Would waste a part of most appropriate or available Scottish seabed	Likely to increase consumer cost in long term from reliance on non-renewable sources	Would not develop the Scottish supply chain or have any residual local benefits

4.5 No Alternative Solutions Case: Step 3 – Identify Feasible Alternative Solutions

4.5.1 Scope of Alternatives Considered

4.5.1.1 Following relevant guidance and examples set by other previous OWF derogation cases, the scope for consideration of potentially feasible alternative solutions has been defined as follows:

- Alternative OWF array locations, including:
 - Locations outside the UK;
 - Locations within the UK, excluding Scottish waters; and
 - Locations within Scottish waters.
- Alternative project designs, including:
 - The size of developable area;
 - The overall number of WTGs;
 - Number and location of offshore export cables;
 - Increased airgap;
 - Types of foundation; and
 - The type and size of WTGs.

4.5.1.2 Each of the above is considered in turn below, in the context of core objectives of Caledonia North, and with regards to their feasibility (i.e., financial, legal and technical).

4.5.2 Alternative Array Area Locations

Locations Outside the UK

4.5.2.1 This section considers the potential of progressing Caledonia North in alternative locations outside of the UK.

4.5.2.2 As the UK Secretary of State stated within the HRA for the East Anglia ONE North OWF, sites not within the areas controlled by The Crown Estate leasing process (noting this project is located within English Waters) are not legally available to the applicant for development. As mentioned above, other countries will also have their own decarbonisation targets through various legal policies (e.g., the Paris Agreement) and, therefore, countries with territories outside the UK Renewable Energy Zone (REZ) will require the available space to maximise their own renewable energy resource and meet their own legal obligations.

4.5.2.3 Both the UK and Scotland have legal decarbonisation targets, of particular relevance being the UK 2030 targets and Net Zero target by 2045 in Scotland. While other countries are subject to various EU and international policies regarding decarbonisation and climate change, it is considered that any location outside the UK REZ would fail to meet Objective 1 of Caledonia North as it would not contribute to Scottish and UK decarbonisation targets. By moving Caledonia North outside the UK REZ, Objective 3 and 5 would also not be met as these relate Scotland specifically (developing available Scottish seabed and the Scottish supply chain respectively). While the other objectives may still be met, the alternative is still not feasible based on the failure to meet objectives 1, 3, and 5.

4.5.2.4 Therefore, alternative array locations outside of the UK REZ are discounted as a feasible alternative to Caledonia North for failing to achieve three of the core objectives as summarised in Table 4-3.

Locations within the UK, Outside Scottish waters

4.5.2.5 This section considers the potential of developing Caledonia North in alternative locations throughout the UK, excluding Scottish waters (where Caledonia North is located).

4.5.2.6 As discussed above, The Crown Estate and Crown Estate Scotland manage the rights to the leasing and exploitation of the seabed for offshore wind development within the UK and the wider UK REZ. As discussed within the HRA for East Anglia ONE North OWF, areas of seabed outside that secured by the Applicant does not represent an alternative solution, and therefore on this

basis any seabed outside of the ScotWind leasing round are not considered feasible alternative solutions.

- 4.5.2.7 In addition, when initially announced in April 2022, the ScotWind leasing round included a total of 15 Plan Option areas, consisting of 17 projects totalling at 24.8 GW, all of which are within Scottish Waters. Three additional projects were added in October 2022, bringing the total to 20 projects and 27.6 GW. The potential sites were informed by the spatial and policy framework set out within the SMP for Offshore Wind Energy (Scottish Government, 2020a)¹. Therefore, it is not considered to be feasible for the Applicant to consider locations outside of Scottish Waters given the defined Plan Option Areas within the SMP.
- 4.5.2.8 Furthermore, sites outside of Scottish Waters would also fail to meet many of the Objectives of Caledonia North, particularly Objectives 3 and 5 as both refer to specifically Scottish benefits (maximising Scottish seabed and developing a Scottish supply chain). While the other objectives may still be met, the alternative is still not feasible based on the failure to meet objectives 3, and 5.

Locations within Scottish Waters

- 4.5.2.9 Consideration of other locations in Scottish waters, as an alternative to the proposed location for Caledonia North, is not considered a feasible option for the simple and undisputable reason that all available Scottish seabed is required to achieve (and if possible surpass) UK and Scottish governments offshore wind energy generation and Net Zero targets (namely the 2030 and 2045 targets), and in so doing help to tackle the global climate change emergency.
- 4.5.2.10 As stated within Section 3, the Caledonia North Statement of Need (Application Document 15, Appendix 15-1), and the 'do nothing' scenario above (Section 4.4) there is a significant need to rapidly increase the amount of offshore energy generated within both UK and Scottish waters and the loss of any potential renewable energy generating capacity is not acceptable.

Conclusions

- 4.5.2.11 Table 4-3 below presents the conclusions for each alternative locations with respect to the objectives of Caledonia North.

Table 4-3: Performance of alternative array area locations against the project objectives.

