



Without-Prejudice HRA Derogation Case

To be read alongside the Offshore
Ornithology Compensation Report

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Revision history

Revision	Date	Description	Prepared	Checked	Approved
1	04/08/2023	First draft	RHDHV	RHDHV	Flotation Energy
2	19/09/2023	Second draft	RHDHV	RHDHV	Flotation Energy
3	19/10/2023	For issue	RHDHV	CMS	Flotation Energy
4	31/10/2023	For issue – minor amends	RHDHV	RHDHV	Flotation Energy

Flotation Energy Document Number: FLO-GRE-REP-0021

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Acronyms

Acronym	Acronym description
AA	Appropriate Assessment
AC	Alternating Current
AEoSI	Adverse Effect on Site Integrity
BEIS	Department for Business, Energy and Industrial Strategy
CCC	Committee on Climate Change
CES	Crown Estate Scotland
CfD	Contract for Difference
CNOOC	China National Offshore Oil Corporation
CO ₂	Carbon dioxide
DC	Direct Current
Defra	Department for the Environment, Food & Rural Affairs
DESNZ	Department for Energy Security and Net Zero
DPO	Draft Plan Option
EC	European Commission
ECJ	European Court of Justice
EEZ	Exclusive Economic Zone
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
EU	European Union

GHG	Greenhouse Gas
GIS	Geographical Information Systems
GVA	Gross Value Added
GW	Gigawatts
HRA	Habitats Regulations Appraisal
IEMA	Institute of Environmental Management and Assessment
INTOG	Innovation and Targeted Oil and Gas
IPCC	Intergovernmental Panel on Climate Change
IROPI	Imperative reasons of Overriding Public Interest
LAT	Lowest Astronomical Tide
LEB	Looming Eye Buoy
LSE	Likely Significant Effect
MD-LOT	Marine Directorate's Licensing Operations Team
MHWS	Mean High Water Springs
MN 2000	Managing Natura 2000 Sites
MSS	Marine Scotland Science
MW	Megawatts
NMP	National Marine Plan
NSTA	North Sea Transition Authority
NSTD	North Sea Transition Deal
O&G	Oil and Gas

OGA	Oil and Gas Authority
OIES	The Oxford Institute for Energy Studies
OMFE	Outer Moray Firth Electrification
OWF	Offshore Wind Farm
OWIC	Offshore Wind Industry Council
REZ	The UK Renewable Energy Zone
RIAA	Report to Inform Appropriate Assessment
RSPB	Royal Society for the Protection of Birds
SAC	Special Area of Conservation
SEA	Strategic Environmental Assessment
SEIA	Socio-economic Impact Assessment
OWE SMP	Sectoral Marine Plan for Offshore Wind Energy
INTOG SMP	Sectoral Marine Plan for Offshore Wind for Innovation and Targeted Oil and Gas Decarbonisation
SNCB	Statutory Nature Conservation Body
SNH	Scottish Natural Heritage
SoS	Secretary of State
SOWEC	Scottish Offshore Wind Energy Council
SPA	Special Protection Area
STW	Scottish Territorial Waters
TCE	The Crown Estate
UK	United Kingdom

1 Introduction

1. Green Volt Offshore Windfarm Limited (hereafter referred to as ‘the Applicant’) applied to Scottish Ministers on 20th January 2023 for consent (the Application) for the construction, operation and maintenance of the Green Volt Offshore Windfarm (OWF) generation station and associated offshore infrastructure up to Mean High Water Springs (MHWS) (the Project). Details of the Project and its purpose are provided in **Chapter 2: Project Description** of the **Offshore EIAR** (Royal HaskoningDHV, 2023a) and **Sections 3, Section 4.2, and Section 4.3**.
2. The construction and operation of an OWF in Scottish waters (i.e., Scottish territorial waters (STW) and the Scottish offshore region) requires consent under Section 36 of the Electricity Act 1989 and Marine Licences under the Marine (Scotland) Act 2010 (within STW) and under the Marine and Coastal Access Act 2009 (within the Scottish offshore region, between 12 – 200 nautical miles (nm)).
3. The Application included an offshore environmental impact assessment report (EIAR) (with non-technical summary), a report to inform appropriate assessment (RIAA), and a Summary of Offshore and Onshore Environmental Impact Assessments.
4. On behalf of the Scottish Ministers, the Application is currently being considered by Marine Directorate’s Licensing Operations Team (MD-LOT) and all relevant statutory and non-statutory stakeholders.

1.1 Purpose of this document

5. The Conservation (Natural Habitats, &c.) Regulations 1994 (as amended), the Conservation of Habitats and Species Regulations 2017 and the Conservation of Offshore Marine Habitats and Species Regulations 2017, together known as the “Habitats Regulations”, are the legislation that transposed the Habitats Directive (Council Directive 92/43/EC) and Birds Directive (Directive 2009/147/EC) into United Kingdom (UK) law and have been amended following European Union (EU) Exit. These Regulations give legal protection to European sites in Scottish inshore and offshore waters¹. European sites are defined as Special Areas of Conservation (SACs) for the conservation of natural habitats, fauna and flora and Special Protection Areas (SPAs) for the protection of all wild birds, their nests, eggs and habitats. Proposed SPAs (pSPAs) and candidate SACs (cSACs), sites which have not yet been officially designated, are offered the same legal protection as fully designated European sites. Further detail on European sites and the legislative process to protect them is provided in **Section 2**.
6. As part of the Scottish Ministers determination of the Application, a Habitats Regulations Appraisal (HRA) is required under the applicable Habitats Regulations, as summarised in **Section 2.4**. Following submission of the RIAA (Royal HaskoningDHV, 2023b), which found no potential for Adverse Effect on Site Integrity (AEoSI) resulting from the Project, alone or in-combination with other plans or projects, stakeholder responses on the issue have been received and considered. The relevant responses are found in **Table 1.1**.

¹ The Conservation (Natural Habitats &c.) Regulations 1994 apply to territorial waters out to 12 nautical miles (nm), while Conservation of Offshore Marine Habitats and Species Regulations 2017 apply to waters beyond 12 nm, to the extent of the British Fishery Limits and UK Continental Shelf Designated Area

Table 1.1 Consultation relating to this Without-prejudice Derogation Case report

Consultee	Date / Document	Comment	Response / where addressed in the Report
Marine Directorate-Licensing Operations Team (MD-LOT)	June 2023, MD-LOT Additional Information Request for Green Volt Offshore Windfarm	<p>In Combination Assessment: Due to in-combination impacts with Berwick Bank, Nature Scot advised there is likely to be adverse effect on site integrity from Green Volt when considered with this development. It's therefore necessary to consider a derogation case for the relevant SPAs / features.</p>	<p>The Applicant strongly maintains the position that there will be no AEoSI resulting from the Project alone on any European site. The relevant SPAs and features mentioned by MD-LOT are discussed in detail in the Green Volt Offshore Windfarm – Offshore Ornithology Compensation Report (APEM, 2023a). They are also listed in Table 1.2 of this report.</p> <p>Given that the Project alone can be considered to not have a material contribution to the levels of baseline mortality for any of the European sites assessed, the Applicant therefore considers there to be no potential for any contribution to any in-combination effect.</p> <p>A three-month cut off prior to submission of the RIAA, agreed with MD-LOT, was used for screening other projects into the in-combination assessment. Berwick Bank was considered in the screening, but no quantitative information on seabird effects was available for Berwick Bank at the cut-off date to allow inclusion in the in-combination assessment.</p> <p>The Applicant acknowledges that the Project has some connectivity to SPAs that are now subject to in-combination AEoSI resulting from other planned projects, particularly Berwick Bank (application submitted 9th December 2022), as set out by MD-LOT in their additional information request. However, the position taken by the Applicant is that given the highly limited Project-alone impacts, there is no potential for the Project to materially contribute to the existing in-combination AEoSI for these sites.</p> <p>Notwithstanding the above, further information has been provided. This report presents a without-prejudice derogation case for the Project. The Green Volt Offshore Windfarm – Offshore Ornithology Compensation Report (APEM, 2023a) is submitted alongside this report and details a securable shortlist of without-prejudice compensation measures, with an adaptive management plan to secure them.</p>
NatureScot	April 2023, NatureScot: Advice on Ornithological Interests for Green Volt Offshore Windfarm	The applicant has stated that the in combination assessment was completed prior to the submission of the Berwick Bank application, therefore Berwick Bank has not been included in the assessment, yet Berwick Bank has been in the public domain and the scoping opinion issued prior to the Green Volt	A three-month cut off prior to submission of the RIAA, as agreed with MD-LOT, was used for screening other projects into the in-combination assessment. Berwick Bank was considered in the screening, but no quantitative information on seabird

Consultee	Date / Document	Comment	Response / where addressed in the Report
		<p>application being submitted. We have recently objected to the Berwick Bank application due to adverse effects on site integrity (AeoSI) to multiple seabird species within the UK European Site Network, some of which overlap with the species and sites assessed in this application. We therefore advise that for this application, it is likely that, in combination with Berwick Bank, any of the SPAs / species where we have concluded AeoSI for Berwick Bank (either alone or in combination) and where there is likely to be any additional impact from Green Volt, we will also be considering a conclusion of AeoSI in combination for Green Volt.</p>	<p>effects was available for Berwick Bank at the cut-off date to allow meaningful inclusion in the in-combination assessment.</p> <p>The Applicant acknowledges that the Project has some connectivity to SPAs that are now subject to in-combination AEOsI resulting from other planned projects, particularly Berwick Bank, as set out by MD-LOT in their additional information request. The position taken by the Applicant is that given the highly limited Project-alone impacts, there is no potential for the Project to materially contribute to the existing in-combination AEOsI for these sites.</p> <p>Notwithstanding the above, further information has been provided. This report presents a without-prejudice derogation case for the Project. The Green Volt Offshore Windfarm – Offshore Ornithology Compensation Report (APEM, 2023a) details a securable shortlist of without-prejudice compensation measures, with an adaptive management plan to secure them.</p>
RSPB	April 2023, RSPB consultation response for Green Volt Offshore Windfarm	<p>The RSPB has a number of methodological concerns with the manner in which the assessment has been carried out. These will result in an underestimation of the scale of impact and include:</p> <ul style="list-style-type: none"> - Inadequate consideration of potential impacts on European Storm petrels - The incorrect use of Population Viability Analysis output metrics in assessment of significance of impact - The lack of a Population Viability Analysis for gannet and kittiwake for combined mortalities arising from collision and distributional change - The lack of inclusion of Berwick Bank offshore wind farm in the cumulative assessment <p>The RSPB is unable to reach conclusion of the significance of impacts in combination with other projects for the following species SPA populations:</p> <ul style="list-style-type: none"> - Buchan Ness and Colliston Coast SPA guillemot populations - Troup, Pennan and Lion's Head SPA gannet and guillemot populations - North Caithness Cliffs SPA guillemot population - Forth Islands SPA gannet population - Hermaness, Saxa Vord and Valla Field SPA gannet population 	<p>The RSPB's methodological concerns with regard to storm petrels and PVA modelling have been addressed in further PVA modelling, which is presented in the Additional Information report, with no resultant change in the assessment of no AEOsI (see the Green Volt Offshore Windfarm – Supplementary Ornithological Assessment Report (APEM, 2023b)).</p> <p>Regarding the RSPB's concerns over Berwick Bank, a three-month cut off prior to submission of the RIAA, as agreed with MD-LOT, was used for screening other projects into the in-combination assessment. Berwick Bank was considered in the screening, but no quantitative information on seabird effects was available for Berwick Bank at the cut-off date to allow inclusion in the in-combination assessment.</p> <p>The Applicant acknowledges that since submission of the RIAA, the Project has some connectivity to SPAs that are now subject to in-combination AeoSI resulting from other planned projects, particularly Berwick Bank as raised by the RSPB in their comment, and set out by MD-LOT in their additional information request. The position taken by the Applicant is that given the highly limited Project-alone</p>

Consultee	Date / Document	Comment	Response / where addressed in the Report
		<ul style="list-style-type: none"> - Mousa SPA European storm petrel population - Sule Skerry and Sule Stack SPA European storm petrel population 	<p>impacts, there is no potential for the Project to materially contribute to the existing in-combination AeSI for these sites.</p> <p>Notwithstanding the above, further information has been provided. This report presents a without-prejudice derogation case for the Project. The Green Volt Offshore Windfarm – Offshore Ornithology Compensation Report (APEM, 2023a) details a securable shortlist of without-prejudice compensation measures, with an adaptive management plan to secure them. This address all SPAs mentioned by RSPB.</p>
RSPB	April 2023, RSPB consultation response for Green Volt Offshore Windfarm	<p>Despite our methodological concerns, in a number of cases the predicted impacts are so severe that the RSPB is able to conclude that there will be significant Adverse Effects on Site Integrity on the following SPA species populations arising out of mortality from the Green Volt wind farm, in-combination with other projects:</p> <ul style="list-style-type: none"> - Buchan Ness and Colliston Coast SPA kittiwake population - East Caithness Cliffs SPA kittiwake and guillemot populations - Troup, Pennan and Lion's Head SPA kittiwake population 	<p>The RSPB's methodological concerns have been addressed in additional PVA modelling, with no resultant change in the assessment of no AEoSI (see the Green Volt Offshore Windfarm – Supplementary Ornithological Assessment Report (APEM, 2023b))).</p> <p>A three-month cut off prior to submission of the RIAA, as agreed with MD-LOT, was used for screening other projects into the in-combination assessment. Berwick Bank was considered in the screening, but no quantitative information on seabird effects was available for Berwick Bank at the cut-off date to allow meaningful inclusion in the in-combination assessment.</p> <p>The Applicant acknowledges that the Project has some connectivity to SPAs that are now subject to in-combination AEoSI resulting from other planned projects, particularly Berwick Bank set out by MD-LOT in their additional information request. The position taken by the Applicant is that given the highly limited Project-alone impacts, there is no potential for the Project to materially contribute to the existing in-combination AEoSI for these sites.</p> <p>Notwithstanding the above, further information has been provided. This report presents a without-prejudice derogation case for the Project. The Green Volt Offshore Windfarm – Offshore Ornithology Compensation Report (APEM, 2023a) details a securable shortlist of without-prejudice compensation measures, with an adaptive management plan to secure them. This addresses all SPAs mentioned by RSPB.</p>

7. The Applicant strongly maintains the position taken in the RIAA that the Project alone effects are so low that they are *de minimis* and can be considered to not have a material contribution to the levels of baseline mortality for any of the European sites assessed and therefore no potential for any contribution to any existing in-combination effect (see **Section 1.4** for details). However, in light of stakeholder consultation (**Table 1.1**) around the potential for in-combination AEOsI on relevant SPAs irrespective of this Project, the Applicant has decided to present a **without-prejudice** HRA Derogation case, to be read alongside the **Green Volt Offshore Windfarm – Offshore Ornithology Compensation Report** (APEM, 2023a) to provide Scottish Ministers with the full information that may reasonably be required for the application of the HRA process. This without-prejudice HRA Derogation Case report presents information to satisfy the provisions of article 6(4) of the Habitats Directive . It demonstrates that there are no feasible alternative solutions that avoid AEOsI or have appreciably lower impacts, that there are imperative reasons of overriding public interest (IROPI) for the Project and that compensation measures can be secured should it not be possible to rule out AEOsI from effects of the Project. The securable shortlisted compensation measures are detailed in the **Green Volt Offshore Windfarm – Offshore Ornithology Compensation Report** (APEM, 2023a).
8. The three tests set out in article 6(4) of the Habitats Directive have been considered in relation to the sites and features listed in **Table 1.2**.