Alternative Solution	Objective 1: Develop a large scale OWF to generate low carbon electricity to support Scottish and UK decarbonisation targets	Objective 2: To export electricity to the GB Grid to increase energy security	Objective 3: Maximise generation capacity on appropriate and available Scottish seabed	Objective 4: Delivery low carbon electricity at low cost to the consumer	Objective 5: To support the development of a local Scottish supply chain for future developments
Alternative locations outside the UK REZ	Provides no contribution towards Scottish and UK targets to decarbonise	Meets objective, however not considered to be a feasible alternative for Caledonia North following the SMP	Does not utilise any appropriate or available Scottish seabed	Meets objective, however not considered to be a feasible alternative for Caledonia North following the SMP	Would be unlikely to develop the local Scottish supply chain if developing in other territories
Locations within the UK, outside Scottish waters	Meets objective, however not considered to be a feasible alternative for Caledonia North following the SMP	Meets objective, however not considered to be a feasible alternative for Caledonia North following the SMP	Prevents generation on Scottish seabed.	Meets objective, however not considered to be a feasible alternative for Caledonia North following the SMP	Prevents development of Scottish supply chain.
Locations within Scottish waters	Meets objective, however, is not considered to be a feasible alternative for Caledonia North as would result in the loss of essential generation capacity.				

4.5.3 Alternative Design Solutions for Caledonia North

4.5.3.1

The consideration of designated sites and environmental constraints has been a central theme within the development of Caledonia North. Consideration has been given to feasible alternatives throughout the design process. This has been done to ensure that feasible and practical avoidance and mitigation has been deployed, and potential impacts reduced. Volume 1, Chapter 6: Site Selection and Alternatives outlines the site selection process for Caledonia North including a comparison of alternatives considered and the reasons for selecting the final design options.

4.5.3.2 This section presents an analysis of design alternatives available to limit the impact of Caledonia North on designated sites. The scope of this alternatives design consideration has been limited to alternative project designs which influence the impact of Caledonia North on ornithological receptors. The design parameters considered are:

- The size of developable area;
- The overall number of WTGs;
- Number and location of export cables;
- Increased airgap;
- Smaller rotors/swept area; and
- The type of WTGs.

Size of the Developable Area

4.5.3.3 The size of Caledonia North has been driven by a several key factors, initially by the ScotWind Leasing process where the NE4 Plan Option was formally identified (Scottish Government, 2020a).

4.5.3.4 The Applicant, on choosing to bid for the NE4 Plan Option, undertook extensive desktop reviews of known existing constraints (such as existing infrastructure (subsea cables, wells, known (charted) wrecks, shipping lanes, exclusion zones)), and geology, among other factors and engaged with National Grid Electricity System Operator to discuss timescales and design for connection to NETS.

4.5.3.5 It was determined that significant upgrade and reinforcement works are required to the NETS to accommodate the increase in renewable electricity generation required to meet the UK's decarbonisation targets. The timescales for the completion of the NETS reinforcement works will likely require the Proposed Development to connect to the NETS in two phases. The proposed programme for delivery of the Proposed Development reflects this, providing flexibility to bring the project forward in phases with the infrastructure assessed in each phase ensuring the right amount of electricity can be delivered to the NETS at the right time, in line with the completion of the necessary NETS reinforcement works. Design assumptions have been made to allow for future improvements in technologies, such as using the latest turbine technology, to be considered in detailed design. This process has also considered a range of site selection criteria including water depth, preliminary ground conditions and early energy yield analysis. The Caledonia North Site has a footprint of approximately 218.5km² and comprises the relatively shallower waters of the Caledonia OWF.

4.5.3.6 Any reduction in the array areas limits the potential generating capacity of Caledonia North, which impacts the financial feasibility of the site and limits the opportunity for the site to contribute to the UK and Scottish governments targets and the project objectives. Any further reduction to the developable

area may introduce significant technical and commercial risk which could hinder achievement of project objectives. A primary impact considered within the Caledonia North RIAA (Application Document 13) is physical presence of turbines, reducing the area would not necessarily result in any less impact.

- 4.5.3.7 It is considered that the developable area cannot be increased without either exceeding the legally secured area or impacting the generation capacity of Caledonia South, and therefore expanding the area is not considered a feasible alternative. Reducing the area further would result in a loss of generation capacity at Caledonia North, and therefore is also not considered to be a feasible alternative.

Overall Number of WTGs

- 4.5.3.8 The number of WTGs determined for Caledonia North is considered to be a maximum of 77 WTGs. This was determined to result in an approximately even split in generating capacity between Caledonia North and Caledonia South (overall, there will be a cap of 140 WTGs across Caledonia North and Caledonia South; this value ensures the objectives of the Proposed Development are met whilst minimising potential environmental effects). The number of turbines specified allows the capacity Caledonia North can generate to be optimised. It is considered that reducing the number of WTGs from this number would result in a loss of generating capacity and fail to support the project objectives. A material reduction in the number of turbines is not considered to be financially or technically feasible, nor is it likely to be significantly less damaging as the primary impact considered within the Caledonia North RIAA (Application Document 13) is due to the physical presence of turbines. Therefore, reducing the number of WTGs is discounted as a feasible alternative to Caledonia North.

Increased Air Gap

- 4.5.3.9 The minimum air gap (clearance between the rotor blades and sea surface) requirements are set by MGN 654 where a 22m minimal air gap is mandated for safe navigation. Having regard to this, Caledonia North has an air gap of 35m. This height has been driven by the balance of collision risk of birds with turbines (consulted upon with NatureScot and RSPB) and engineering risk, with the conclusion drawn that the ability to further increase the air gap above 35m is not currently feasible, and therefore not a feasible alternative solution.

Smaller Rotors/Swept Area

- 4.5.3.10 Smaller rotors for the same number of turbines would result in a lower capacity project which would limit the ability of Caledonia North to contribute to the various UK and Scottish targets or the project objectives. It is considered by the Applicant that the majority of capacity currently in planning will be required to achieve the decarbonisation targets.