Table 1.2 European sites and features considered in the Without-prejudice Derogation Case

European Site	Qualifying Feature	Reason for inclusion	Relevant Impact from Project
Buchan Ness to Collieston Coast SPA	Kittiwake <i>Rissa tridactyla</i>	Species flagged by MD-LOT as potentially being subject to an in-combination level AEOsI.	Displacement Collision risk
Troup, Pennan and Lion's Head SPA	Razorbill <i>Alca torda</i>	Species flagged by MD-LOT as potentially being subject to an in-combination level AEOsI.	Displacement
Fowlsheugh SPA	Kittiwake	Species considered by Berwick Bank therefore included as requested by MD-LOT.	Displacement Collision risk
	Guillemot <i>Uria aalge</i>	Species flagged by MD-LOT as potentially being subject to an in-combination level AEOsI.	Displacement
East Caithness Cliffs SPA	Razorbill	Species flagged by MD-LOT as potentially being subject to an in-combination level AEOsI.	Displacement
	Kittiwake	Species flagged by MD-LOT as potentially being subject to an in-combination level AEOsI.	Displacement Collision risk
Forth Islands SPA	Gannet <i>Morus bassanus</i>	Species flagged by MD-LOT as potentially being subject to an in-combination level AEOsI.	Displacement Collision risk
Hermaness, Saxa Vord and Valla Field SPA	Gannet	Species considered by Berwick Bank therefore included as requested by MD-LOT.	Displacement Collision risk

9. The application for onshore works was submitted to Aberdeenshire Council on 3rd August 2023 and there are no potential impact pathways to European sites from the construction, operation or maintenance associated with the onshore works. Therefore, there are no further HRA considerations as part of the combined on and offshore projects.

1.2 The Applicant

10. The Project is being developed by Flotation Energy Ltd (Flotation Energy) and Vårgrønn AS (Vårgrønn). Flotation Energy and Vårgrønn have formed the dedicated company, Green Volt Offshore Windfarm Limited (the Applicant), to progress the development of the Project.
11. Flotation Energy is an offshore wind development company, headquartered in Edinburgh, UK. Founded in 2018, the company is pioneering the deployment of both floating and fixed offshore wind in Scotland, the UK and Internationally. Flotation Energy's UK projects include:
- Green Volt Offshore Windfarm (this development) (Floating);
 - Cenos Offshore Windfarm (1400 MW offshore wind, North East Scotland) (Floating);
 - Morecambe Offshore Windfarm (480 MW offshore wind, awarded as part of the England and Wales Round 4 auction) (Fixed); and
 - White Cross Floating Windfarm (100 MW offshore wind, South West England) (Floating).
12. The company is also active in Europe and internationally, with a total offshore wind development pipeline of over 10 GW capacity. Flotation Energy is determined to play a central role in the transformation to renewable energy to confront the climate crisis, in line with targets made under the Paris Agreement.
13. Vårgrønn is a growing agile offshore wind company and established as a joint venture between Italian energy major Eni Plenitude and the Norwegian private equity manager and offshore energy serial entrepreneur HitecVision.

1.3 The Project

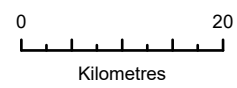
14. The Project is a proposed floating offshore windfarm located 80 km northeast of the Aberdeenshire Coast in the North Sea, with an indicative generating capacity of 490 to 560 megawatts (MW). The location of the Project is provided in **Figure 1.1**.
15. The Project will comprise floating offshore wind structures (wind turbines, floating substructures, anchor chains, anchors), as well as the offshore transmission infrastructure (offshore substation, inter-windfarm Site cables, export cables). The Project will be located within a marine brownfield site, historically used by the oil and gas (O&G) industry.
16. **Chapter 5: Project Description** of the **Offshore EIA Report** (Royal HaskoningDHV, 2023a) provides a detailed description of the Project and should be referred to for further detail.
17. The Project's purpose is to generate and supply renewable electricity to enable the complete electrification of oil and gas installations in the outer Moray Firth area, using the Buzzard oil and gas Platform Complex ('Buzzard'), one of the UK's largest O&G assets, as a base case. With an operational target date of 2027, the Project will enable 500,000 tonnes of carbon dioxide (CO₂) per year to be mitigated, including at least 300,000 tonnes of CO₂ from O&G assets in the area. The Project also provides capacity and opportunity for future connections to additional nearby O&G facilities in the Outer Moray Firth. Any surplus power produced will be transmitted onshore to the National Grid.

18. The Project will also be connected to the National Grid by a single Export Cable which will make landfall on the coastline near Peterhead in the northeast of Scotland. The Project location and Offshore Export Cable Corridor routes are provided in **Figure 1.1**.
19. The Project has been designed to provide renewable electricity to an existing O&G facility in the North Sea to decarbonise its operations. The provision of renewable electricity to existing O&G facilities is increasingly being proposed with the support of the UK Government and industry through the North Sea Transition Deal that was agreed in March 2021. The North Sea Transition Deal targets complement the Government commitment made in November 2020 for 50GW of offshore wind by 2030 including 1 gigawatts (GW) of floating wind (HM Government, 2020). Floating wind ambitions were further increased in 2022, raising the target capacity from 1GW to 5GW (DESNZ, 2022). Further details of the North Sea Transition Deal are provided in **Chapter 2: Need for the Project** of the **Offshore EIA Report** (Royal HaskoningDHV, 2023a).
20. The Scottish Government is undertaking a marine spatial planning exercise, called a Sectoral Marine Plan (SMP), for Innovation and Targeted Oil and Gas (INTOG) projects (hereafter referred to as the INTOG SMPT), and an Initial Plan Framework for this process was published in February 2022. This planning exercise brings together the related marine plan, Strategic Environmental Assessment (SEA), HRA, and Socio and Economic Impact Assessment (SEIA), as well as statutory consultation processes into one integrated process.
21. The Crown Estate Scotland (CES) INTOG Leasing Round was announced in August 2022 and has been developed in alignment with Marine Scotland's Initial Plan Framework. The INTOG Leasing Round has been designed to allow developers to apply for the rights to build offshore wind farms specifically for the purpose of providing renewable electricity to power O&G facilities. Although progression of consenting activities for the Project commenced ahead of the INTOG leasing round, the Applicant has also participated in the INTOG leasing round and applied for a site lease to enable development of the Project. An area exclusivity agreement for this Project was awarded by CES through the INTOG leasing process in March 2023. The Windfarm Site is located entirely within the proposed Eb Area of Search (AoS) identified as part of the INTOG SMP Initial Plan Framework and the CES leasing round.
22. Now that INTOG projects have been awarded exclusivity over areas of seabed within the wider areas of search defined by the INTOG SMP Initial Plan Framework, the next steps involve taking the spatial footprint of these successful projects forward as the basis for production of the consultation draft INTOG SMP, and these individual projects (known as Plan Options within the SMP context), will be subject to the full Sustainability Appraisal process (SEA, HRA, SEIA). It is anticipated by Scottish Government that it will take 12 months, from notice of exclusivity (Q1 2024 based on the March 2023 notice of exclusivity), to complete the Sustainability Appraisal and conduct the statutory consultation before formal adoption of the INTOG SMP². At this point, CES will offer an Option agreement to INTOG projects, including this Project, if they are included in the adopted INTOG SMP.

² <https://www.gov.scot/publications/initial-plan-framework-sectoral-marine-plan-offshore-wind-innovation-targeted-oil-gas-decarbonisation-intog/pages/5/>



- LEGEND**
- Windfarm Site
 - Offshore Export Cable Corridor



Data:
 Esri, HERE, Garmin, USGS
 Esri, HERE
 Contains OS data © Crown Copyright and database right 2023
 Contains data from OS Zoomstack

PROJECT: GREEN VOLT

TITLE: Figure 1.1 Green Volt Offshore Windfarm development area including possible export cable to landfall route options

VER	DATE	COMMENTS	DRAWN	CHECKED
001	18/10/2023		GC	EB

ARCGIS REF: PC2483_RHD_HRADerogationCase
 LAYOUT: PC2483-RHD-EI-OF-D-GS-0080

SCALE: 1:750,000	PAGE SIZE: A4	COORDINATE SYSTEM: WGS 1984 UTM Zone 30N
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58°N

57°N

58°N

57°N

2°30'W 2°W 1°30'W 1°W 0°30'W 0°

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Aberdeen

1.4 The Applicant's position on the Need for Derogation

23. To support an appropriate assessment (AA) decision by the Scottish Ministers, the Applicant has provided information on all of the features listed in **Table 1.1** in the **Report to Inform Appropriate Assessment (RIAA)** (Royal HaskoningDHV, 2023b). It is the Applicant's position in the RIAA that in terms of effects from the Project alone, there is a level of effect that would be well within the error margins of the assessment and undetectable from any natural changes in the population. In these instances, it can therefore be concluded that the level of predicted effect from the Project alone is *de minimis* and makes no material contribution to the levels of baseline mortality for any of the European sites assessed. It is considered that this also makes no material contribution to any in-combination effect. However, the Applicant acknowledges that since submission of the RIAA, in light of other planned Scottish OWF projects, a potential in-combination AEOSI is now anticipated for some relevant SPAs irrespective of this Project's effects. The Applicant has engaged with stakeholders (see **Table 1.1**), and considered comments raised concerning the uncertainty around potential in-combination effects on seabird populations that may arise from planned OWF projects in Scottish waters. The Applicant has also engaged with stakeholders on matters relating to seabird collision risk and displacement assessment methods (**Green Volt Offshore Windfarm – Supplementary Ornithological Assessment Report** (APEM, 2023b)), and on seabird compensation measures (**Green Volt Offshore Windfarm – Offshore Ornithology Compensation Report** (APEM, 2023a)).
24. Notwithstanding the Applicant's position that the Project alone can be considered to not have a material contribution to the levels of baseline mortality for any of the European sites assessed and therefore no potential for any contribution to any in-combination effect, this document provides comprehensive evidence and presents the case for derogation under the Habitats Directive on a without-prejudice basis to allow for full consideration of all aspects by Scottish Ministers.

1.5 Document Structure

25. This document on the derogation provisions comprises five sections detailed in **Table 1.3** below.

Table 1.3 Document Structure

Heading	Description / Content	Report Section
Introduction	Details the background, basis and scope of this document.	1
Legislation and Guidance	This section gives an overview of the legal context and HRA process.	2
Project Need	Outlines the need for the project.	3
Alternatives Solutions	This examines whether there are any feasible alternative solutions to the project that meet the project objectives.	4
Imperative Reasons of Overriding Public Interest	This section identifies the IROPI which would justify a decision by the Secretary of State to authorise the project notwithstanding any AEOSI conclusion. This includes definition of the Project's Objectives.	5

Heading	Description / Content	Report Section
Compensatory Measures	This section highlights the individual compensation measures developed for each of the sites and features.	6
Summary	Summary of sections 3 to 6	7

2 Legislation and Guidance

26. Detailed information on the legal and policy context can be found in **Chapter 2: Need for the Project** and **Chapter 3: Policy and Legislative Context** of the **Offshore EIA Report** (Royal HaskoningDHV, 2023a); and the **RIAA** (Royal HaskoningDHV, 2023b). The legislation and guidance with the greatest relevance to the without-prejudice derogation case is restated here.

2.1 Legislation

27. The Habitats Regulations³ is the collective term for the regulations which implemented the EU Habitats Directive, and certain aspects of the EU Birds Directive in the UK, including Scotland. The following regulations continue to be applicable following EU Exit:

- The Conservation of Habitats and Species Regulations 2017 (relevant within 12 nautical miles (nm) of the coastline)
- The Conservation (Natural Habitats, &c.) Regulations 1994 (as amended) (relevant within 12 nm of the coastline)
- The Conservation of Offshore Marine Habitats and Species Regulations 2017 (referred to as the “Offshore Marine Regulations 2017”) (applies to Marine Licence and Section 36 consent applications within Scottish waters beyond 12 nm) of the coastline).

28. This report will hereafter refer to the ‘Habitats Regulations’ as including any changes enacted by the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 (EU Exit Regulations).

29. European sites are defined as Special Areas of Conservation (SACs) for the conservation of natural habitats, fauna and flora and Special Protection Areas (SPAs) for the protection of all wild birds, their nests, eggs and habitats. Paragraph 210 of the Scottish Planning Policy (Scottish Government, 2014b) also affords the same level of protection given to designated European sites to pSPAs and cSACs⁴. The Habitats Regulations require that where a plan or project:

- is not directly connected with or necessary to the management of a European site, and
- is “likely to have a significant effect” (LSE) on a European site (whether alone or in combination with another plan or project),
- then it must be subject to an “appropriate assessment” (AA) of the implications for that European site in view of the site's conservation objectives⁵.

³ The regulations that transpose the European Council Directive 2009/147/EC on the conservation of wild birds (the ‘Birds Directive’) and European Council Directive 92/43/EEC on the Conservation of natural habitats and of wild fauna and flora (the ‘Habitats Directive’) into Scots law.

⁴ pSPAs and cSACs are sites which have been approved by Scottish Ministers for formal consultation but which have not yet been designated.

⁵ Regulation 28(1), (2) and (5) of The Conservation of Offshore Marine Habitats and Species Regulations 2017

30. The legal obligation to undertake an AA ultimately rests with the relevant “competent authority” under the Habitats Regulations. For the Section 36 Consent and Marine Licence applications, that is the Scottish Ministers⁶. However, the Applicant has an obligation to provide such information as the Scottish Ministers may reasonably require for the purposes of carrying out an AA⁷.
31. In practice, the Scottish Government’s Marine Directorate (MD-LOT) may act on behalf of the Scottish Ministers, and may seek advice from NatureScot in its function as a Statutory Nature Conservation Body (SNCB). An application that would have an adverse effect on a European site should not be approved except under very tightly constrained conditions. It is necessary, in the first instance, for MD-LOT to determine whether it is possible to conclude that there is no LSE on the qualifying features (the habitats / species a site is designated for the protection of) of a European site. Should it be determined that LSE could occur, an AA must be carried out by the competent authority. Further details on the process are provided in **Section 2.4**.

2.2 Guidance

32. In addition to the legislation outlined above, all relevant guidance and policies will be considered during the development of the without-prejudice derogation case, including the following guidance:

2.2.1 Scottish Guidance

33. Scottish guidance considered includes:
- NatureScot (2022). European Site Casework Guidance: How to consider plans and projects affecting Special Areas of Conservation (SACs) and Special Protection Areas (SPAs)
 - CMS (2021) report for SOWEC (Habitats Regulations Appraisal (HRA) Derogations for Offshore Wind Projects in Scotland - Legal Framework for Decisions)
 - SNH (2020). Bird impact assessment guidance workshop for offshore wind: Report and Presentations
 - SNH (2018). HRA on the Moray Firth: A Guide for developers and regulators
 - Scottish Government (2018). Marine Scotland Consenting and Licensing Guidance: For Offshore Wind, Wave and Tidal Energy Applications
 - Scottish Natural Heritage (SNH) HRA guidance document ‘HRA of Plans. Guidance for Plan-making Bodies in Scotland’ (David Tyldesley and Associates, 2015).

2.2.2 UK and European Guidance

34. Other relevant UK and European guidance considered includes:
- Defra (2021a) Habitats regulations assessments: protecting a European site.
 - Defra (2021b). Draft best practice guidance for developing compensatory measures in relation to Marine Protected Areas.
 - DTA (2021) The Habitats Regulations Assessment Handbook.
 - European Commission (2020): EU Guidance on wind energy development in accordance with EU nature directives.

⁶ Regulation 5 of The Conservation of Offshore Marine Habitats and Species Regulations 2017

⁷ Regulation 28(3) of The Conservation of Offshore Marine Habitats and Species Regulations 2017.

- Department of Energy and Climate Change (Offshore Export Cable Corridor 2015): Guidelines on the Assessment of Transboundary Impacts of Energy Developments on Natura 2000 Sites outside the UK.
- Defra (2012): Habitats and Wild Birds Directives: guidance on the application of article 6(4) Alternative solutions, imperative reasons of overriding public interest (IROPI) and compensatory measures.
- Guidance document on Article 6(4) of the 'Habitats Directive' 92/43/EEC (Article 6(4) Guidance) (2007).
- European Commission (2001). Assessment of Plans and Projects Significantly Affecting Natura 2000 Sites: Methodological Guidance on the provisions of Article 6(3) and 6(4) of the 'Habitats' Directive 92/43/EEC. November 2001.
- 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).