- 4.5.3.11 Smaller rotors to achieve the same offshore wind farm capacity would require a greater number of turbines which would increase the magnitude of potential effects on ornithology receptors and would potentially require an increased wind farm site area, and therefore increase the ecological impact associated with Caledonia North. Therefore, this is not considered a feasible alternative.

Type of WTGs

- 4.5.3.12 At the time of submitting the Offshore Scoping Report (Volume 7, Appendix 2), it was identified that foundations for WTGs could include bottom-fixed and floating technology. The maximum number of WTGs was reported to be 150 for Caledonia OWF, with the Array Area of approximately 429km² describing an indicative split of up to 111 bottom-fixed foundations and 39 floating foundations. This has since been refined to a maximum of 140 WTGs across both Caledonia North and Caledonia South, using either all bottom-fixed foundations (i.e., 140) or a combination of bottom-fixed foundations and up to 39 floating foundations. The comparatively shallow waters have resulted in Caledonia North being proposed to only contain bottom-fixed WTG foundations, with floating turbines not considered.
- 4.5.3.13 The potential use of Gravity-Based Structures (GBS) as a WTG foundation type was included within the Offshore Scoping Report (Volume 7, Appendix 2); however, following further technical screening, this technology has been discounted mainly due to site conditions and water depths. Furthermore, it is recognised that GBS would represent the worst-case scenario for a number of environmental receptors (e.g., benthic subtidal habitats, physical processes) and, therefore, removing this WTG foundation type from the DE is considered to have improved the impact assessment and reduced complexity for stakeholders. Therefore, the potential options for WTG foundations within the Caledonia North Site include the following bottom-fixed technology:
- Jacket with pin piles;
 - Jacket with suction caissons; and
 - Monopile.
- 4.5.3.14 It is considered that any alternative WTG designs would not only result in an increase in certain environmental impacts associated with Caledonia North (e.g., increasing impacts on both benthic subtidal habitats and physical processes), but it would also not have any significant reduction in potential impacts on ornithological receptors, and therefore are not considered to be feasible alternative solutions.

Conclusions

- 4.5.3.15 None of the alternative design options for Caledonia North considered above are considered appropriate alternative solutions for a variety of reasons, including not meeting the project objectives (e.g., reducing the developable area), increasing impacts on designated sites for others (e.g. changing the number and location of export cables, or type of WTGs), and not being technically feasible for Caledonia North (e.g., increasing the air gap).

4.6 No Alternative Solutions Case: Step 4 – Assessment of Any Identified Alternative Solutions

- 4.6.1.1 Step 4 involves an assessment and comparative analysis of the potential impacts of any identified feasible alternatives on both the identified sites with AEoSI from Caledonia North, and the national site network as a whole. However, as detailed above, none of the identified alternatives are considered to be feasible alternatives and, therefore, no assessment within Step 4 is required.

4.7 Summary of No Alternative Solutions

- 4.7.1.1 The purpose of this section has been to demonstrate objectively to the Scottish Ministers that there are no feasible alternative solutions to Caledonia North.
- 4.7.1.2 The section above summarises the iterative and comprehensive design process, including a range of potential alternatives considered pre-application prior to determining the final location and design of Caledonia North.
- 4.7.1.3 The consideration of alternative solutions must be approached on a reasonable basis, with reference to the genuine project objectives designed to serve the identified need. Each step must be grounded in real world considerations of feasibility (legally, technically, and commercially). With that in mind, the Applicant has undertaken a comprehensive assessment of potential alternative options which is considered sufficient to enable the Scottish Ministers to be satisfied that there are no feasible Alternative solutions to the Caledonia North, as summarised within Table 4-4.

Table 4-4: Summary of potential alternative options discounted for Caledonia North.

Alternative	Summary of Reasons why Discounted
Do nothing	This option does not adequately respond to the urgent need for renewable energy or deliver any of the Objectives of Caledonia North.
Alternative locations outside the UK REZ	This option is not legally feasible for the Applicant, nor does it meet any of the Objectives of Caledonia North.
Locations within the UK, outside Scottish waters	This option is not legally feasible for the Applicant, nor does it meet any of the Objectives of Caledonia North.
Locations within Scottish waters	This option is not an alternative as would result in the direct loss of essential offshore wind generation (up to 1.1GW).
Alternative designs	None of the alternative designs are considered feasible alternatives as either fail the project Objectives, result in increased ecological impacts, or are not technically feasible for the Applicant.

5 Imperative Reasons of Overriding Public Interest

5.1 Introduction to IROPI

5.1.1.1 This section of the report demonstrates the IROPI to enable the Scottish Ministers to authorise Caledonia North, should a conclusion of AEO SI be reached by the Scottish Ministers.

5.1.1.2 It is considered that there is a strong argument that Caledonia North must be completed for its IROPI as determined by Scottish and UK Government policy and targets.

5.1.1.3 The IROPI case is supported by, and draws in particular upon, the following documents which accompany the different planning applications for the Project:

- Application Document 15, Appendix 15-1: Caledonia North Statement of Need; and
- Volume 6, Chapter 2: Socio-economics, Tourism and Recreation.

5.2 Approach to the Assessment of IROPI

5.2.1 Overview

5.2.1.1 This section of the document sets out a compelling case that Caledonia North must be carried out for IROPI in view of its environmental, social and economic benefits, which are needed to achieve the various global, UK and Scottish Government climate change targets/legal commitments. This is validated within Regulation 64 where it states:

“64 (1) If the competent authority is satisfied that, there being no alternative solutions, the plan or project must be carried out for imperative reasons of overriding public interest (which, subject to paragraph (2), may be of a social or economic nature), it may agree to the plan or project notwithstanding a negative assessment of the implications for the European site or the European offshore marine site (as the case may be).

(2) Where the site concerned hosts a priority natural habitat type or a priority species, the reasons referred to in paragraph (1) must be either—

(a) reasons relating to human health, public safety or beneficial consequences of primary importance to the environment; or

(b) any other reasons which the competent authority, having due regard to the opinion of the [appropriate authority], considers to be imperative reasons of overriding public interest”.

5.2.1.2 The consideration of IROPI requires a balance between preserving the conservation objectives of designated sites and the national site network as a whole, and the benefits provided by the project. For Caledonia North to be consented, the competent authority must be confident that the benefits outweigh the negatives.

5.2.1.3 Relevant guidance (DTA, 2024) defines the key aspects of IROPI as follows:

- Imperative: the plan or project must be 'required', or 'indispensable, or it must be 'essential' (whether urgent or otherwise) that the plan or project proceeds;
- Public Interest: a public benefit must be delivered rather than a solely private interest, but plans and projects involving private interest are not excluded so long as there is an adequate public interest and the private interests are not taken into account in the justification;
- Overriding: in the sense that whatever the benefits may be, they must be weighed up against the damage and they must demonstrably outweigh the potential harm to the site; and
- Have a long-term, not merely a short-term benefit.

5.2.2 Relevant Examples of IROPI Decisions

5.2.2.1 To date, there have been seven derogation cases for English OWFs that have passed the IROPI test, including:

- Hornsea Three OWF;
- Hornsea Four OWF;
- Norfolk Boreas OWF;
- Norfolk Vanguard OWF;
- East Anglia ONE North OWF;
- East Anglian TWO OWF; and
- Dudgeon and Sherringham Extension projects.

5.2.2.2 In each of these cases, the UK Secretary of State considered that the IROPI were significant, and the public benefits outweighed the adverse impacts of the project. The Secretary of State's conclusions were predicated upon:

"The principal and essential benefit of the Development as a significant contribution to limiting the extent of climate change in accordance with the objectives of the Climate Change Act 2008. The consequences of not achieving those objectives would be severely deleterious to societies across the globe, including the UK, to human health, to social and economic interests and to the environment".

5.2.2.3 It was also stated that:

“Decarbonisation will lead to a substantially increased demand for electricity as other power sources are at least partially phased out or transformed. Simultaneously the supply of electricity must decarbonise. This will require the establishment of a reliable and secure mix of low-carbon electricity sources, including large-scale development of offshore wind generation.

Offshore wind generation schemes can only be developed through the mechanism put in place by The Crown Estate for leasing areas of the seabed in a structured and timely way. Projects, like the Development, which make a significant contribution to meeting the target capacity in the timeframe required are therefore both necessary and urgent”.

- 5.2.2.4 These decisions were based on the derogation cases for English projects; however, within Scotland, the Berwick Bank OWF, West of Orkney, and Ossian OWFs are currently in determination by the Scottish Ministers, with decisions regarding consent not reached at the time of writing. The GreenVolt OWF has been consented, having submitted a ‘without prejudice’ derogation case, with the Scottish Ministers determining that the IROPI was satisfactory for consent to be granted (with the other derogation tests also being met).

5.2.3 Content and Structure

- 5.2.3.1 In line with the principles and guidance outlined above, the consideration of IROPI within this report is presented as follows:

- Step 1: Imperative Reasons (demonstrating the urgency and importance of Caledonia North);
- Step 2: Public Interest (demonstrating the public interest served by Caledonia North);
- Step 3: Overriding (weighing the public interest served with the potential impacts on the European site network; and
- Step 4: Long-term interest (demonstrating the long-term nature of the interests served by Caledonia North).

5.3 IROPI Case: Step 1 – Imperative Reasons

5.3.1 Introduction

- 5.3.1.1 Following the advice contained within guidance and the types of IROPI that can be considered for Caledonia North, this section is broken down into two sections:

- Human health, public safety and beneficial consequences of primary importance to the environment; and
- Economic and social benefits.

5.3.2 Human Health, Public Safety and Beneficial Consequences of Primary Importance to the Environment

5.3.2.1 The imperative reasons that justify Caledonia North are all based around the need case, as summarised in Section 3 of this report, with the most important aspect being the key contribution towards combatting climate change and providing energy security for both the UK and Scotland. These make up the reasons relating to 'human health, public safety or beneficial consequences of primary importance to the environment' which constitute IROPI as stated within the guidance.

Human Health

5.3.2.2 As described within Section 3 and the Caledonia North Statement of Need (Application Document 15, Appendix 15-1), climate change is a significant risk to human health throughout the globe. The latest IPCC report (AR6) concludes that without immediate, rapid and large-scale reductions in GHG, limiting warming close to 1.5°C or even 2°C will be beyond reach. Some of the impacts of climate change that will impact human health include extreme weather events through droughts, floods and heat waves, while also resulting in general catastrophic environmental damage to systems that humans rely on to survive. This includes significant risk to water resources and agricultural systems, threatening citizens of Scotland and the UK.

5.3.2.3 While there are a range of projects throughout the UK to assist with decarbonisation (e.g., other OWF projects), there are not currently enough projects proposed to reach the 2050 Net Zero target, the 2045 Scottish Net Zero target, or the UK 2030 target. It is considered that not only is the contribution of Caledonia North key to meeting the 2030, 2045 and 2050 targets, but it is also imperative to overcoming climate change in the short term and reducing the risk of climate change on human health.