2.3 Derogation Precedents

35. In Scotland to date the derogation tests have not been engaged for an offshore wind project that has been granted consent (in other words, there have not been any offshore wind farms where an adverse effect on the integrity of an SPA could not be ruled out at the point of granting consent for that project). However, one HRA derogation case for an OWF in Scottish waters has been recently submitted to Scottish Ministers. This is for the Berwick Bank Offshore Windfarm, submitted in December 2022. A consent decision has not yet been reached for Berwick Bank, and so the utility of the Berwick Bank derogation case as a guide on presentation of evidence and scenarios for a Scottish context is limited at this stage. A without-prejudice HRA derogation case was submitted in October 2023 for the West of Orkney Windfarm.
36. However, in the wider UK, there have been six OWFs, located in the North Sea, which have received consent pursuant to a derogation. None of these decisions has been subject to legal challenge on grounds relating to the approach taken for the HRA derogation (although some have been subject to legal challenges on other, non-HRA grounds). These UK OWF planning decisions have been made against the background of the same guidance set out above, and therefore have been considered in the production of this without-prejudice derogation case. These derogation case decisions are:
- Hornsea Project Four OWF (Hornsea Four) (DESNZ, 2023b);
 - Norfolk Vanguard OWF (BEIS 2022a);
 - East Anglia ONE North OWF (BEIS 2022b);
 - East Anglia TWO OWF (BEIS 2022c);
 - Norfolk Boreas OWF (Norfolk Boreas) (BEIS, 2021a); and
 - Hornsea Project Three OWF (Hornsea Three) (BEIS, 2020a).
37. It has been noted and considered in the proposed without-prejudice compensation measures (see **Green Volt Offshore Windfarm – Offshore Ornithology Compensation Report** (APEM, 2023a)) that Hornsea Four was consented by the Secretary of State (SoS) for Energy Security and Net Zero in England against the recommendation of the Examining Authority, who were not satisfied that the proposed artificial nesting structures for Kittiwakes and Looming Eye Buoy (LEB) bycatch reduction for guillemots from the Flamborough and Filey Coast SPA were sufficient compensation measures.

2.4 The Habitats Regulations Appraisal Process

38. The HRA process is a precautionary, rigorous and legally binding procedure that protects Scotland's European sites. Where a plan or project may affect the qualifying interest features of a European site (whether the plan or project is in or adjacent to the site, or regardless of location), the Habitats Regulations require the competent authority to undertake an AA as part of the HRA process.

39. The Habitats Regulations (**Table 2.1**) do not explicitly define the assessment process to be undertaken to test the effects of plans or projects on a European site. However, HRA is generally recognised in Scotland as a multi-stage process built around the wording of Article 6(3) of the Habitats Directive, with the outcome at each stage of the process defining the requirement for, and scope of the next stage (NatureScot, 2023; Marine Scotland, 2018). These are described further below and in various guidance documents as listed in **Section 2.2**
40. The substantive HRA process and requirements are largely unchanged notwithstanding the UK’s withdrawal from the EU, albeit the Habitats Regulations have been subject to some technical 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*”.

Table 2.1 Habitats Regulations relevant to the Proposed Development

Habitat Regulation	Area of Application
The Conservation (Natural Habitats, &c.) Regulations 1994	Applicable to plans or projects in Scotland or Scottish territorial waters (0 – 12nm).
The Conservation of Habitats and Species Regulations 2017	Applicable to applications for consent under section 36 of the Electricity Act 1989.
The Conservation of Offshore Marine Habitats and Species Regulations 2017	Applicable to plans or projects in the Scottish offshore region (beyond 12nm).

2.4.1 Stage 1: What Is The Plan Or Project?

41. Sufficient information on the nature of the Project to enable the carrying out of a HRA was provided to Scottish Ministers in the **Offshore HRA Screening Report** (submitted for the Project in November 2021, **Appendix 3.1** of the **Offshore EIAR**) and the **RIAA** (Royal HaskoningDHV, 2023b).

2.4.2 Stage 2 - Is The Proposal Directly Connected With Or Necessary For Site Management For Nature Conservation?

42. As the Project is not directly connected with or necessary for site management for nature conservation, the Project was taken forward to Stage 3 of the HRA process.

2.4.3 Stage 3 – Is The Proposal (Either Alone Or In-Combination With Other Plans Or Projects) Likely To Have A Significant Effect On The Site?

43. For all plans and projects which are not wholly, directly connected with or necessary to the conservation management of a site’s qualifying features (such as the Project), Screening is required, as a minimum.
44. In Stage 3, European sites are screened for LSE (either alone or in-combination with other plans or projects)⁸. Where it can be determined that there is no potential for LSE to occur to qualifying features of a site, that site is sought to be ‘screened out’. It is important to note that the burden of evidence is to show, on the basis of objective information, that there will be no LSE; if the effect may cause LSE, or is not known, this would trigger the need for an AA (Tyldesley, D and Associates, 2015).

⁸ <https://www.nature.scot/professional-advice/planning-and-development/environmental-assessment/habitats-regulations-appraisal-hra>

45. In accordance with the 2018 European Court of Justice ruling in the case of *People Over Wind, Peter Sweetman v Coillte Teoranta (C-323/17)*, mitigation measures (measures intended to reduce or remove identified impacts on receptors), including embedded mitigation (measures in-built into the projects design to reduce/remove impacts prior to assessment), was not taken into account in the **HRA Screening Report** (submitted for the Project in November 2021, **Appendix 3.1** of the **Offshore EIA Report** (Royal HaskoningDHV, 2023a)). Further consultation responses to the initial **HRA Screening Report** regarding mitigation was taken into account in the subsequent **RIAA** (Royal HaskoningDHV, 2023b) in Stage 4.

2.4.4 Stage 4: Undertake An Appropriate Assessment Of The Implications For The Site In View Of Its Conservation Objectives.

46. For those sites where LSE cannot be excluded in Stage 3, further information to inform the assessment is prepared. The assessment determines whether the Project alone or in-combination could adversely affect the integrity of the European site in view of its conservation objectives. Sufficient information to enable the competent authority to carry out the appropriate assessment for this stage was provided in the form of a **RIAA** (Royal HaskoningDHV, 2023b). Mitigation of potential impacts on site integrity can be used in an RIAA to support a conclusion of no adverse effects on site integrity. However, case law (*Briels and Others v Minister van Infrastructuur en Milieu (C-521/12)*) has established that compensation measures cannot be used to support a conclusion of no AEOsI.
47. In practice, AA is undertaken by MD-LOT, acting on behalf of the Scottish Ministers, based on information supplied by the developer, and with advice provided by NatureScot, and if considered appropriate by the Scottish Ministers, other relevant consultees.

2.4.5 Stage 5: Can it be Ascertained that the Proposal Will Not Adversely Affect The Integrity Of The Site?

48. It is the Applicant's position in the **RIAA** (Royal HaskoningDHV, 2023b) that in terms of effects from the Project alone, the level of effect would be well within the error margins of the assessment and undetectable from any natural changes in the population. In these instances, it can therefore be concluded that the level of predicted impact from the Project alone can be considered to be *de minimis* and not have a material contribution to the levels of baseline mortality for any of the European sites assessed. This position is unchanged, notwithstanding the comments received from stakeholders, which are discussed in **Section 1.1**.
49. The Habitats Regulations require that the potential effects of a project on European sites are considered both alone and in-combination with other plans or projects.
50. Other plans and projects have been identified through desktop review of published information and through consultation with stakeholders. The **Offshore RIAA** (Royal HaskoningDHV, 2023b) identified relevant plans and projects that could lead to in-combination effects with the Project.
51. Projects where the level of information available is low (e.g. pre-scoping, at early planning stage, such as ScotWind sites) and are unlikely to progress prior to the Project have not been included in the Project in-combination assessment. A three-month cut off prior to submission of the RIAA, agreed with MD-LOT, was used for screening other projects into the in-combination assessment. Berwick Bank was considered in the screening, but no quantitative information on seabird effects was available for Berwick Bank at the cut-off date to allow inclusion in the in-combination assessment for the Project.
52. Projects should assess potential in-combination effects in their respective EIAs and RIAAs, should they progress. Given that the level of predicted effect from the Project alone is so low that it is *de minimis*, that is, it makes no material contribution to the levels of baseline mortality for any of the European sites assessed it is considered that the Project therefore makes no material contribution to any in-combination effect. It is acknowledged that since submission of the **RIAA** (Royal

HaskoningDHV, 2023b) certain sites are at risk of AEOsI as a result of other projects in planning, irrespective of the effects of this Project (see **Table 1.1** for consultation on this issue).

53. It is therefore the Applicant's position that the HRA process for the Project would be appropriately completed at stage 5.

2.4.6 Stage 6: Are there Alternative Solutions?

54. Where Scottish Ministers cannot conclude, beyond reasonable scientific doubt, that there is no AEOsI on European sites from a plan or project, alone or in-combination, consent should not be granted unless: 1) There are no feasible alternative solutions that would be less damaging or avoid damage to the site (Assessment of Alternatives); and 2) there is IROPI.
55. Alternative solutions could include alternative locations or routes; different scales or designs of development; alternative processes; or other different, practicable approaches which would have a lesser impact.
56. Whilst it is the Applicant's position that no AEOsI on European sites will occur as a result of the Project alone or in-combination with other projects, an Assessment of Alternatives (**Section 4**) has been detailed in this Derogation Case Report on a without-prejudice basis, with the finding that there is clearly no feasible alternative to the Project that would meet the Project objectives and be less damaging or avoid damage.

2.4.7 Stage 7: Would a Priority Habitat or Species be Adversely Affected?

57. There are no priority species (as defined in the Habitats Directive) in Scotland's SACs. A full list of priority habitats that are qualifying interests of SACs in Scotland is provided by NatureScot (2020). Priority qualifying habitats for individual SACs are identified in the relevant site documentation. There are no priority habitats relevant to this without-prejudice Derogation Case Report.
58. The Birds Directive does not refer to 'priority' species and therefore there are no 'priority' bird species in SPAs.

2.4.8 Stage 8: Are there Imperative Reasons of Overriding Public Interest?

59. The proposal needs to be carried out for IROPI (Assessment of IROPI). Such reasons are limited to those outlined in Regulation 49 of the Habitats Regulations, being 'reasons relating to human health, public safety or beneficial consequences of primary importance to the environment'
60. There are clear IROPI supporting the Project in the event that AEOsI of relevant sites cannot be discounted. These are detailed in **Section 5**.

2.4.9 Stage 9: Are Compensation Measures Secured?

61. Where a plan or project is to proceed for IROPI Scottish Ministers have a duty to secure any compensation measures necessary to ensure the overall coherence of the UK site network is protected (regulation 53 of the Habitats Regulations).
62. Securable without-prejudice compensation measures have been shortlisted, with an in-process adaptive plan to secure them for this Project and are found in the **Green Volt Offshore Windfarm – Offshore Ornithology Compensation Report** (APEM, 2023a).

3 Project Need

63. This section identifies the urgent need for decarbonisation of the O&G industry, for new offshore wind generated electricity capacity and for this Project in particular, as reflected in established public policy.

This includes supporting the decarbonisation targets of the North Sea Transition Deal (NSTD), the objectives of the Scottish Government's INTOG SMP, and Scotland's ambitious commitments to address global climate change and achieve net zero by 2045, together with a range of other Scottish, UK and European policy imperatives. Timely contribution to these targets will be achieved with the Project planned to come into operation in 2027.

64. The UK requires a range of energy generation infrastructure to ensure it has a secure and affordable energy supply and can meet its binding commitments to addressing climate change and adopting renewable technologies as a significant proportion of its energy generation mix. Offshore wind, as a source of renewable energy, offers Scotland a wide range of benefits from an economic growth, energy security and decarbonisation perspective. The Project presents an opportunity to demonstrate decarbonisation of existing oil and gas facilities in the Outer Moray Firth (**Section 3.2**) and has the potential to make a significant contribution to reducing carbon dioxide (CO₂) emissions (**Section 3.1**), scaling up the floating offshore wind supply chain to springboard the industry in preparation for ScotWind developments in the 2030s (**Sections 3.3** and **3.4**), contributing to the pressing need for national energy security (**Section 3.5**).

3.1 The Need to Address Climate Change

65. The emissions of greenhouse gases have been identified as a significant source of anthropogenic climate change (IPCC, 2018). The burning of fossil fuels for electricity production has been established as a significant greenhouse gas emission source. A focus on the development of renewable energy for electricity production is presented as a solution to reducing CO₂ emissions and the resulting anthropogenic climate change. To enable the development of renewable energy for electricity production, numerous climate change protocols and agreements and renewable energy policies and legislation are being implemented. These include:
- The Kyoto Protocol;
 - The Paris Agreement;
 - The Climate Change (Scotland) Act 2009, amended by the Climate Change (Emissions Reduction Targets) (Scotland) Act 2019;
 - The Climate Change (Annual Targets) (Scotland) Order 2011; and
 - UK Oil and Gas North Sea Transition Deal.
66. The Scottish Government, along with many others across the world, declared a climate emergency in 2019, outlining the need for swift and decisive action to limit the warming of the planet by 1.5 degrees compared to 1990 levels. The Scottish Government has implemented an ambitious and legally binding net zero by 2045 target, with an interim target of 75% emissions reductions by 2030.
67. In January 2023, the Scottish Government published the Draft Energy Strategy and Just Transition Plan, which sets out the key national ambitions for Scotland's energy future to achieve a just transition to net zero by 2045. These ambitions include:
- More than 20 GW of additional renewable electricity on- and offshore by 2030
 - Reducing greenhouse gas emissions to 40 MTCO₂e by 2030
68. In October 2021, the UK Government published the Net Zero Strategy (BEIS, 2021b), which sets out its intended pathway for decarbonisation over the period until 2037, the end of the Sixth Carbon Budget (Climate Change Committee; CCC, 2020) period, on the way to Net Zero by 2050. The Net Zero Strategy sets a clear and credible range for emissions reduction in each sector of the economy. The UK is one of the few countries with emissions targets in line with the long-term temperature goal of the Paris Agreement. CCC's most recent progress report (CCC, 2023) records that emissions in

2022 increased 0.8% since the previous year, but remain 9% below pre-COVID 2019 levels. The report also tracks progress and highlights risks to the delivery of the UK Net Zero Strategy.

3.2 Offshore Wind and the Oil & Gas Industry

69. Emissions from the fossil fuel supply sector were 33 MtCO₂e in 2022, which represented 7% of the UK total (CCC, 2023). This constituted a 6% increase on 2021, which was driven primarily by an increase in oil and gas production in 2022 following a period of low production in 2021, due to the pandemic and maintenance periods (CCC, 2023). O&G platforms and oil refineries constitute the major sources of these fossil fuel supply emissions (DESNZ, 2023c). The British Energy Security Strategy (UK Government, 2022) signalled an increase in North Sea oil and gas production to contribute to displacing the substantial portion of global fossil fuel supply that comes from Russia. As an immediate measure to provide incentives for the sector, on 26th May 2022 the UK Government announced the Energy Profits Levy which notably introduced a 90% tax relief for firms that invest in oil and gas extraction. Increased oil and gas production in the UK would have implications for emissions if new oil and gas installations lead to additional unabated energy use (CCC, 2023).
70. As of 2021, approximately 70% of offshore emissions associated with oil and gas production in the North Sea are caused by offshore power generation (NSTA, 2022a). To reduce the emissions from these facilities, the development of floating offshore wind farm projects to provide renewable electricity is increasingly being explored. The Applicant would demonstrate the technological feasibility of using a floating offshore wind, at industrial output levels, to support the decarbonisation of the UK's oil and gas industry North Sea operations. The Project would be the UK's first array of floating wind turbines to provide renewable electricity to oil and gas assets as well as having an onshore grid connection to commercially support this process and will strengthen a leading position for Scotland in the development and deployment of floating wind technology. The Project embodies a bridging of the current divide between offshore renewables and the oil and gas sector.
71. The North Sea Transition Deal, agreed between the UK Government and UK oil and gas industry, was announced in March 2021. The sector deal will support workers, businesses, and the supply chain through the transition to a low carbon future by harnessing the industry's existing capabilities, infrastructure and private investment potential to exploit new and emerging technologies such as hydrogen production, Carbon Capture Usage and Storage, offshore wind, as well as supporting decommissioning.
72. Key commitments in the North Sea Transition Deal include:
 - The sector setting early targets to reduce emissions by 10% by 2025 and 25% by 2027 and committing to cut emissions by 50% by 2030; and
 - Joint government and oil and gas sector investment of up to £16 billion by 2030 to reduce carbon emissions. This includes up to £3 billion to replace fossil fuel-based power supplies on oil and gas platforms with renewable energy.
73. Platform electrification is a key component of the NSTA vision for an integrated energy basin. The Energy Integration Report (OGA, 2019) found that the UK Continental Shelf could (through a mix of platform electrification, carbon capture and storage, offshore wind and hydrogen) absorb up to 60% of the UK's entire CO₂ abatement needed to achieve net zero emissions by 2050.
74. The NSTA has confirmed that it views this as representing a minimum level of ambition, which industry should aim to surpass (NSTA, 2022a).
75. More recently (July 31st 2023) the UK government announced hundreds of new oil and gas licences will be granted in the UK, with UK Prime Minister stating "*Even when we've reached net zero in 2050, a quarter of our energy needs will come from oil and gas.*" This announcement was made in parallel

to the release of an NSTA fact sheet which makes the case that domestic North Sea UK gas carbon intensity is almost four times less carbon intensive compared to average import carbon intensity (21kg CO₂/boe compared to 79kg CO₂/boe, respectively) (NSTA, 2023). In addition, the non-energy need for hydrocarbons as key ingredients in the manufacturing of numerous everyday items, including vehicle components, pharmaceuticals and fertilisers, is set to continue beyond achieving net zero targets⁹. In this context of planned continuing exploitation of North Sea O&G reserves, the need for electrification and decarbonisation of the extraction process is ever more pressing.