5.3.2.4 Furthermore, given the Scottish winter climate, it is imperative for human health that there is a secure and reliable energy supply available at low cost to the consumer. The Applicant considers that developing Caledonia North will contribute to all these factors in improving human health.

Public Safety

5.3.2.5 Given the dependence of the UK on electricity for almost all aspects of day-to-day life, and the increasing demand for energy (see Section 3), it is considered that the security of supply is a matter of public safety. Reducing our dependency on foreign imported energy is key to ensure a strong and secure supply for the UK.

5.3.2.6 As stated in the British Energy Security Strategy (HM Government, 2022³⁰), this need for increased UK supply has been evidenced by Russia's invasion of

Ukraine, which resulted in a significant increase in the price of imported gas and coal (over 200% and 100% in 2021 respectively). The British energy security strategy also states that:

“The cleanest and most secure way to do this [reduce imports while ensuring we have enough energy] is to source more of it domestically with a second lease of life for our North Sea”.

- 5.3.2.7 It is clear that there is an urgent need for electricity sources which are UK based and not based on imports of fossil fuels. This will help to protect consumers from rapid fluctuations in energy process which impacts their quality of life, as well as increasing our predictability of supply.
- 5.3.2.8 As Caledonia North would provide a significant contribution to the provision of renewable energy in Scotland, and the UK, it is considered that there is IROPI in the form of energy security (and therefore public safety) alone.

Beneficial Consequences of Primary Importance to the Environment

- 5.3.2.9 Climate change is widely considered to be the greatest threat to the planet in human history. The impacts effect not only humans, as increasing global temperatures above the suggested 1.5°C would result in significant ecological damage. This includes significant impacts on terrestrial species and habitats, soils, natural carbon stores (potentially releasing more GHG into the atmosphere and accelerating the impacts of climate change), agricultural and forestry productivity, marine species (including but not limited to marine mammals, seabirds, and habitats), and fisheries.
- 5.3.2.10 The rising global temperatures have been recorded as having an impact on marine mammals, including significant changes in prey distributions, which have an indirect effect on marine mammals.
- 5.3.2.11 Seabirds are also known to be significantly impacted by climate change effects, with the results of the latest seabird census, Seabirds Count, published revealed that almost two thirds of Scotland’s breeding seabird species have declined over twenty years (RSPB, 2023³⁹). One of the primary divers is the decline of prey stocks due to ocean temperature changes and ocean acidification, which in turn leads to a rapid decline in seabird populations (Johnston *et al.*, 2021⁴⁰). This is most notable on sandeel around Scotland, a key food for many seabird populations. Changes in sandeel availability have been related to rising sea surface temperature, altered water column stratification, and the North Atlantic Oscillation (Johnston *et al.*, 2021⁴⁰). Sandeel availability is particularly important during seabird breeding, when reductions in the quality and quantity of prey available to feed chicks can reduce seabird breeding success.
- 5.3.2.12 Seabird populations are also affected directly by climate change due to extreme weather events, which may reduce the ability of seabirds to forage and find food, leading to starvation and death. Periodic mass mortality events known as “wrecks” can also occur, when large numbers of dead seabirds are

washed ashore. Poor weather can also reduce breeding success through nest flooding, for example. However, due to the complex nature of marine food webs and the enigmatic life histories of many seabirds, understanding of seabird responses to climate change remains poorly understood. An illustration of these complexities is of Arctic skua in Scotland which experienced an 81% decline between 1992-2015 which is thought to have resulted from a change in food web interactions influenced by a combination of factors including fisheries management and climate change (Perkins *et al.*, 2018⁴¹).

- 5.3.2.13 Furthermore, much of the marine environment in and around Scotland is influenced by the Atlantic Meridional Overturning Circulation (AMOC), which brings warm water from the tropics to the UK. This regulates temperatures in Scotland both in the marine and terrestrial environments (Mcarthy *et al.*, 2023⁴²). In recent years, the AOMC has been observed weakening, primarily driven by an increase in cold fresh water from the melting of the Arctic Sea ice, which disrupts the circulation of denser salt water which drives the flow of the whole AMOC. It is considered that as the AMOC weakens, the climate will change, particularly in the Northern Atlantic region, including Scotland (Johnston *et al.*, 2021⁴⁰).
- 5.3.2.14 Recent studies have estimated that following the current scenario of emissions, the AMOC would collapse imminently, around the mid-century (Ditlevsen and Ditlevsen, 2023⁴³). It is considered that if the AMOC does collapse, there would be significant impacts on the marine environment with significant shifts to circulation and dispersal mechanisms for marine species (including eggs and larvae), shifts in prey species abundance and distribution due to temperature changes, and changes in ocean chemistry including salinity and nutrient levels. This will have a significant indirect impact on seabirds and marine mammal populations, likely resulting in significant declines. With respect to human impacts, there would likely be a significant reduction in temperature and a shift in precipitation patterns (Jackson *et al.*, 2015⁴⁴; Mcarthy *et al.*, 2023⁴²) which would result in a significant loss of arable farming land, effecting the quality of life for many people in the UK with respect to food availability, and economic income. There would also be an increase in storm frequency and intensity, providing a significant threat to human life (Mcarthy *et al.*, 2023⁴²).
- 5.3.2.15 It is considered that Caledonia North will be able to provide a significant contribution (1.1GW) to the immediate, rapid, and large-scale decarbonisation of the UK's energy supply, which is one of the recommended ways of preventing climate change from worsening. Therefore, Caledonia North presents significant beneficial consequences to the environment, by preventing the further loss of the marine environment, particularly seabirds.
- 5.3.2.16 As Caledonia North would provide a significant contribution to the provision of renewable energy, it is considered that there is IROPI in the form of beneficial consequences of primary importance to the environment alone.