76. As noted above, power generation accounts for around two thirds of oil and gas production emissions. It is anticipated that powering UK North Sea installations using electricity either from a cable from shore or from a nearby wind farm, could lead to two to three million tonnes per annum of CO₂ emissions reductions by 2030, which is equivalent to the annual carbon emissions from households in a city the size of Dundee and would reduce current production emissions by 20%, rising to 40% by 2030 (NSTA, 2021). With an indicative capacity of 560 MW, the base case for the Project is to reduce the emissions of the Buzzard Platform Complex (Buzzard) by 300,000 tonnes of CO₂ per annum whilst offering a nearby connection point for other oil and gas installations in the Outer Moray Firth looking to decarbonise their onboard power generation.
77. In September 2019, OGA (now NSTA) Chief Executive said: *“Electrification of oil and gas installations is a vital part of industry’s licence to operate and to meet its North Sea Transition Deal emissions reduction targets. This is also a big opportunity for industry to support offshore wind expansion, with lasting infrastructure that will provide benefits beyond oil and gas, long into the future.”* In the corporate plan for 2022-2027, the NSTA announced its ambition to have at least two electrification projects commissioned by 2027 (NSTA, 2022b)
78. The Applicant has been liaising with the Outer Moray Firth Electrification (OMFE) Group, which includes China National Offshore Oil Corporation (CNOOC) Petroleum Europe Ltd, Harbour Energy, Repsol Sinopec, Ithaca Energy and Jersey Oil & Gas to discuss supply and gridding options for their assets in the Outer Moray Firth region of the UK North Sea.
79. Personal consultation with O&G operators in the region reveals that electrification of platforms using existing windfarms would require the powering down of the windfarms during connection works, rendering this commercially non-feasible. Existing wind farm lease areas have been chosen for their suitability in optimising the export of renewable electricity to the grid. These projects are not optimised for servicing O&G platforms. In order to meet climate change and emissions reduction targets, new renewable electricity generation is required. Diverting existing renewable electricity originally intended for export to the grid to O&G platforms does not achieve these aims.
80. The Project would directly contribute to the early targets for emissions reduction set out in the North Sea Transition Deal by making 100% renewable power available for Buzzard, for example, and could provide additional renewable electricity capacity to power further O&G platforms in the future. The concept has strong alignment with the NSTA’s position on platform electrification and infrastructure integration.

3.2.1 Crown Estate Scotland’s Innovation Targeted Oil and Gas (INTOG) Decarbonisation Leasing

81. The Scottish and UK Governments are currently encouraging the development of floating offshore wind farms as a method of reducing the greenhouse gas emissions generated from the operations of oil and gas facilities. Crown Estate Scotland has established the INTOG leasing round, in line with Marine Scotland’s Initial Plan Framework for INTOG projects, to encourage developers to submit lease applications to develop floating offshore wind projects that will specifically power renewable

⁹ <https://oeuk.org.uk/uses-of-oil-and-gas/>

electricity for offshore oil and gas facilities in Scottish waters (Crown Estate Scotland, 2021). The areas designated in the leasing round are situated next to oil and gas facilities which are actively seeking to support their operations with renewable electricity production to reduce greenhouse gas emissions. The creation of the INTOG leasing round, alongside the development of floating offshore wind technology, is expected to increase the number of floating offshore wind projects that provide renewable electricity to power oil and gas facilities.

82. The Project has been offered an initial Exclusivity Agreement through the INTOG process in March 2023. At the time of writing in mid-2023, the Development Area falls entirely within a proposed AoS included in the INTOG process (Area 3-b), with the Windfarm Site located in a marine brownfield site historically used by the oil and gas industry. Only project locations included within the final INTOG SMP will be awarded option agreements. Projects that progress through the planning process will still require the appropriate development consents.
83. Whilst it is hoped that the Project will achieve an Option Agreement from Crown Estate Scotland through the INTOG leasing process, it has not done so to date. Option agreements are expected to be offered in 2024. The Project is entirely subject to award, or not, of seabed rights by the Crown Estate Scotland within that process.

3.2.2 Power to the Grid

84. Whilst a renewable energy source is being developed to electrify and decarbonise offshore oil and gas assets, provision is also being built into the Project for any excess electricity generated to be exported to the UK grid via connection to the Scottish mainland near Peterhead. This will help contribute towards Scottish and UK renewable energy demand and targets out with the oil & gas industry. In addition, this extends the generating life of the Project beyond the lifetime of the oil and gas infrastructure to future-proof the Project. Surplus power from the wind farm exported to the UK grid, would provide enough renewable electricity to power at least 300,000 homes and mitigate an additional 200,000 tonnes of CO₂ emissions, if used to modify the current mix of renewable / non-renewable power on the UK grid.

3.3 Scottish Offshore Wind

85. The seabed around the coast of Scotland has a combination of both shallow and deeper waters which enables the development of both fixed and floating offshore wind projects. As well as having a historical oil and gas industry with infrastructure and resources transferable to offshore wind development, Scotland has attracted numerous offshore wind projects. Acknowledging the available wind resource and offshore wind development opportunity, the UK and Scottish Government have committed to ensuring that offshore wind is a leading contributing source of renewable electricity to the UK National Grid.
86. There has been a significant increase in both the number and size of offshore wind farms being developed in Scotland. As of August 2021 in Scotland, 2.3 GW of offshore wind capacity is in operation or under construction and a further 2.9 GW is consented (Smith, 2021). As well as the INTOG leasing round process (**Section 3.2.1**), Scotland undertook a competitive offshore wind leasing round, ScotWind, which announced the successful projects in January 2022. The ScotWind tender process awarded a total of 26 GW of offshore wind projects, 10.4 GW of fixed offshore wind and 14.6 GW of floating offshore wind. The continued development of offshore wind within Scotland, including the advancement of floating wind farms in deeper waters further offshore is therefore seen as critical to ensuring that Scotland, the UK and Europe can meet their binding energy and climate change targets.
87. Scotland is therefore one of the best locations for innovative solutions to electrifying oil and gas infrastructure, through abundant wind resources, a substantial oil and gas industry and wealth of

experience in floating wind farms development and offshore infrastructure installation already established.

88. Floating substructures open the possibility for future offshore wind farms to be located further from shore in the deeper waters of the Exclusive Economic Zone (EEZ), eliminating visual impacts from the Scottish coastline whilst accessing hitherto untapped wind resources. Floating structures also offer benefits over conventional fixed foundations in terms of reduced construction and installation costs, with limited use of very large offshore construction vessels at the development site and none of the extensive piling operations associated with a fixed offshore wind farm. Floating wind therefore also minimises potential noise impacts upon marine mammals and fish during construction and installation phase of the development and lowers impacts to other users of the sea from reduced installation time and vessel presence.
89. The need for offshore wind in Scottish Waters is also supported by specific Scottish policy. This includes:
- the Sectoral Marine Plan for Offshore Wind Energy dated October 2020 (OWE SMP), which sets the framework for the continued growth of commercial scale offshore wind in Scotland and which notes: *“will be an essential feature of our future clean energy system and a potential key driver of economic growth”*. The OWE SMP sets out the spatial footprint for the current cycle of ScotWind leasing and identifies a maximum potential capacity under this leasing round of up to 10 GW;
 - the Scottish Energy Strategy: The future of energy in Scotland dated December 2017 (the Energy Strategy) which sets the 2050 vision, and which focuses heavily on the delivery of offshore wind; and
 - the Offshore Wind Policy Statement, which identifies that as much as 11 GW of offshore wind capacity is possible in Scottish waters by 2030, and which notes that the Sectoral Marine Plan will set the course for this delivery, maximising deployment in Scottish waters whilst protecting marine users and our environment.
90. In addition, the Sixth Carbon Budget: The UK’s path to Net Zero dated December 2020 (the CCC’s 6th Carbon Budget Report) states: *“Where powers are reserved to the UK level, the devolved administrations have an important role in ensuring that the emissions reductions take place. In particular, the devolved administrations should focus on the following areas: Planning”*

3.4 Economic Benefits

91. It is estimated by the Offshore Wind Industry Council (OWIC) (OWIC, 2021) that the 26,000 jobs supported by the UK offshore wind industry in 2021 will rise to 69,800 by 2026, in addition to a £60 billion private investment in the UK over the same duration. This research shows that 30% of the UK’s offshore wind workforce is currently based Scotland, with this set to increase to over 20,000 jobs in the next few years. Many of these highly skilled jobs are based in coastal and rural areas, bringing investment and opportunities to local communities which otherwise would not exist (Scottish Renewables, 2021).
92. This level of job creation and economic investment has been recognised by the UK government and has subsequently set a target of 50 GW of new offshore wind capacity to be installed by 2030 (DESNZ, 2022). To support offshore wind developers to achieve this target, the UK government has made financial support available under the Contracts for Difference (CfD) support scheme. This scheme provides a guaranteed rate to the developers for the electricity they produce over a 15-year period. The support from the scheme incentivises offshore wind developers into the UK market, providing an economic contribution to the UK economy. Energy from offshore wind has previously been considered as being an expensive alternative to more conventional forms of energy generation such as coal, gas and nuclear, however the results of Allocation Round 4 CfD auctions announced on the 7th July 2022 showed a continued fall in the cost of offshore wind for projects which will be

realised over the next several years. The cost of offshore wind, as measured by the CfD auction strike prices, reduced from £57.50/MWh in 2017 to £39.70 in 2019 and £37.35 in 2022, making offshore wind one of the most attractive and cost-effective methods of generating large quantities of low carbon energy.

93. There are currently several operational offshore wind projects located in Scottish waters such as Beatrice, Moray East, Aberdeen Bay, which are fixed-bottom wind farms, and Kincardine and Hywind Scotland Pilot Park, which are floating offshore wind farms. Additional offshore wind projects are currently in the pre-construction stage or being constructed such as Inch Cape, Neart na Gaoithe, Seagreen and Moray West. The Moray East project, currently the largest project in Scotland built to date, has a total project finance investment of £2.6 billion with a significant contribution to the Scottish economy (Moray East Offshore Wind Farm, 2018). This represents the level of investment that offshore wind projects can contribute to the UK and Scottish economy. Further assessment on socioeconomics is provided in **Chapter 19: Socioeconomics, Tourism and Recreation** of the **Offshore EIA Report** (Royal HaskoningDHV, 2023a).
94. At a sizable 490-560 MW, the Project leads the scaling up of the floating offshore wind supply chain in Scotland through the 2020s, providing an essential stepping-stone to springboard the industry for the imminent ScotWind developments in the 2030s, with associated economic development benefits for Scotland.

3.5 The Need for Energy Security

95. Energy consumers within the UK market are required to be supplied with reliable, secure and affordable energy sources. The UK energy market has historically been dependant on energy supplies from the North Sea oil and gas reserves. Due to these North Sea oil and gas reserves being in decline since the 1990s, the UK has become increasingly reliant on energy supplies from other regions of the world (BEIS, 2020b). This reliance on overseas energy supplies has meant the UK market can become exposed to global energy price fluctuations from global events. The fluctuations from global events can also become incorporated with a growth in energy demand from emerging markets, which can increase the wholesale cost of energy and reduction in energy security. This has been evident following the resumption of growth in economies following the Covid-19 pandemic leading to a surge in gas demand and a subsequent substantial increase in wholesale gas prices (OIES, 2022). In addition, the politics surrounding the Russo-Ukrainian war and the desire to reduce global dependency on Russian hydrocarbons adds further challenges to global energy.
96. In 2022, the Secretary of State for Business, Energy and Industrial Strategy (BEIS, now DESNZ) called for accelerated investment in domestic oil and gas production and re-investment of profits into the North Sea, whilst doubling down in investments in the clean energy transition (BEIS, 2022d). The UK and Scottish Governments have both identified offshore wind development as an important contribution towards energy security. The Project marries two important aspects of energy security through supporting the continuation of in-country oil and gas production, and growth of renewable electricity, which, particularly from offshore wind, is cost-effective and reliable. The Project is working to an ambitious programme, ahead of the publication of the Sectoral Marine Plan for Offshore Wind Energy for INTOG (see **Chapter 3: Policy and Legislative Context** for details) due to the need to electrify the oil and gas industry to reach emission targets, and further support energy security for Scotland and wider UK, reducing reliance on imported energy supplies and associated stress on the UK economy.

The Project will therefore support goals for energy security, supporting Scotland and the UK to have a secure and reliable supply of native electricity (and oil and gas) as we make the transition to a low carbon economy.

3.6 Conclusions on Need

97. There is a clear need to decarbonise the Scottish and UK energy supply in order to meet climate change obligations. This drives the need for existing North Sea O&G generation (that is required for energy security during the transition to renewables) to be decarbonised.
98. It is clear from the preceding sections that the UK's energy system is undergoing a period of rapid change. The effects this will have in the coming decade on supply and demand profiles, the technologies and the scale of projects that will dominate are not yet fully clear. However, the following conclusions can be drawn:
- During the transition to low carbon energy production, in order to meet national emissions targets, it will be essential for the existing O&G industry to decarbonise, and significant steps towards this must be taken during the 2020s, in the context of a national commitment to cut the emissions of the sector by 50% by 2030 agreed in the NSTD; and
 - In order to meet Scottish and UK climate change commitments, the ScotWind process must proceed at scale in the 2030s, with stepping-stone projects during the 2020s constituting a vital component of building sufficient supply chain capacity and floating wind track record to successfully deliver on ScotWind ambitions.
99. In summary, the Project will contribute to the reduction in CO₂ emissions by supplying renewable electricity to the Buzzard oil and gas platform complex (and other platforms in the Outer Moray Firth) that would otherwise be generated by a non-renewable source. This supply of renewable electricity will contribute towards reducing CO₂ emissions that is central to the Scottish and UK Governments overall climate change policies and targeted INTOG process. The Project will also contribute towards the Scottish and UK economy's by providing investment into the emerging floating offshore wind industry and supporting the associated growing skilled workforce.

4 Alternative Solutions

100. This section details the site selection process that was undertaken for the Project (in this instance the Project refers to the offshore elements of the Green Volt Offshore Windfarm only, up to Mean High Water Springs (MHWS)), and alternative solutions considered for the Project.
101. Given that a derogation case is only required for the impacts of the offshore components of the Project, this section considers only the feasibility of alternative solutions that would materially affect the potential for AEoSI on the relevant European sites (**Table 4.4**).
102. Section 5 of the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 and Schedule 4 of the Marine Works (Environmental Impact Assessment) (Scotland) Regulations 2017 requires that information pertaining to alternative sites considered through the site selection process is provided in any submitted Environmental Impact Assessment (EIA)(Scottish Government, 2017), and therefore, the details of this process were provided in **Chapter 4: Site Selection and Assessment of Alternatives** of the **EIAR** (Royal HaskoningDHV, 2023a) and are repeated here.

4.1 Approach to Assessing Alternatives

103. If it cannot be ascertained that the proposal will not adversely affect the integrity of a European site the consenting authority can only proceed to grant the project if there are no alternative solutions AND imperative reasons of overriding public interest exist. This requirement is set out in Regulation 49 of the Habitats Regulations.
104. Guidance suggests alternative solutions could include alternative locations or routes; different scales or designs of development; alternative processes; or other different, practicable approaches which

would have a materially reduced impact. The HRA process should only proceed if no feasible alternatives having a materially lower impact can be provided.

4.1.1 Assessment Process

105. The Habitat Regulations do not define the concept of “no alternative solutions” or the parameters of the exercise, and there is limited case law at the Scottish, UK and EU level. Therefore, the approach to assessment of alternatives by the Applicant draws from the guidance documents listed in **Section 2.2**, and precedent set by previous UK OWF derogation decisions. The approach to establishing the absence of alternative solutions consists of five steps set out in **Table 4.1**.

Table 4.1 Assessment of Alternatives Process

Step	Detail	Section	
Step 1	Identify the need for the Project and define Project objectives.	Section 4.2	
Step 2	Identify the relevant works and potential residual harm to the European sites.	Section 4.3	
Step 3	Identify alternative solutions. This assessment will be undertaken in four stages:	Section 4.4	
	Stage 1	The “Do nothing” or “Zero Option”.	Section 4.4.1
	Stage 2	Is there an alternative form of energy generation?	Section 4.4.2
	Stage 3	Is there an Alternative Site that would result in less damage to the European sites? Locations in other countries. Locations outside Scottish Waters. Locations outside the CES INTOG leasing areas. Locations within the CES INTOG leasing areas.	Section 4.4.3
	Stage 4	Is there an Alternative Design or Means of Operation that would be less damaging to the European site Network?	Section 4.4.4
Step 4	Are the alternatives solutions identified in Step 3 feasible? This step is assessed in parallel with the four stages set out in step 3.	Sections 4.4.1 - 4.4.4	
Step 5	Assessment and comparative analysis of feasible alternative solutions.	Section 4.5	

4.1.2 Alternatives Must be Feasible

106. Before assessing alternatives, a “do nothing” option should be considered, i.e. the outcome of not proceeding with the project at all. MN 2000 states: *“Crucial is the consideration of the ‘do nothing’ scenario, also known as the ‘zero’ option, which provides the baseline for comparison of alternatives.”*
107. In practice, whether there are IROPI clearly raises the question of whether it is better to do nothing. The “do nothing” option would fail to meet the objectives of a project, and would therefore be discounted immediately if there were IROPI to proceed with said project.
108. If the “do nothing” option is discounted, the next step is to identify any feasible alternative solutions that meet the project objectives and would result in a material reduction in harm to the relevant European sites (without causing an AEOsI on another otherwise unaffected site as a result).
109. Given that a derogation case has not yet been tested in Scotland, it is important to draw from UK and European guidance and recent English precedents to inform the presentation of the derogation case for this Project (see also **Section 2**).

110. Alternatives must be feasible. European Court of Justice (ECJ) case law confirms that hypothetical options can be discounted¹⁰. MN 2000 similarly makes clear that the consideration of alternative solutions should be limited to “feasible” alternative solutions. Defra (2021b) guidance explains that a potential alternative should be: “financially, legally and technically feasible”.
111. Whilst feasibility is not explicitly defined, a potential alternative would logically not be technically or financially feasible if the cost would render the Project unviable, or if a particular design was considered technically unsound or unsuitable for deployment or would not meet industry safety and regulatory requirements.
112. The Defra (2021) guidance states that what must be considered are “other feasible ways to deliver the overall objective of the plan or project”. The guidance explains that this means:

“The consideration of alternatives should be limited to options which are financially, legally and technically feasible. An alternative should not be ruled out simply because it would cause greater inconvenience or cost to the applicant. However, there would come a point where an alternative is so very expensive or technically or legally difficult that it would be unreasonable to consider it a feasible alternative”. [emphasis added]
113. Whilst in theory the assessment of alternatives could include consideration of different locations, scales, designs or operational protocols, in reality the number of *feasible* alternatives is often limited by practical factors.
114. Feasibility is therefore considered and applied by the applicant using the following broad criteria detailed in **Table 4.2**.
115. In addition to feasibility, further assessment of the alternatives should also account for an alternative solution's relative effect on the national site network.

Table 4.2 Definition of Legal, Technical and Financial Feasibility

Feasibility	Definition
Legal	A potential alternative would not be legally feasible where there is a legal impediment or where, from a legal or consenting perspective, it would be unreasonably difficult, or improbable that the consent would be granted, for example, on account of ‘unacceptable’ impacts.
Technical	A potential alternative would not be technically feasible where it is impractical, incapable of being implemented, technically unsound, unsuitable for deployment in the North Sea environment and/or would not meet safety or regulatory requirements (including health and safety).
Financial	A potential alternative would not be financially feasible where its cost could render the project (or a component part) unviable or is disproportionately high in the context of the scale of the reduction in the environmental effect that the alternative would achieve.

4.2 Step 1: Need for the Project and Project Objectives

116. The need for the Project has been detailed in **Section 3**. This section will therefore set out the approach to setting Project objectives.
117. Current guidance and precedent set by other OWF derogation case planning decisions clearly sets forward the concept that possible alternative solutions must achieve the objectives of the project. In the absence of Scottish OWF derogation case precedents, UK OWF derogation cases have been reviewed.

¹⁰ See Attorney General's opinion C-209/04 (Lauteracher Ried) where it is noted that the examination of alternatives does not require “every theoretically imaginable alternative” to be considered.

118. The EC MN 2000 guidance sets out that: *“it is for the competent national authorities to ensure that all feasible alternative solutions that meet the plan/project aims have been explored to the same level of detail.” [emphasis added]* The EC’s Methodological Guidance reflects MN 2000 and suggests a three-step approach for examining the possibility of alternative solutions, the first step being to identify the key objectives of the project in question.
119. Similarly, Defra (2012) states that alternative solutions are *“limited to those which would deliver the same overall objective as the original proposal”*, and specifically relates this to the example of OWFs: *“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.”*
120. This guidance is restated by Defra (2021a): *“Examples of alternatives that may not meet the original objective include a proposal that...offers nuclear instead of offshore wind energy”*
121. It is important to note that in previous UK OWF HRA derogation decisions, the relevant competent authority (SoS in these cases) concluded that alternative forms of energy generation would not meet the Project objectives for the proposed OWF and that alternatives can consequently be limited to either *“do nothing”* or *“alternative wind farm projects”*. Most recently, in making a decision on Hornsea Four derogation (DESNZ, 2023a), the SoS was satisfied, that in line with Defra (2021a) guidance: *“other forms of energy generation would not meet the aim of the Project. Furthermore, other wind farm proposals do not present an alternative solution **as all available projects** [emphasis added] are required in order to meet UK 2030 targets for renewable energy.”*
122. Taken together, the guidance and precedent makes clear that firstly, Project objectives must be defined, and these must be defined in relation to the policy context and the need case that the Project meets. Alternative forms of energy generation do not constitute alternatives to the Project objectives of OWFs.
123. Only alternatives that meet or deliver the Project’s need and objectives are considered in Step 4, which determines whether any shortlisted potential alternative solutions are ‘feasible’ alternative solutions.

4.2.1 Green Volt Project Objectives

124. The need for the Project forms the overarching reason for the consent application. As set out in **Section 3**, and further detailed in **Chapter 2: Need for the Project** of the **Offshore EIAR** (Royal HaskoningDHV, 2023a), there is a clear need to deploy offshore wind at scale, and to urgently consent projects which are both deliverable before 2030 and affordable within the framework of the Government’s policy of controlling cost to consumers, to materially contribute to the ever more urgent need to decarbonise the means of energy production to help mitigate the worst effects of climate change. To meet these pressing and time-limited decarbonisation targets, it is essential to decarbonise the existing North Sea Oil & Gas industry as recognised and required in the NSTD and intended through the process of developing the INTOG SMP.
125. This need drives the Project and is reflected in the project objectives which are set out **Table 4.3** below.

Table 4.3 Project Objectives of Green Volt

ID	Project Objective
1	Cut emissions from oil and gas production operations in Scottish waters to support the NSTD decarbonisation targets and the Scottish Government's INTOG Sectoral Marine Plan (and the associated CES INTOG leasing round).
2	Deliver a substantial contribution of new low carbon electricity to the Scottish North Sea Oil & Gas sector before 2030
3	Contribute to Scotland's commitments to address global climate change and achieve net zero by 2045.
4	Lead the scaling up of the floating offshore wind supply chain in Scotland in the 2020s, ahead of ScotWind developments in the 2030s, with the associated economic development benefits for Scotland.
5	Make efficient use of and optimise generation capacity within the constraints of a site in reasonable proximity to the Buzzard oil and gas Platform Complex.

4.3 Step 2: Project Design Parameters and Potential for Harm

126. **Table 4.4** lists the sites and features relevant to this without-prejudice derogation case and considered within this assessment of alternatives. The Project design parameters at the time of RIAA submission that could be considered in the assessment of alternatives are detailed in **Table 4.5**.

Table 4.4 Relevant European sites and features potentially affected by the Project

European Site	Qualifying Feature	Reason for inclusion	Relevant Impact from Project
Buchan Ness to Collieston Coast SPA	Kittiwake <i>Rissa tridactyla</i>	Species flagged by MD-LOT as potentially being subject to an in-combination level AEoSI.	Displacement Collision risk
Troup, Pennan and Lion's Head SPA	Razorbill <i>Alca torda</i>	Species flagged by MD-LOT as potentially being subject to an in-combination level AEoSI.	Displacement
Fowlsheugh SPA	Kittiwake	Species considered by Berwick Bank therefore included as requested by MD-LOT.	Displacement Collision risk
	Guillemot <i>Uria aalge</i>	Species flagged by MD-LOT as potentially being subject to an in-combination level AEoSI.	Displacement
East Caithness Cliffs SPA	Razorbill	Species flagged by MD-LOT as potentially being subject to an in-combination level AEoSI.	Displacement
	Kittiwake	Species flagged by MD-LOT as potentially being subject to an in-combination level AEoSI.	Displacement Collision risk

European Site	Qualifying Feature	Reason for inclusion	Relevant Impact from Project
Forth Islands SPA	Gannet <i>Morus bassanus</i>	Species flagged by MD-LOT as potentially being subject to an in-combination level AEoSI.	Displacement Collision risk
Hermaness, Saxa Vord and Valla Field SPA	Gannet	Species considered by Berwick Bank therefore included as requested by MD-LOT.	Displacement Collision risk

127. With respect to birds where the identified impact is collision risk arising from the operation of wind turbines, the primary project design parameters (see **Table 4.5**) relevant to or which may influence collision risk during operation are:

- Array location (relative to SPA);
- Number of turbines;
- Maximum rotor swept area;
- Height of turbine blades above sea surface; and
- Operational period.

128. In respect of birds where the identified impact is displacement risk during the operation of the Project, the project design parameters (see **Table 4.5**) relevant to or which may influence displacement risk during operation are:

- Array location (relative to SPA);
- Array area;
- Operational period; and
- Vessel movements.

Table 4.5 Relevant Project Design Parameters of Project at the time of RIAA submission

Wind Turbine Generator Parameter	Green Volt
Nominal installed capacity (MW)	560
Maximum number of WTG	35
Maximum tip height from Lowest Astronomical Tide (LAT) (m)	264
Maximum hub height from LAT (m)	143
Maximum rotor diameter (m)	242
Minimum spacing between WTGs (m)	1,540
Minimum air draft above Mean High Water Spring (MHWS) (m)	22
Minimum distance to the Buchan Ness to Collieston Coast SPA (km)	72.3
Minimum distance to the Troup, Pennan and Lion's Head SPA (km)	86.6
Minimum distance to the Fowlsheugh SPA (km)	131.1

Wind Turbine Generator Parameter	Green Volt
Minimum distance to the East Caithness Cliffs SPA (km)	148.3
Minimum distance to the Forth Islands SPA (km)	210.2
Minimum distance to the Hermaness, Saxa Vord and Valla Field SPA (km)	310.7

129. Beyond the parameters displayed in **Table 4.5** changes (i.e. alternatives) to any other element of the project design parameters would not have a discernible effect on seabird collision, or displacement risk, and therefore cannot be alternative solutions with regard to the HRA derogation process.
130. The Sectoral Marine Plan for INTOG (INTOG SMP) (Marine Scotland, 2022) is an ongoing planning process by the Scottish Government, which will define the spatial areas that will be offered to developers in the CES INTOG leasing process. The Applicant has refined the red line boundary of the Windfarm Site from 144km² (at the time of scoping), to 115.98 km², a 20% reduction. This refinement was driven by changes to the CES INTOG lease area Eb that encompasses the entire Windfarm Site, and to minimise conflict with other marine users (see **Chapter 5: Project Description** of the **Offshore EIAR** (Royal HaskoningDHV, 2023a). This refinement has also reduced the potential for seabird displacement.
131. Displacement is based upon the windfarm site boundary and buffers thereof. When considering project alone or in-combination effects it is simply the windfarm area (and associated buffer areas) that are considered, not the location of infrastructure within it. The assessment assumes that wind turbines could potentially be located right up to the boundary. Therefore, the refinement of the red line boundary has reduced the assessed displacement potential.
132. Given that displacement is based on the Windfarm Site area and associated buffers, the layout of turbines within the Windfarm Site is not a relevant factor.
133. Similarly, turbine layout is not a relevant factor for collision risk. Collision risk estimates are derived from consideration of the densities of each species within the site (derived from survey data collected within the boundary only), other species-specific parameters (e.g. flight height) and the turbine parameters (e.g. rotor diameter and draught height). These estimates are determined per wind turbine and multiplied by the number of turbines, the collision risk estimates do not consider spatial variations in the densities of birds across a site or the actual location of the wind turbines.

4.4 Step 3: Assessment of Alternatives

4.4.1 Stage 1: Do Nothing

134. The “do nothing” scenario would mean not proceeding with the Project and the loss of 560MW of offshore wind energy generation capacity. This would jeopardise the 300,000 tonnes of CO₂ per annum reduction in the emissions of the Buzzard Platform Complex (Buzzard) and the provision of a nearby connection point for other oil and gas installations in the Outer Moray Firth looking to decarbonise their onboard power generation. This scenario would fail to assist Scotland in meeting its legally binding net zero by 2045 commitment.
135. If the Project does not proceed, a significant area of seabed identified by CES (Eb) as suitable for the INTOG process and made available for offshore wind development in Scottish waters would not be developed in the near-term (if at all).
136. A “do nothing” scenario would not meet any of the Project objectives and can be discounted on that basis.

137. Defra (2012) acknowledges that “do nothing” (i.e. do not build) should be included for consideration of alternatives, but that it would not normally be considered acceptable as it would fail to deliver the project’s objectives. Instead, it typically forms the baseline against which other alternatives can be assessed.
138. Given that the targets for renewable energy generation and decarbonisation of O&G (**Section 3**) within Scotland and the UK do not have a set limit, a project cannot be ruled out on the basis that alternatives exist (in terms of alternative projects) – since all available offshore wind, including INTOG projects, are required to meet 2030 targets (see **Section 3**). As this Project is the furthest progressed of the INTOG projects and due to operate from 2027, a ‘do nothing’ option increases the risk that 2030 targets may be missed as North Sea O&G decarbonisation will be delayed into the future.

4.4.2 Stage 2: Alternative Forms of Energy Generation

139. The existing energy source for North Sea O&G platforms is fuel heavy and carbon intensive, and the Project will allow the full retirement of existing offshore power generators and use a grid-connected wind farm to deliver reliable, renewable electricity, significantly reducing the carbon emissions of the platform’s power demand – by more than 80%. The only other viable option for electrification and subsequent decarbonisation of the platforms, is to power directly from the National Grid, which itself contains carbon emitting sources of energy. This option would therefore not meet any of the Project objectives **ID1, ID2, ID3, ID4** or **ID5**. In addition, as discussed in **Section 4.2** energy generation other than offshore wind is not considered to be an alternative solution (per Defra, 2012; Defra, 2021; DESNZ, 2023a).
140. As such, alternative forms of energy generation are not considered to be a feasible alternative solution.

4.4.3 Stage 3: Alternative Locations and Sites

4.4.3.1 Alternative Locations in other countries

141. Locations in other countries do not deliver on any of the Scottish or UK specific project objectives, targets or policy in relation to carbon emission reductions, decarbonisation of O&G, renewable energy generation, offshore wind generation, climate change or national policy in respect of which the Project objectives seek to contribute to. EU countries have different binding targets in respect of each of these. Therefore, projects outside the UK cannot count towards the UK need for O&G decarbonisation and additional offshore wind capacity (facilitated by successfully delivered stepping-stone floating wind projects). Other international and EU countries similarly have their own binding targets and projects outside the UK are required for other Member States and countries to achieve their own respective targets in respect of climate change and renewable energy.
142. Locations in other devolved nations within the UK do not deliver on any of the Scottish-specific project objectives, targets or policy in relation to carbon emission reductions, decarbonisation of O&G, renewable energy generation, offshore wind generation, climate change or national policy in respect of which the Project objectives seek to contribute to. For example, Scottish net zero targets are stricter than England’s, with committed dates of 2045 and 2050, respectively.
143. Accordingly, consideration of proposals in different countries would not deliver on any of the Project objectives and as such are not a feasible alternative solution.