Summary

- 5.3.2.17 Based on all the above information, it is considered that Caledonia North is both necessary and urgent, and is justified by IROPI based on delivery of beneficial consequences of primary importance to the environment, and for human health and public safety.

5.3.3 Economic and Social Benefits

Introduction

- 5.3.3.1 The public interest for Caledonia North goes further still and includes substantial economic benefit to both Scotland and the wider UK. Not only will the supply of low cost energy that is reliable (as detailed within Sections 3.3 and 3.4) result in economic benefits for consumers, but Caledonia North will provide substantial benefits to the UK economy including facilitating confidence in the Scottish and UK and local supply chain, growing a skilled workforce and providing wider community benefits while also working towards a Just Transition away from fossil fuels in Northeast Scotland.

Employment

- 5.3.3.2 As detailed in Volume 6, Chapter 2: Socio-economics, Tourism and Recreation, it is anticipated that the offshore construction phase of Caledonia North alone would support up to 1,172 years of employment within North Scotland, 4,210 years of employment within Scotland, and 8,680 years of employment within the UK. This results in a gross value added (GVA) of £82 million, £275 million and £588 million respectively. The onshore construction of Caledonia North alone would support up to 90 years of employment in Aberdeenshire, 394 years of employment within Scotland, and 470 years of employment within the UK. This results in a GVA of £6 million, £27 million, and £32 million respectively. With the onshore and offshore construction combined, it is considered that Caledonia North will result in 1,312 years of employment in North Scotland, 4,604 years of employment in Scotland, and 9,150 years of employment in the UK (£92 million, £303 million, and £620 million GVA respectively).
- 5.3.3.3 The offshore operational phase of Caledonia North alone would support up to 149 years of employment in North Scotland, 155 years of employment in Scotland, and 172 years of employment in the UK. This results in a GVA of £11 million, £12 million and £13 million respectively. The onshore operation of Caledonia North alone would support up to <10 years of employment within all three regions considered, resulting in <1 million GVA per region (Aberdeenshire, Scotland and the UK). With the onshore and offshore operation combined, it is considered that Caledonia North will result in 151 years of employment in North Scotland, 152 years of employment in

Scotland, and 172 years of employment in the UK (£11 million, £12 million, and £14 million GVA respectively).

5.3.3.4 The offshore decommissioning phase of Caledonia North alone would support up to 151 years of employment in North Scotland, 151 years of employment in Scotland, and 151 years of employment in the UK, and this results in a gross value added of £13 million per region. The onshore construction of Caledonia North alone would support up to 10 years of employment within North Scotland, 65 years of employment within Scotland, and 65 years of employment within the UK. This results in a gross value added of £1 million, £6 million, and £6 million respectively. With the onshore and offshore decommissioning combined, it is considered that Caledonia North will result in 181 years of employment in all three regions and GVA of £16 million in each region.

5.3.3.5 Furthermore, the development of Caledonia North would result in a significant contribution to both Scotland and the wider UK through the investment in the supply chain. It should be noted that the expenditure associated with the Proposed Development (i.e., offshore and onshore elements) presented in the Supply Chain Development Statement (Ocean Winds, 2023⁴⁵) is expected to be split equally between Caledonia North and Caledonia South and the phases of the Proposed Development, including the OnTI, and the assessment of the potential effects on socio-economics, tourism and recreation follows this assumption.

5.3.4 Conclusions

5.3.4.1 It is considered that the information presented within this section demonstrates to the Scottish Ministers that there is an imperative need for Caledonia North to proceed as planned. This is primarily due to the ever-present threat of climate change, which needs to be responded to as urgently as possible, and with the contribution of low-carbon, renewable energy Caledonia North is considered to be a key part of Scotland's approach to reducing their contribution to climate change.

5.3.4.2 Rapid decarbonisation of the energy sector not only provides beneficial consequences for the environment, but it is essential for human health and public safety reasons. Therefore, on the basis of human health and public safety above all else, Caledonia North is considered to be imperative.

5.4 IROPI Case: Step 2 – Public Interest

5.4.1.1 The identification and development of offshore sites and the SMP for Offshore Wind Energy Plan Option areas (including Caledonia North) is a fundamental national policy pursued within a clear framework. This seeks to protect the environment and human health from the consequences of energy supply shortages and climate change and promote public safety.

- 5.4.1.2 The primary public benefit relates to climate change, which as established above is a significant threat to everyone on a global scale. Caledonia North helps to combat this by offsetting the amount of GHG released in the production of energy. Furthermore, increasing energy security is a key public benefit, both ensuring a more robust and reliable supply of energy and reducing the cost of energy (as detailed above).
- 5.4.1.3 Without Caledonia North, it is considered that the urgent need to mitigate climate change is not being adequately managed, and many Scottish and UK legislative policies are not being met. These policies are implemented with the aims of providing public benefits, and therefore the contribution of Caledonia North to these policies will result in a clear public benefit.
- 5.4.1.4 Overall, it is considered that the contribution of Caledonia North to combatting climate change, the decarbonisation of Scotland and the UK's energy supply, increasing the security of supply, reducing the affordability of supply, and meeting national policy targets are all key public benefits. Therefore, there is a clear public need for Caledonia North to proceed.