4.4.3.2 Feasible Locations outside of the INTOG leasing areas

144. This section considers the potential for alternative array sites in Scottish waters and the wider UK Renewable Energy Zone (REZ), excluding the INTOG leasing areas (in which the Project is located).

145. A key consideration here is which sites are available to consider due to legal feasibility issues. The Crown Estate (TCE) and Crown Estate Scotland (CES) own or exercise exclusive rights to manage the leasing of and exploitation of the seabed for offshore wind development within UK and Scottish territorial waters and, through the Energy Act 2004, the wider UK REZ. TCE / CES make areas of seabed available for offshore wind development selectively in successive offshore leasing rounds, usually several years apart.
146. In recent OWF HRA derogation decisions the SoS has concluded that sites outside of areas secured by the respective applicant do not represent alternative locations. The HRA for East Anglia ONE North can be used as an example¹¹:
- “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.”*
147. In the context of the Project, with objective **ID1** which is to support NSTD decarbonisation targets and the Scottish Government’s INTOG SMP (and the associated CES INTOG leasing round), other areas of seabed outside of the CES INTOG leasing process are not legally available to the Applicant and are not feasible on that basis. The Project site has also been specifically chosen to maximise the potential contribution of the site to decarbonisation of the Buzzard platform complex, with potential to electrify additional O&G platforms beyond Buzzard in the future, thereby meeting Project objective **ID5**. No other sites have been identified as having the same potential to meet **ID5** in combination with **ID1**, **ID2**, **ID3**, and **ID4**. Whilst future leasing rounds may be available to further decarbonise the North Sea O&G sector, there is no sight of these potential leasing rounds in the short term, and therefore they will not allow the Project to meet objective **ID2**, delivering a substantial contribution of new low carbon electricity to the Oil & Gas sector before 2030. Historically, OWF delivery from the point of TCE/CES pre-tender engagement on leasing to completion of construction and power delivery can take 13 years. Even if the consenting process were streamlined to reduce this timeline by 50%, a new Scottish leasing round announced in 2023 (which is not expected) would not meet the 2030 deadline of objective **ID2**.
148. The huge scale of Scotland and UK targets for O&G decarbonisation and offshore wind development, the short timescales to now meet 2030 targets (6.5 years at time of writing) and prevalence of offshore environmental and technical constraints, mean that any lost capacity cannot be expected to be offset by other future uninitiated leasing rounds, even with an optimistic outlook for a 50% reduction in consenting timelines.
149. Given the above, any parts of the UK REZ not currently the subject of an OWF leasing round do not form feasible alternatives. Any leasing rounds not targeted towards the decarbonisation of existing O&G activities in Scotland, whilst important steps towards meeting UK renewable targets (i.e. the Celtic Sea Leasing Round or ScotWind), do not meet the Project objectives **ID1**, **ID2**, **ID3**, **ID4**, or **ID5** and do not form feasible alternatives.

4.4.3.3 Feasible Locations within the INTOG leasing area

150. The Project site selection process has followed IEMA mitigation hierarchy (IEMA, 2013), firstly to avoid causing adverse effects on the environment, and secondly to minimise any adverse effects that might occur. Site selection for the project has been influenced by the following key publications (which cover environmental and socioeconomic factors):

¹¹ See section 9.1.3.3 of the SoS East Anglia ONE North HRA: <https://infrastructure.planninginspectorate.gov.uk/wp-content/uploads/projects/EN010077/EN010077-009803-EA1N%20-%20Habitats%20Regulations%20Assessment.pdf>

- The CES INTOG Leasing Round for decarbonisation (discussed further in **Section 3.2.1** and **Chapter 2: Need for the Project of the EIAR** (Royal HaskoningDHV, 2023a));
 - Identification of at least one suitable offshore oil and gas platform to which to supply power;
 - Scottish National Marine Plan (NMP)/environmental sensitivity data;
 - Marine Scotland’s Offshore wind energy - draft SMP SEA;
 - Department for Business, Energy and Industrial Strategy – Offshore Petroleum Regulator for Environment and Decommissioning (BEIS/OPRED) Offshore Energy SEA; and
 - Initial Plan Framework Sectoral Marine Plan for INTOG.
151. The site selection and project design process is an iterative one, involving early engagement with stakeholders. Consultation and engagement with landowners, communities and regulators enables communication of the reasons for site selection decisions and allows for the feedback received to influence and refine the project design. Details of this process given in **Chapter 4: Site Selection and Assessment of Alternatives** of the **Offshore EIAR** (Royal HaskoningDHV, 2023a).
152. The siting, design and refinement of the Project have taken account of environmental, physical, technical, commercial and societal considerations and opportunities as well as engineering requirements. This is with the aim of identifying a site that will be environmentally acceptable, deliverable and able to achieve consent, whilst also enabling decarbonisation within the oil and gas industry.
153. The Applicant has undertaken pre-application engagement with stakeholders, communities and landowners to seek input to refine the Project’s design, and post-submission dialogue to communicate key decisions made with regard to both design and location. Feedback from stakeholders has shaped the design of the Project, including adaptation of the Windfarm Site boundary to avoid an area of commercial fishing interest (see **Chapter 13: Commercial Fishing** of the **Offshore EIAR** (Royal HaskoningDHV, 2023a)).
154. The proposed Project is to be located on the decommissioned Ettrick and Blackbird oil and gas developments, which ceased production in 2016, with final decommissioning activities currently being finalised. Ettrick and Blackbird fields are brownfield sites with large amounts of site data captured, including EIA and Environmental Appraisal reports during previous oil and gas field development, operation and decommissioning works. The data has also been used to avoid key environmental impacts where possible.
155. In 2019, the Applicant started the process of identifying a suitable project development area to support the installation of a floating offshore wind for the purpose of supporting the decarbonisation of the oil and gas platforms in the North Sea. This process, which included a Geographical Information System (GIS) review of environmental sensitivity data, created the initial concept for Project, which was based on the review of early phase scoping reports of the offshore wind energy draft sectoral marine plan SEA, where oil and gas areas were specifically excluded from the AoS in 2018 (Marine Scotland Science (MSS), 2018). Figure 24 of the document (MSS, 2018) shows the reduced potential environmental impact across the Ettrick and Blackbird field, whilst Figure 25 shows the industrial weighting which identifies the oil and gas impact in this area. O&G installation locations in the North Sea overlapped with some of the OWE SMP AoS, which were revised to decrease the overlap with oil and gas clusters and reduce potential impacts with the oil and gas industry at that time.
156. Key environmental factors which shaped the Project site selection process included:
- Siting the Windfarm Site beyond sight of shore, therefore avoiding seascape, landscape and visual effects;

- Avoiding seabird hotspots, with an initial site selection assessment undertaken using the published RSPB Hotspot mapping GIS data layers (Cleasby et al. 2018). These data were used to help support the selection of the Windfarm Site over locations to the west and due east of the Buzzard platform complex. These data suggested higher seabird numbers at these other locations than the Windfarm Site and therefore the site was selected. Additionally, in 2019, the site was outside the known maximum foraging range for kittiwake from any Scottish bird colony; and
 - Avoiding areas important for the commercial fishing industry.
157. In addition, the following constraints were also considered;
- Wind resource;
 - Safety (shipping, navigation and hard constraints i.e. infrastructure); and
 - Engineering.
158. As part of the initial ScotWind draft plan option (DPO) identification scoping work, it was identified that several oil and gas developments located in the area between DPO NE7 and E2 had been considered a hard constraint for offshore wind development and that these AoS were removed from the overall sectoral marine plan process at an early stage.
159. The site selection process identified two potential project areas that were available for brownfield redevelopment and the Applicant then undertook a high-level assessment to confirm which site development area should be taken forward for additional assessment. The key consideration for this review was the potential distances to surrounding oil and gas platforms that had significant power requirements (demand) and long-term future operational life spans (at least 15 years), mindful of the need to meet Project objectives **ID1**, **ID2**. This review clearly showed that the Buzzard Platform Complex (Buzzard) (consisting of four platforms) is a suitable oil platform complex to start the process of electrification with offshore wind power. Buzzard has a relatively long remaining operating life, but it is also one of the largest platform complexes in the North Sea (hence electrification abates notable quantities of associated emissions from power generation activities) and is sufficiently close to land to enable an alternating current (AC) electrical connection to the UK grid. AC electrical connections are considered preferable over direct current (DC) at shorter distances due to their lower costs and use of transformers allowing for voltage to be raised and lowered, minimising power losses over long distances. Buzzard has an annual baseload demand of 70 MW.
160. It is also of note that Buzzard is in an area within close proximity of a number of other oil fields that could benefit from decarbonisation in future. As such, locating a wind farm near Buzzard with an operating life in excess of the platform complex offers the opportunity to serve neighbouring installations (thereby maximising the Project's ability to meet Project objectives **ID1**, **ID2**, and **ID5**). Other Outer Moray Firth platforms will also have the potential to use electricity generated by the Project.
161. The development of the Project was discussed with Marine Scotland and CES at the early stages.
162. The initial concept was based around directly locating wind-turbines on the existing main platform structure, but it was quickly determined to be unsuitable due to limits with capacity and availability which would not de-couple the need for gas-powered generation on the platform. After economic modelling the OWF capacity versus platform power demands, the concluded configuration was to link a standalone OWF with Buzzard and the national grid to ensure uninterrupted power availability to the platform. This also created an opportunity for providing renewable power to shore from an area with higher expected wind resource availability compared to offshore locations closer to shore. For the Windfarm Site, the average annual wind speed is recorded at 10.80 - 10.98 m/s, significantly higher than the inshore OWF sites in Scottish waters and will result in higher operational hours for the turbines.

163. Having selected Buzzard as a target consumer for electrical power, a number of sites as candidates for installation of an offshore floating wind farm were investigated. Two sites were considered in detail – these were:
- The decommissioned Etrick and Blackbird oil and gas field, 20 km from Buzzard; and
 - The decommissioned Buchan oil and gas field, approximately 50 km east of Buzzard.
164. It was subsequently noted that, in light of the discovery of additional oil reservoirs, a new oil production development will be located at the old Buchan oil field by Jersey Oil and Gas Plc which is scheduled to become active within the next decade; therefore, rendering this site unsuitable for the development of an OWF and not a feasible alternative to the Project. This site selection review took account of and also identified the following key advantages for the Etrick and Blackbird site:
- Located 20 km away from Buzzard, minimising the export cable route;
 - A brownfield development area with significant and long-term environmental datasets;
 - Significant site geotechnical and geophysical data set availability to minimise future survey requirements (such as soil sampling and vessel-based surveys) and accelerate site development activities;
 - Water depth (100-115 m) is suitable for the deployment of floating wind turbine substructures fitted with the next generation of offshore turbines (>10 MW);
 - Average mean wind speed of 10.93 m/s (UK Offshore Wind Resource Dataset 2015 – Hindcast of 30-year average at 110 m above sea level by The Met Office) (TCE, 2015);
 - Favourable seabed and environmental conditions for floating wind technology;
 - Current shipping and fishing activity at the site is limited due to the presence of oil and gas activities until decommissioning completed;
 - Not within any environmental designated sites;
 - The site is 80 km from shore, which will minimise seascape and landscape visual effects;
 - Existing datasets for the area confirm that ornithological activity within the site is less than locations closer to shore and breeding colonies;
 - The location further from shore has access to an increased wind resource for a given footprint, in turn providing an increased value proposition and ability to meet Project objectives **ID1**, **ID2**, **ID3**, **ID4**, and **ID5**; and
 - Floating substructures have reduced environmental impact during construction and decommissioning since the seabed anchor points need not be piled or cemented. The seabed conditions within the area are already known to be conducive with suction anchors or drag anchors, due to the existing datasets available for the area.

4.4.3.4 Summary of Alternative Locations and Sites

165. There are no feasible alternative locations or sites either within or outside of the CES INTOG AoS Eb for the reasons discussed above and summarised in **Table 4.6**.

Table 4.6 Summary of alternative locations and sites

Alternative Location		Reason alternative option discounted.
In other countries		Does not deliver any of the of the project objectives and as such, this is not a feasible alternative.
Outside of the INTOG leasing areas	Leasing rounds outside of Scottish Territorial Waters	Locations identified by TCE in prior leasing Rounds are already under exclusivity to other offshore wind developers and subject to offshore wind developments which are operational, in construction, consented or in development. These locations are not legally available and do not constitute feasible alternatives. Ongoing leasing rounds (e.g. TCE Celtic Sea Leasing Round) do not target the decarbonisation of the existing O&G industry, and have no potential to meet the binding industry 2030 targets set out in the NSTD. They therefore do not meet any of the Project objectives.
	ScotWind	ScotWind projects are not targeted towards the decarbonisation of the existing O&G industry and are unlikely to be generating power before 2030. They do not therefore meet any of the Project objectives.
Within the INTOG leasing areas	Other CES INTOG AoS beyond area Eb	Other INTOG AoS that fall outside of area Eb, whilst legally available, do not contain appropriate O&G brownfield sites suitable for redevelopment that simultaneously: - Are in proximity to O&G infrastructure with significant demand and potential for electrification over the lifetime of the Project (objective ID1); - Possess the significant and long-term environmental, geotechnical and geophysical datasets needed to allow acceleration of site development activities on a timescale to meet Project objective ID2; - Have sufficient proximity to shore to enable an electrical connection to the UK grid, which is essential for both exporting excess low carbon electricity, and importing electricity to supply the electrified platform at times of low wind (ensuring uninterrupted power supply to the platform).
	Brownfield redevelopment at the Buchan Oil Field	Whilst further from the target consumer (the Buzzard O&G platform complex), initially there was potential to route a cable from Buchan Oil Field to Buzzard. However, in light of the discovery of additional oil reservoirs, a new oil production development will be located at the old Buchan oil field by Jersey Oil and Gas Plc which is scheduled to become active within the next decade; therefore, rendering this

Alternative Location	Reason alternative option discounted.
Other areas within CES INTOG AoS Eb	site unsuitable for the development of an offshore wind farm and no longer a feasible alternative.
	<p>Other areas exist within INTOG AoS Eb that fall outside of the Ettrick and Blackbird O&G brownfield site. These do not possess the significant and long-term environmental, geotechnical and geophysical datasets needed to allow acceleration of site development activities on a timescale to meet Project objective ID2.</p> <p>Data suggest that sites to the west and due east of the Buzzard oil platform have higher seabird numbers than the Green Volt site (Cleasby et al. 2018), and therefore would have increased risk of AEoI on the relevant European sites. Additionally, in 2019, the site was outside the maximum foraging range for kittiwake from any Scottish bird colony.</p>

4.4.4 Stage 4: Alternative Design

166. In developing the project design envelope (or Rochdale Envelope) for the Project, careful and extensive consideration of alternatives and different scales and designs of development were assessed.
167. Given the necessarily accelerated timescales for the Project to meet objective **ID2** and the targets set out in the NSTD, projecting forward to anticipate future developments in turbine technology and incorporating these potentially larger, higher capacity WTGs is not an option, and the Applicant has conducted the EIA and RIAA in the context of a worst-case scenario based on commercially available technology that is currently on the market.
168. The general principle of the assessment is that for each receptor topic, the impact assessment is based on a range of project design parameters (e.g. the maximum tip height of wind turbines that could be installed would be 264m above LAT with a maximum rotor diameter of 242m), the key being that those parameters selected represent the range of options within which the greatest environmental impact would occur. The end result is an EIA based on clearly defined environmental parameters that would govern or define the full range of development possibilities and hence the likely environmental impacts that could flow from planning consent.
169. In relation to the project design, the Applicant has stated its position in the **RIAA** (Royal HaskoningDHV, 2023b) that no AEoSI applies to all sites/features detailed in **Table 4.4**. Nevertheless, possible and practicable changes in Project design parameters which have a potential to reduce to the risk of AEoSI have been considered in relation their feasibility (as defined in **Table 4.2**), and are presented in **Table 4.7**. Detailed consideration of the effects of these factors on seabird displacement and collision risk can be found in the **Green Volt Offshore Windfarm – Offshore Ornithology Compensation Report** (APEM, 2023a), and **Supplementary Ornithological Assessment Report** (APEM, 2023b).
170. In terms of turbine size, the Applicant has considered conventional three blade, horizontal axis WTG from three manufacturers, GE Halide X 14 MW, Vestas V236 15 MW, and MingYang MY-SE 16MW-242. Given the Project objective of delivering low carbon energy before 2030 (see **Section 4.2.1**), the Applicant is not projecting forward to anticipate future larger turbine technology, and is rather committing to, and assessing on the currently available WTG technology, further limiting the potential

collision risk. The proportioned collision mortality rate of the maximum design scenario of the Project for relevant SPA's was a maximum of 0.2, 0.0, and 1.5 per annum for kittiwake, herring gull and gannet respectively (**Green Volt RIAA** (Royal HaskoningDHV, 2023b). In the **Green Volt Offshore Windfarm – Supplementary Ornithological Assessment Report** (APEM, 2023b), additional scenarios recommended by SNCBs are considered, including scenarios with Berwick Bank, and a conclusion of no AEOsI is maintained. In this context of low collision mortality, the WTGs available to consider as alternatives will not materially affect the Project's AEOsI for the relevant European sites and is not a factor for further consideration.