5.5 IROPI Case: Step 3 – Overriding

5.5.1 A Balancing Exercise

- 5.5.1.1 As evidenced above, there is an imperative public interest for Caledonia North to be constructed. However, in order to successfully pass the IROPI test as described within provision 64(1) of the Habitats Regulations, these reasons must be overriding. In a practical sense, this means 'weighing up' the benefits of Caledonia North against the potential impacts to the Forth Islands SPA, Sule Skerry and Sule Stack SPA, Buchan Ness to Collieston Coast SPA, Troup, Pennan and Lion's Head SPA, and East Caithness Cliffs SPA, to achieve the correct balance of the two (note, details surrounding the predicted impacts are provided in Application Document 15, Appendix 15-2: Caledonia North Compensation Long List and Short List and Application Document 15, Appendix 15-3: Caledonia North Compensation Plan and Site Selection).
- 5.5.1.2 This balancing exercise is the responsibility of the Scottish Ministers as the competent authority to determine whether the benefits of Caledonia North as described above are significant enough to be overriding and outweigh the potential impacts attributed to these SPAs. While the HRA process as described within Section 1.3 and 1.3.2 provides the context for this determination, and the Applicant considers that the evidence presented within Sections 3 and 4 (and presented here within Section 5) above are satisfactory to pass the relevant tests, ultimately it is down to the competent authority to exercise their professional and expert judgment in deciding whether the benefits detailed within this section are overriding.

5.5.2 The Relevant Conservation Interests

5.5.2.1 The Caledonia North RIAA (Application Document 13) prepared by the Applicant has concluded an AEoSI on several designated sites, presented within Table 5-1. Full details around these designated sites, the potential effect pathways and the assessment of impacts can be found within the Caledonia North RIAA.

Table 5-1: Sites and features with an AEoSI concluded within the Applicant's Caledonia North RIAA.

Site Name	Feature	Impact
Forth Islands SPA	Gannet	Combined collision risk and distributional response effects in-combination with other plans or projects
Sule Skerry and Sule Stack SPA	Puffin	Distributional response effects in-combination
Buchan Ness to Collieston Coast SPA	Kittiwake	Combined collision risk and distributional response effects in-combination with other plans or projects
Troup, Pennan and Lion's Head SPA	Kittiwake	Combined collision risk and distributional response effects in-combination with other plans or projects
East Caithness Cliffs SPA	Guillemot and Kittiwake	Combined collision risk and distributional response effects in-combination with other plans or projects

5.5.3 The Overriding Factors

5.5.3.1 As detailed throughout Section 5 above, the Applicant is content that the benefits served by Caledonia North are imperative, of public interest and are long-term in nature. The Applicant considers these benefits to override the AEoSI identified within Table 5-1.

5.5.3.2 While the identified impacts are on a designated site and species, it is considered that the level of impact is able to be compensated for, as detailed within Section 6, ensuring the protection and coherence of the European site network.

5.5.3.3 Furthermore, the public interests served by Caledonia North are considered to be of the highest level of urgency, both with roots in national and international policy, and for the general welfare of humans across the globe. The benefit with the greatest urgency is the mitigation of climate change effects, the decarbonisation of Scotland's energy supply and the significant contribution that has on combatting climate change. Also, of utmost importance is the increase in energy security and reduction in cost/increase in affordability of supply. As detailed above, these are relating to human health, public safety and beneficial consequences of primary importance to the environment. Furthermore, Caledonia North also serves in the public interests of providing significant economic and social/wider community benefits while

also working towards a Just Transition away from fossil fuels in Northeast Scotland. Therefore, Caledonia North can be considered overriding under Regulation 64(2). It is considered that these justifications would be considered as IROPI, and together would result in an unarguable determination of IROPI for Caledonia North.

- 5.5.3.4 Furthermore, relevant guidance (DTA, 2021a⁴) states that offshore wind projects are highly likely to override their impacts to European site network sites:

“Given the urgency of the climate change crisis, and having demonstrated the absence of alternative solutions, Scottish Ministers anticipate that it is highly unlikely that the public interest served by delivery of offshore wind proposals will not override the conservation interests”.

5.6 IROPI Case: Step 4 – Long Term Interest

- 5.6.1.1 Due to the nature of offshore wind farms, the requirements of decarbonisation and climate change, the aspects of IROPI considered above are deemed to be long-term interests. For example, the operational lifetime of the project is 35 years and, therefore, the energy supplied by Caledonia North will be of benefit for the long-term, contributing to the supply past the 2045 Net Zero target.
- 5.6.1.2 Decarbonisation on the scale required for the UK and Scotland will take a long time to achieve and will continue to increase. Not only is the 2045 Net Zero target within Scotland still over two decades away and inherently a long-term aim, once it is achieved it will be maintained permanently. The targets are designed to result in a system where there is no reliance on hydrocarbon or imported fuels, and the environment is protected with significant mitigation afforded to climate change. Given the established energy infrastructure, it is considered that the transition to a purely renewable system will be a gradual one, acting over long-term timescales.
- 5.6.1.3 Additionally, the security of supply for Scotland and the UK is considered to be a long-term issue. As the demand for energy is continually increasing, ensuring there is enough supply for the current usage is not adequate and security must be afforded to all potential growth forecasts for energy within the UK. It is an essential long-term consideration to ensure Scotland and the UK are fully independent and not reliant on any foreign nations and imported supplies.
- 5.6.1.4 The economic benefits of the project will also have a long-term impact. The development of local supply chains will impact Scotland not only during the construction, operation and maintenance of Caledonia North, but the jobs created, infrastructure developed, and the local trades taught will endure into future offshore wind projects, enticing other development opportunities in the region. Furthermore, the development of the area and increase in jobs will encourage people to move to the Moray Firth, resulting in increased terrestrial developments in addition to the offshore interest.