Table 4.7 Summary of considered changes to project design envelope, implications for effects on features of concern, and feasibility

Design Change	Implication for Project Effects
Collision Risk	
Increased minimum WTG draught height	Supply chain analysis and early works for the procurement of Green Volt have determined that the minimum turbine draught height of 22m could feasibly be increased. The implications for this change on AEOsI for relevant European sites given the low annual collision mortalities assessed for the Project, would not result in a meaningful effect.
Decrease in WTG tip height	Supply chain analysis and early works for the procurement of the Project have determined that the maximum WTG tip height for technology available within the construction timelines of the Project is 264m. In order to meet NSTD and INTOG targets, and Project objectives ID1 , ID2 , and ID5 , whilst minimising effects on seabirds, the Applicant will utilise the largest WTGs possible to deliver the applied for capacity with the fewest WTGs as possible. No alternatives are available that allow the required capacity to be delivered before 2030 with reduced wind turbine tip height.
Reduce WTG numbers to less than 35 whilst retaining overall project capacity.	Not feasible. The assessed maximum of 35 WTGs reflects the fewest number of turbines required to deliver the required capacity given currently available technology. Consideration of future technology outside of the construction timeline would risk achievement of Project objective ID2 .
Reduce WTG numbers to less than 35 reducing overall project capacity.	Not feasible. A reduction in turbine numbers would reduce the overall generating capacity of the Project, this would hinder the ability to meet Project objectives ID1 , ID2 , ID3 , and ID5 by not optimising the capacity available to generate on the site.
Alternative operational protocols	In order for seasonal restrictions for turbine operation to have any material effect on the number of predicted collisions of features from the relevant SPAs, shutdown of all turbines would be necessary for several months each year. Given the aim of the Project to electrify nearby O&G platforms with low carbon power generation, and to optimise generation capacity within the constraints of a site, this alternative does not meet Project objectives ID1 or ID5 . In order to meet INTOG, NSTD, and Scottish emissions targets by 2030, each consented project needs to deliver at their optimal level. Finally, this alternative is not viable from a financial feasibility perspective and would therefore render the project unable to meet all Project objectives.

Design Change	Implication for Project Effects
Displacement	
Reduction in size of array area	The refinement of the red line boundary (Sections 4.3 and 4.4.3), has already reduced the assessed displacement potential. Further reductions in the final size of array area are possible once the turbine layout is refined and finalised but will be limited by the minimum turbine spacing that results from technical and safety considerations.

4.4.5 Summary of Alternatives

171. The purpose of this section has been to demonstrate objectively to the Scottish Ministers and to MD-LOT that there are no feasible alternative solutions to the Project.
172. Potential alternative solutions have been identified and considered as part of this Step 3 HRA assessment. The assessment of alternative solutions provided in this report demonstrates that there are no feasible alternative solutions that would have a lesser effect on the integrity of the European sites noted in **Table 1.2**. The conclusions of this assessment have been summarised in **Table 4.8** below.

Table 4.8 Summary of alternative solutions that have been discounted

Design Alternative	Alternative Option Considered	Reason Alternative Option Discounted
Do nothing (see Section 4.4.1)	Not progressing the Project	Does not deliver any of the Project objectives and is therefore not feasible alternative.
Alternative forms of energy generation (see Section 4.4.2)	None considered	Not required.
Alternative Location (see Section 4.4.3)	Locations outside the UK	Do not deliver any of the of the Project objectives.

Design Alternative	Alternative Option Considered	Reason Alternative Option Discounted
	Other locations in the UK (see Table 4.6)	<p>Locations outside of Scottish Territorial Waters do not meet Project objectives.</p> <p>Locations within Scottish Waters but outside of CES leasing areas are not legally available and as such do not meet Project objectives.</p> <p>All ScotWind projects are required to meet Scotland's 2045 emissions target. They are not targeted to decarbonisation of the existing O&G industry before 2030 and therefore do not meet Project objectives ID1, ID2, and ID5.</p> <p>All alternative locations within the CES INTOG AoS either do not meet Project objective ID1, ID2, or ID3 (see Table 4.6 for details).</p>
Alternative scales or designs or means of operation (see Section 4.4.4)	Alternatives that reduce Project capacity	Any change that reduces generating capacity hinders the ability to meet Project objectives ID1 , ID2 , ID3 , ID4 , and ID5 .
	Alternative designs within Project capacity	Table 4.7 lists the alternatives to the project design envelope that have been considered and the reasons for their non-feasibility.

4.5 Step 5: Assessment of Effects of Feasible Alternative Solutions on Natura 2000 Sites

173. Step 5 is not applicable, as there are no feasible alternative solutions to the Project Design Envelope presented in **Section 4.4**.

4.6 Assessment of Alternatives Conclusions

174. Alternative solutions for the Project have been assessed in an iterative manner as per the approach shown in **Section 4.1**. The Do Nothing, Alternative Forms of Energy Generation and Alternative Location options have been examined and discounted (see **Sections 4.4.1 to 4.4.3**). The project design envelope has been revised as discussed in **Section 4.4.4**, and as a result there is no further feasible refinement available that would reduce effects upon the features and potential for AEOsI of the relevant SPAs (see **Table 1.2**).

5 Imperative Reasons of Overriding Public Interest (IROPI)

175. This section provides evidence which demonstrates that the Scottish Ministers can be satisfied that there are IROPI to authorise the Project.

176. In addition to this Report, the IROPI case is supported by and draws in particular upon the following Green Volt documents: **Chapter 2: Need for the Project** of the **Offshore EIAR** (Royal HaskoningDHV, 2023a); **Chapter 3: Policy and Legislative Context** of the **Offshore EIAR** (Royal HaskoningDHV, 2023a); **Chapter 18: Climate Change** of the **Offshore EIAR** (2023a); the **Offshore Socioeconomics Supplementary Report** (In draft); and the **Green Volt Wrapper Document** (In draft). The Green Volt Wrapper Document synthesises the findings of the offshore and onshore EIA for the Project.
177. It is concluded that there is a compelling case that the Project must be carried out for IROPI, which is fundamental to achieving Scottish and UK Governments' legal commitments and policy objectives.

5.1 Approach to Assessing IROPI

178. Where it cannot be ascertained that a plan or project will not adversely affect the integrity of a European site, and there are no alternative solutions, a plan or project can only proceed if there are imperative reasons of overriding public interest for doing so (regulation 49 of the Habitats Regulations).
179. Considerations of priority features are not relevant (see **Section 2.4.7**).
180. The parameters of IROPI are explored in guidance provided by Defra (2012) and the European Commission (2019), which identify the following principles. The Defra (2012) Guidance – which itself is based on the EC's (2012) Guidance on Article 6(4) of the Habitats Directive – identifies that consideration of the objective(s) of the plan or project is central to the determination of IROPI. The need for and objectives of the Project are detailed in **Section 3** of this report and further discussed and expanded upon in **Chapter 2: Need for the Project** of the **Offshore EIAR** (Royal HaskoningDHV, 2023a). The IROPI position in respect of the Project is premised on its social and economic benefit, with appropriate recognition that the Project will deliver:
- Reliable renewable electricity to O&G platforms in the Outer Moray Firth, allowing full retirement of existing gas fired or diesel power generation systems;
 - Low carbon energy, which is of benefit to the environment generally;
 - Supply chain benefits for the offshore wind industry as it progresses into floating wind technology in order to meet national net zero targets; and
 - Consistent and reliable energy supply, which is essential to maintaining a good standard of human health and public safety.
181. The approach to presenting the Project's case for imperative reasons of overriding public interest consists of answering the following questions:
- 1) Are the reasons for undertaking the project **imperative**?
 - 2) Are the reasons in the **public interest**?
 - 3) Are the reasons **long term**?
 - 4) Are the reasons for undertaking the plan or project **overriding**?

5.2 The IROPI Test

5.2.1 Are the Reasons for Undertaking the Project Imperative?

182. As set out in **Section 3.1** of this Report, there is an urgent and imperative need to reduce greenhouse gas emissions in the UK to reduce the rate of anthropogenic climate change. The imperative reasons that justify this Project primarily arise from this need. These are "*reasons relating to human health,*

public safety or beneficial consequences of primary importance to the environment” which constitute IROPI.

183. The Intergovernmental Panel on Climate Change (IPCC, 2018) stated that any path to limiting global warming to less than 1.5°C will require significant emissions reductions before 2030. Human-induced global warming has already reached approximately 1°C above pre-industrial levels and the impacts of climate change are global in scope and unprecedented in human existence (IPCC, 2023). In 2019 the UK Parliament declared a ‘climate change emergency’ and updated the target in the Climate Change Act 2008 target from an 80% reduction in carbon emissions by 2050, to net zero greenhouse gas emissions by the same date. In 2019, the Scottish Government set a more ambitious net zero target of 2045.

5.2.1.1 Climate Change Risks

184. Climate change poses a risk to the health and safety of Scottish and UK citizens. The gravity of this risk has been made plain in recent reports by the IPCC and UK CCC. The IPCC’s AR6 Report underscores the gravity of the risk to the environment and consequently to humans and all life (IPCC, 2023).
185. AR6 Report (part 1) provided new estimates of the chances of crossing the global warming level at 1.5°C in the next decade. It 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. The UN Secretary General described the AR6 Report as a “Code Red for humanity”.
186. AR6 Report (part 2) was accompanied by a press release which described a narrowing window for action to address the threat to human wellbeing:
- “The scientific evidence is unequivocal: climate change is a threat to human wellbeing and the health of the planet. Any further delay in concerted global action will miss a brief and rapidly closing window to secure a liveable future.”*
187. AR6 Report (part 3) confirms the harmful and permanent consequences of failing to limit the rise of global temperatures. The press release highlights that the *“next two years are critical”* (page 1) and that, limiting warming to around 1.5°C, would require *“global greenhouse gas emissions to peak before 2025 at the latest, and be reduced by 43% by 2030”* (page 2).
188. Taken together this messaging of the AR6 report makes clear that significant reductions in CO₂ emissions are required globally, at scale, and in the near term, both within this decade and into the next.
189. For seabirds more specifically, there is already substantial evidence that climate change is impacting UK seabird populations due to bottom-up mechanisms related to changes in prey distribution and availability (Johnston et al., 2021). The expectation is that population size and distributional changes will continue over coming decades under current warming projections (Cleasby et al., 2021), with the majority of seabirds set to decline by 2050 under a RCP8.5 (high climate change business-as-usual) scenario to 2050 (Davies et al., 2021).
190. As described in **Table 5.1** impacts associated with climate changes affect terrestrial and marine ecosystems, coastal process and climate, water resources and flood risk, and food security all of which directly or indirectly affect citizen’s health, safety and environment.

Table 5.1 Impacts associated with a global temperature increase of 1.5°C above pre-industrial levels on natural and human systems (IPCC, 2023)

Sector	Impact
Terrestrial ecosystems	<p>Species range loss (the number of species projected to lose over half of their climatically determined geographic range at 1.5°C global warming; 6% of insects, 8% of plants and 4% of vertebrates);</p> <p>Loss of ecosystem functioning and services;</p> <p>Increase in other biodiversity-related factors, such as forest fires, extreme weather events, and the spread of invasive species, pests and diseases;</p>
Marine Ecosystems	<p>Decline in ocean productivity;</p> <p>Shifts of species (e.g. plankton, fish) to higher latitudes;</p> <p>Damage to ecosystems (e.g., coral reefs, and mangroves, seagrass and other wetland ecosystems);</p> <p>Loss of fisheries productivity (at low latitudes); and</p> <p>Changes to ocean chemistry (e.g., acidification, hypoxia and dead zones).</p>
Coastal processes	Sea level rise, increased storminess.
Water Resources	Increased frequency and magnitude of floods and droughts in some regions.
Land Use, Food Security and Food Production Systems	<p>Reductions in yields of maize, rice, wheat, and potentially other cereal crops, particularly in sub-Saharan Africa, Southeast Asia, and Central and South America; and in the CO₂-dependent nutritional quality of rice and wheat;</p> <p>A loss of 7–10% of rangeland livestock globally is projected for approximately 2°C of warming with considerable economic consequences for many communities and regions;</p> <p>Fisheries and aquaculture are important to global food security but are already facing increasing risks from ocean warming and acidification, impacting key organisms such as fin fish and bivalves (e.g., oysters), especially at low latitudes;</p> <p>Risks of impacts and decreasing food security are projected to become greater as global warming reaches beyond 1.5°C and both ocean warming and acidification increase, with substantial losses likely for coastal livelihoods and industries (e.g., fisheries and aquaculture);</p>
Human Health, Well-Being, Cities and Poverty	<p>Any increase in global temperature (e.g. +0.5°C) is projected to affect human health, with primarily negative consequences (high confidence). Lower risks are projected at 1.5°C than at 2°C for heat-related morbidity and mortality;</p> <p>Urban heat islands often amplify the impacts of heatwaves in cities;</p> <p>Risks for some vector-borne diseases, such as malaria and dengue fever are projected to increase with warming from 1.5°C to 2°C, including potential shifts in their geographic range;</p> <p>Poverty and disadvantage have increased with recent warming (about 1°C) and are expected to increase for many populations as average global temperatures increase from 1°C to 1.5°C and higher.</p>

191. Although Scotland and the wider UK are leading decarbonisation efforts around the world, as described in **Section 3** of this Report, their respective legal commitments of achieving Net Zero by 2045 and 2050 respectively are not yet assured. A key step in significantly reducing Scottish carbon emissions before 2030 is recognised to be the electrification and decarbonisation of the existing O&G industry in the North Sea. Emissions from the fossil fuel supply sector were 33 MtCO₂e in 2022, which represented 7% of the UK total. Around 87% of the emissions came from oil and gas production,

processing and refining (CCC, 2023). The Project would be the UK's first and largest array of floating wind turbines to provide renewable electricity to oil and gas assets as well as having an onshore grid connection and commercially support the decarbonisation of North Sea O&G operations. Platform electrification is a key component of the NSTA (previously OGA) vision for an integrated energy basin (see **Section 3.2**).

192. The Project will directly contribute to the early targets for emissions reduction set out in the North Sea Transition Deal by making 100% renewable power available for Buzzard and could have the capacity to provide renewable electricity to further O&G platforms in the future. It will also strengthen a leading position for Scotland in the development and deployment of floating wind technology. The Project embodies a bridging of the current divide between offshore renewables and the oil and gas sector. This will make a substantial contribution to achieving the commitments made in the NSTD (see **Section 3.2**).
193. The Project is aligned with and serves to implement fundamental Scottish and UK Government policy and state aims and would make a substantial contribution to:
- Meeting the target for emission reductions in the North Sea O&G sector in the timeframe required (i.e. before 2030).
 - Lead the scaling up of the floating offshore wind supply chain in Scotland in the 2020s, ahead of ScotWind developments in the 2030s, with the associated economic development benefits for Scotland.
194. It follows that the Project 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.

5.2.1.2 Energy Security

195. As detailed in **Section 3.5**, energy consumers within the UK market are required to be supplied with reliable, secure and affordable energy sources.
196. The ECJ confirmed in 2019 that ensuring the security of the electricity supply constitutes an IROPI. The ECJ has held that security of energy supply in the EU is one of the fundamental objectives of EU policy in the field of energy. The ECJ went further, saying that, in any event “*the objective of ensuring the security of electricity supply in a Member State at all times constitutes an imperative reason of overriding public interest, within the meaning of that provision*”¹²
197. Whilst the imperative (in an IROPI context) to ensure security of energy supply has been recognised by the ECJ since, 2019, this has been further compounded by Russia's invasion of Ukraine. Energy prices in the UK have risen as a direct result of the invasion, impacting affordability for consumers. The British Energy Security Strategy (BEIS, 2022e) describes this:
- “European gas prices soared by more than 200% last year and coal prices increased by more than 100%. This record rise in global energy prices has led to an unavoidable increase in the cost of living in the UK, as we use gas both to generate electricity, and to heat the majority of our 28 million homes.”*
198. Unless Scotland and the UK can transition to a self-reliant energy system that does not depend on fossil fuel usage, consumers will continue to be exposed to volatile market forces. This over-exposure to supply shortages resulting from unpredictable changes in the geopolitical landscape puts national energy security and the economy at risk. The benefits of developing an energy supply system that

¹² Judgement of 29.7.2019 – Case C-411/17 *Inter-Environnement Wallonie and Bond Beter Leefmilieu Vlaanderen*.

operates within the borders of Scotland and the UK has been brought into sharp focus by recent events and are ever more pressing.

199. By providing 560MW of renewable energy to both the UK national grid and to the O&G industry located within Scottish territorial waters, secured and delivered before 2030, this Project is justified by IROPI simply for energy security reasons alone.

5.2.1.3 Conclusion on Imperative

200. The Project is imperative as evidenced by the Project objectives falling within all the frameworks described above.
201. If consented, the Project is on schedule to become operational in 2027. It is the first INTOG project and only TOG project to have submitted applications to date and could feasibly be the first INTOG project in the water, and potentially the only operational project prior to 2030. In addition, most ScotWind projects are anticipated to begin operation post-2030. The Project will allow the full retirement of existing offshore power generators and use a grid-connected wind farm to deliver reliable, renewable electricity, significantly reducing the carbon emissions of the platform's power demand – by more than 80%. Without the Project, it is very possible that the delivery of the NSTD and Scottish Government's 2030 INTOG ambitions (developed to protect human health, public safety and mitigate global climate change) will fall short.

5.2.2 Are the Reasons in the Public Interest?

202. The Applicant is a private entity but there is a clear public interest served by the Project. The EC (2019) guidance acknowledges that it is the nature of the interest, not the party promoting that interest, that must be public:

"As regards the 'other imperative reasons of overriding public interest' of social or economic nature, it is clear from the wording that only public interests, irrespective of whether they are promoted either by public or private bodies, can be balanced against the conservation aims of the Directive."

203. The need for the Project can be traced directly back to both national and international policies to meet the need for energy generation and combat anthropogenic climate change. The Defra (2012) guidance notes that projects which enact or are consistent with national strategic plans or policies are more likely to show a high level of public interest.
204. MN 2000 advises that it is reasonable to consider that IROPI applies to projects that are indispensable:
- Within the framework of actions or policies aiming to protect fundamental values for the citizens' life (health, safety, the environment);
 - Within the framework of fundamental policies for the State and the society;
 - Within the framework of carrying out activities of an economic or social nature, fulfilling specific obligations of public service.
205. The Project is, by design, entirely consistent with the achievement of the 2030 commitments on decarbonisation of the existing North Sea O&G sector set out in the NSTD and the enactment of the CES INTOG leasing round and Scottish INTOG SMP (see **Section 3**). The Project is capable of providing a significant contribution to these urgent objectives.
206. The Project can make a meaningful and timely (before 2030) contribution to decarbonisation of the existing North Sea O&G sector, and security of domestic energy supply, while acting as a stepping-stone to promote the development of the Scottish floating offshore wind supply chain in readiness for delivery of the large total capacity planned for the ScotWind projects in the 2030s.

207. The interests that would be served by authorising the Project are therefore of a public nature.

5.2.2.1 Conclusion on Public Interest

208. While the Applicant is a private company, in pursuing and seeking to deliver national and international public policy objectives, the public interest requirement is met. In addition to the decarbonisation of the O&G industry, contributions to climate change targets and support and delivery of long term, affordable low carbon energy, the Project will deliver public benefits such as employment, educational enhancement and infrastructure improvements.

5.2.3 Are the Reasons Long Term?

209. MN2000 guidance states:

“the public interest can only be overriding if it is a long-term interest; short-term economic interests or other interests which would only yield short-term benefits for society would not appear to be sufficient to outweigh the long-term conservation interests protected by the directive.”

210. EC (2001) guidance is clear that public interest can only be overriding if it is long-term. There can be no doubt that the public interest served by the Project and identified through IROPI Steps 1 and 2 is long term. Offshore wind has a critical role to play in both decarbonising the O&G industry and delivering long term, cost effective, UK-based low carbon electricity. The Project will be capable of allowing the full retirement of existing offshore power generators and use a grid-connected wind farm to deliver reliable, renewable electricity. This will significantly reduce the carbon emissions of the platform’s power demand – by more than 80%, along with contributing electricity generation to the National Grid by producing low cost, clean energy throughout its operational life of 35 years.
211. The Scottish and UK legal commitments to achieve Net Zero by 2045 and 2050 respectively are considered long term commitments. It is important to consider that the decarbonisation of anthropogenic activities in Scotland and the UK that is required to achieve Net Zero does not cease at the point of meeting these commitments, but must be maintained permanently. The carbon emissions of society must be in balance with the environment, with no contribution to climate change. This transition to renewable energy is in the public interest in the long term, for the reasons set out in IROPI Steps 1 or 2.
212. Energy supply security is a matter of long-term national interest and security against foreign powers. Whilst the geopolitical future is difficult to forecast, recent events show that domestic self-reliance for energy production is a prudent protective measure to be maintained into future.
213. By producing renewable energy for 35 years (and possibly longer), the Project will not only contribute to the climate change and O&G decarbonisation targets of the Scottish and UK governments before 2030, but will also contribute towards the low carbon energy mix into 2045 and beyond 2050.
214. The Project also has strategic importance in its role as a stepping-stone project. Through delivery of the Project in the period 2025-2030, vital support to the supply chain will be provided, filling the gap between Scottish CfD AR3 developments (coming online in the next three years) and ScotWind developments (coming on stream during the 2030s). The supply chain needs this continuity of work, and opportunity to work on floating wind technology specifically, if the ambitions of ScotWind in the 2030’s are to be realised.
215. Socioeconomic benefits of supply chain development, such as employment, upskilling, and attracting investment are all expected outcomes of the Project. These benefits do not cease after the decommissioning of the Project, but continue on into the future; for example, the supply chain capacity promoted by this Project will allow the socioeconomic benefits of the work provided by future projects (e.g. ScotWind) to be better capitalised upon.

5.2.3.1 Conclusion on Long Term

216. The project will play a key role in decarbonising the UK's power system and increasing security of energy supply in the UK and delivering energy independence, all of which are in the long-term public interest.

5.2.4 Are the Reasons for Undertaking the Plan or Project Overriding?

217. MN 2000 guidance states:

“The public interest of development must be greater than the public interest of conservation of the relevant European site(s).”

218. The relevant public interests relating to the project must be set against the weight of the interests protected by the Habitats Regulations, having regard to the nature and extent of the harm identified to the relevant European sites.
219. As detailed in the **RIAA** (Royal HaskoningDHV, 2023b), the **Green Volt Offshore Windfarm – Supplementary Ornithological Assessment Report** (APEM, 2023b), and **Section 1.4**, the contribution of the Project to effects on any SPA would be well within the error margins of the assessment and undetectable from any natural changes in the population, despite the acknowledged existing in-combination AEOsI resulting from other projects such as Berwick Bank. In these instances, it can therefore be concluded that the level of predicted effect from the Project alone is *de minimis*. With this said, the public benefit clearly outweighs the risks to the relevant sites. Even if this were not the case, the reasons for undertaking the Project are overriding as set out below.
220. The overriding nature of the public interests engaged in this case should be evident from the suite of legislation and policy documentation which has been outlined in this document. The Project would deliver benefits relating to human health, public safety and beneficial consequences of primary importance for the environment. It is also clear, as set out earlier in this document (**Table 5.1**), that without achieving the overriding objective of reducing carbon emissions there is likely to be very significant species loss, including of wild birds and their prey.
221. Decarbonisation of the existing O&G sector before 2030 falls within the core IROPI category which is *“reasons relating to human health, public safety or beneficial consequences of primary importance to the environment.”* Decarbonisation is imperative in order to protect human health and public safety, as well as to deliver beneficial consequences of primary importance to the environment, for all the reasons set out in the preceding sections.
222. It is noted that guidance from DTA (draft, 2021a) suggests that, in general, the interests served by OWF development are likely to outweigh and override the conservation interests:
- “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.”*
223. This advice is also consistent with the conclusions reached by the SoS in each of the six previous UK OWF decisions which relied upon the HRA Derogation Provisions (which incidentally had far greater impacts on SPA features than those considered here).
224. It is recognised that IROPI is considered against the risk to a designated feature(s), having regard to the nature and extent of the harm identified to relevant European sites. In its contribution to reaching Net Zero and the associated fight against climate change, the Project will provide considerable long-term environment benefits, including benefits to the individual bird species within the SPAs.
225. Climate change is likely to be the strongest influence on seabird populations in coming years, with anticipated deterioration in conditions for breeding and survival for most species of seabirds (Sandvik

et al. 2012; Frederiksen et al. 2004, 2013; Burthe et al. 2014; Macdonald et al. 2015; Furness 2016; Capuzzo et al. 2018; JNCC 2021; Moffat et al., 2020; NatureScot, 2021) and therefore further declines in numbers are anticipated. It is therefore highly likely that breeding numbers of most of our seabird species will continue to decline under a scenario with continuing climate change due to increasing levels of greenhouse gases.

226. Climate change has been identified as the strongest influence on future seabird population trends. The EU funded SEANSE¹³ project has assessed the impact of climate change on key seabird species (Rijkswaterstaat Zee & Delta 2020). The research concluded that **prey availability effects due to climate change is the pressure/pathway that currently has the largest impact on seabird population** at the wider North Sea level and is likely to be responsible for a substantially greater effect than impacts resulting from any of the other activities (including collision risk or displacement from offshore wind). The report states *“it is concluded that prey availability effects due to climate change is the pressure/pathway that in the present day appears to have the largest impact on kittiwake...and lesser black-backed gull at the wider North Sea level, and is likely to be responsible for a substantially greater effect than impacts resulting from any of the other activities. For all seabirds it is largely expected that climate change impacts will become more severe in the future as both temperatures, and possibly the rate of increase, become greater, and extreme weather events become more frequent.”*

5.2.4.1 Conclusion on Overriding

227. The Project would provide an overriding benefit in the long term to individual bird species across their range through its objective to decarbonise the O&G industry and the economy to help the UK combat global climate change. Hence the broadscale benefits would clearly outweigh the harm of small-scale, localised effects on specific SPAs.

5.3 Summary and Conclusions

228. This section demonstrates the case that the Project must be carried out for IROPI.
229. The environmental and social benefits to Scotland from decarbonising the existing carbon intensive O&G industry and increasing the generation of low carbon energy are clear, with the Project forming a key role. The Project contributes to the NSTD and Scotland’s legally binding climate change targets by helping to decarbonise the UK’s energy supply, whilst contributing to the essential tasks of ensuring security of supply and providing low-cost energy for consumers in line with Scotland and the UK Government’s national policies. In addition, the project provides an important strategic stepping-stone for the Scottish supply chain and floating wind industry, with associated employment, skills development, industry development and economic benefits both locally and throughout the country.
230. The environmental benefits that the project provides are long term, with local benefits, reducing local air pollution and wider benefits such as helping to meet government renewable targets to combat climate change.
231. If a conclusion of AEOsI is reached by the Scottish Ministers, in respect of any of the relevant European sites then there is a demonstrable overriding public interest in the Project and the policy objectives it would serve, which outweigh the risk of any adverse impact on each site.

¹³ The general objective of the SEANSE project is: “to develop a coherent (logical and well-organised) approach to Strategic Environmental Assessments (SEAs) with a focus on renewable energy in support of the development and effective implementation of MSPs”
<https://www.msp-platform.eu/projects/strategic-environmental-assessment-north-seas-energy-seanse>

6 Compensation Measures

232. Where a plan or project has demonstrated no alternatives and IROPI, Scottish Ministers have a duty to secure any compensation measures necessary to ensure the overall coherence of the UK site network is protected (regulation 53 of the Habitats Regulations).
233. Compensation measures have been discussed with MD-LOT, NatureScot, and the RSPB and all parties have provided feedback on the potential options. This has resulted in some compensation measures being screened out where these options were not considered to be feasible.
234. The remaining compensation measures for each feature / site can be found in the final **Green Volt Offshore Windfarm – Offshore Ornithology Compensation Report** (APEM, 2023a). This document presents detail on the methodology for each of the shortlisted and securable compensatory measures to be taken forward. It also sets out adaptive management mechanisms for delivery of those measures.

7 Summary

235. The Applicant has provided information on all of the features listed in **Table 4.4** in the **RIAA** (Royal HaskoningDHV, 2023b). It is the Applicant's position in the **RIAA** that there will be no AEOsI of any of the sites listed, either as a result of the Project alone or in-combination with other plans and projects. The Applicant has engaged in further consultation with relevant stakeholders since submission of the **RIAA**, including MD-LOT, NatureScot and the RSPB, on the topic of seabird collision risk modelling and displacement (**Table 1.1**). It is acknowledged that as a result of Berwick Bank OWF, which was submitted after the agreed cut-off period for in-combination assessment in the **RIAA**, as agreed with MD-LOT, there is a risk of in-combination AEOsI on some relevant sites, irrespective of this Project. The Applicant maintains that the level of effect of this Project alone would be well within the error margins of the assessment and undetectable from any natural changes in the population. In this context, it can therefore be concluded that the level of predicted effect from the Project alone is *de minimis*, that is it makes no material contribution to the levels of baseline mortality for any of the European sites assessed and therefore makes no material contribution to any existing in-combination effects resulting from other projects. This document therefore presents a derogation case on a without-prejudice basis to allow for full consideration of all aspects of derogation by Scottish Ministers when they undertake the HRA for this Project.
236. This document sets out the Habitats Regulations Appraisal process and provides a summary of the need for the Project. The document then proceeds through the derogation stages as follows:
237. Alternative solutions for the Project are assessed in an iterative manner. The Do Nothing, Alternative Forms of Energy Generation, Alternative Location, and Alternative Design options have been examined and discounted. There are no feasible alternatives or refinements that would result in a material reduction in the effects upon the relevant features and potential for AEOsI on the sites set out in **Table 1.2**.
238. This report demonstrates the case that the Project must be carried out for IROPI. The environmental and social benefits to Scotland and the UK from decarbonising the existing O&G sector before 2030 are clear, with the Project forming a key part. The Project contributes to legally binding Scottish and UK targets by reducing the emissions of the Buzzard O&G platform via 70MW of renewable electrification, with the ability to electrify further nearby O&G platforms before 2030. The Project will also supply renewable energy to the UK grid before 2030 and act as a stepping-stone by leading the scaling up of the floating offshore wind supply chain in Scotland in the 2020s, in preparation for the ScotWind projects in the 2030s that are essential to deliver at scale to meet legally binding Scottish and UK climate change targets.

239. Having demonstrated that the IROPI tests are met, compensatory measures for each of the affected sites and features (**Table 4.4**) are provided in the **Green Volt Offshore Windfarm – Offshore Ornithology Compensation Report** (APEM, 2023a).
240. If a conclusion of AEOI is reached by Scottish Ministers, in respect of Project impacts on any of the relevant European sites, then there is a demonstrable overriding public interest in the Project and the policy objectives it would serve, with deliverable compensatory measures available and securable for each site. **Green Volt Offshore Windfarm – Offshore Ornithology Compensation Report** (APEM, 2023a) details a securable shortlist of without-prejudice compensation measures, with an adaptive management plan to secure them.

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