5.7 Summary of IROPI

- 5.7.1.1 In summary, the Applicant is confident that Caledonia North passes all of the IROPI tests as required under the Habitats Regulations.
- 5.7.1.2 Caledonia North significantly contributes to national and international decarbonisation targets, providing both short and long-term human and environmental benefits. The IROPI detailed within this section are for human health, public safety and benefits of primary importance of the environment, which are all considered to outweigh the impacts identified within the Caledonia North RIAA (Application Document 13) based on existing Scottish policy and guidance, and on previous OWF decisions in both Scotland and the wider UK.
- 5.7.1.3 The Applicant considers the evidence provided within this report to conclusively demonstrate the importance of Caledonia North in a range of ways, proving that Caledonia North must be constructed in relation to IROPI.

6 Compensatory Measures

- 6.1.1.1 As established within Section 1.3, if the Scottish Ministers determine that there are no alternative solutions to Caledonia North, and there are satisfactory IROPI, compensation must be secured to offset any potential impacts and maintain the coherence of the European site network.
- 6.1.1.2 A range of compensation measures have been considered by the Applicant, beginning with an initial longlist of measures which have been assessed and consulted on (Section 1.7), resulting in several measures being chosen as feasible compensation for the potential impacts of the Caledonia North.
- 6.1.1.3 A full assessment of the proposed compensatory measures can be found in the following documents:
- Application Document 15, Appendix 15-2: Caledonia North Compensation Long List and Short List;
 - Application Document 15, Appendix 15-3: Caledonia North Compensation Plan and Site Selection; and
 - Application Document 15, Appendix 15-4: Caledonia North Outline Implementation and Monitoring Plan.
- 6.1.1.4 Details surrounding the predicted impacts are provided in Application Document 15, Appendices 15-2 and 15-3. The Applicant is confident that the proposed compensatory measures will provide adequate compensation for the potential impacts associated with Caledonia North.

7 Derogation Case Conclusions

- 7.1.1.1 The outcomes of the Applicant’s RIAA for Caledonia North (Application Document 13) were that an AEoSI, in-combination with other plans or projects, could not be ruled out using the guidance approach for the Forth Islands SPA (Gannet), Sule Skerry and Sule Stack SPA (Puffin), Buchan Ness to Collieston Coast SPA (Kittiwake), Troup, Pennan and Lion’s Head SPA (Kittiwake), and East Caithness Cliffs SPA (Guillemot and Kittiwake). For guillemot and puffin, this derogation case is without prejudice, based on the fact that the Applicant Approach in the Caledonia North RIAA concluded no AEoSI for those two species.
- 7.1.1.2 Based on these conclusions, Scottish Ministers (if in agreement with them) are required to determine whether there are no alternative solutions to Caledonia North, whether there are satisfactory IROPI and whether compensation can be secured to offset any potential impacts and maintain the coherence of the European site network.
- 7.1.1.3 This derogation case provides the necessary information for Scottish Ministers to consider these derogation tests and conclude that they can be met for Caledonia North.
- 7.1.1.4 As evidenced in the Caledonia North Statement of Need (Application Document 15, Appendix 15-1), and re-iterated in this report, there is an imperative global need to help address the climate change emergency through decarbonisation of energy supplies, for the primary purpose of preserving life on planet Earth. Decarbonisation of the UK energy supply is therefore the primary objective of Caledonia North.
- 7.1.1.5 Additional key objectives for Caledonia North include strengthening UK energy security of supply thus ensuring independence from imported sources and ensuring that energy is available to consumers at the lowest possible cost.
- 7.1.1.6 The urgent need for Caledonia North is justified as follows:
- The OWF will deliver up to 1.1GW of renewable energy, providing a substantial contribution to decarbonisation and Net Zero targets and further countering climate change by offsetting millions of tonnes of CO₂ every year;
 - The loss of potential energy generation by not progressing Caledonia North would need to be produced from other renewable sources, of which options are limited. It is considered that all potential renewable energy sources are required to combat climate change;
 - Energy security is more important than ever, and a diversity of supply is essential to avoid repeating the recent impacts of the Covid-19 pandemic and Russia’s illegal invasion of Ukraine;
 - Caledonia North will contribute to the Just Transition away from non-renewable energy sources, particularly relevant to those people who rely on the fossil fuel industry within the Northeast of Scotland;

- Caledonia North is considered to be highly deliverable based on the use of bottom-fixed foundations which have been demonstrated to be appropriate within the Moray Firth (including in the delivery of the adjacent projects Moray East, Moray West and Beatrice), and the use of proven and reliable HVAC technology;
- Design choices and consenting strategies mean Caledonia North can be delivered in the 'first phase' of ScotWind projects and quicker than large projects using floating technology. Early delivery reduces risk of supply chain bottlenecks around 2035 and keeps Scotland/UK on track for continued installation and powering of OWF projects; and
- Caledonia North is considerably advanced compared to other Plan Option areas within Scotland enabling the delivery of low cost, low carbon energy sooner than other projects (further supporting the Just Transition).

1.1.1.3

The Applicant is confident this report and supporting documentation provide all the necessary information to support a clear and overriding case for Caledonia North, to enable Scottish Ministers to conclude that there are no feasible alternative solutions, the project should be carried out for reasons of IROPI and compensation measures can be provided to ensure the overall coherence of the UK National Site Network is protected.

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