



NORTH FALLS

Offshore Wind Farm

Habitats Regulations Derogation: Provision of Evidence (~~Clean~~Tracked)

Document Reference: 7.2
Volume: 7
Date: ~~June~~July 2025
Revision: ~~1~~2

Project	North Falls Offshore Wind Farm
Document Title	Habitats Regulations Derogation: Provision of Evidence (Clean <u>Tracked</u>)
Document Reference	7.2
Supplier	Royal HaskoningDHV
Supplier Document ID	PB9244-RHD-ZZ-OF-RP-YE-0282

This document and any information therein are confidential property of North Falls Offshore Wind Farm Limited and without infringement neither the whole nor any extract may be disclosed, loaned, copied or used for manufacturing, provision of services or other purposes whatsoever without prior written consent of North Falls Offshore Wind Farm Limited, and no liability is accepted for loss or damage from any cause whatsoever from the use of the document. North Falls Offshore Wind Farm Limited retains the right to alter the document at any time unless a written statement to the contrary has been appended.

Revision	Date	Status/Reason for Issue	Originator	Checked	Approved
0	July 2024	Submission	RHDHV	NFOW	NFOW
1	June 2025	Deadline 6	RHDHV	NFOW	NFOW
<u>2</u>	<u>July 2025</u>	<u>Deadline 7</u>	<u>RHDHV</u>	<u>NFOW</u>	<u>NFOW</u>

Contents

1	Introduction	1012
1.1	Project background	1012
1.2	Purpose of this document	1012
1.3	Without prejudice derogation	1113
1.3.1	Razorbill, Flamborough and Filey Coast SPA	1113
1.3.2	Red throated diver, OTE SPA	1214
1.3.3	Annex I Sandbank, Margate and Long Sands SAC	1214
2	HRA Derogation Legislative and Policy Context	1315
2.1	Habitats Regulations Assessment	1315
2.2	National Policy	1517
2.3	Guidance	1820
3	Habitats Regulations Assessment Process	1921
4	Consultation	1921
5	Assessment of Alternative Solutions	2628
5.1	Approach	2628
5.2	Step 1: Project need and objectives	2729
5.2.1	The Need for the Project	2729
5.2.2	Project objectives	3335
5.3	Step 2: Define the potential for harm	3436
5.3.1	Relevant design parameters	3537
5.4	Step 3: Long list of alternative solutions	3638
5.4.1	Do nothing scenario	3638
5.4.2	Alternative offshore wind farm locations	3739
5.4.3	Alternative offshore cable corridor/ grid connection locations	3840
5.4.4	Alternative scale	3840

5.4.5	Alternative design	4042
5.4.6	Alternative method	4042
5.4.7	Alternative timing	4143
5.5	Step 4: Feasibility of alternative solutions	4244
5.5.1	Increased air gap	4244
5.6	Step 5: Assessment of effects of feasible alternative solutions	4345
5.7	Assessment of alternative solutions conclusion	4345
6	Imperative Reasons of Overriding Public Interest	4345
6.1	Introduction	4345
6.2	Imperative	4446
6.2.1	Energy security	4446
6.2.2	Climate change/ decarbonisation imperative	4546
6.2.3	Socio-economic benefit.....	4648
6.2.4	Consequences for the Ecosystem	4749
6.3	Overriding	4850
6.4	Public Interest	4850
6.5	IROPI Summary.....	4951
7	Compensatory measures	4951
8	Conclusion	5152
9	References.....	5254

Tables

Table 2.1	Regulations relevant to HRA Derogation	13
Table 2.2	Relevant policies of NPS EN-1 (DESNZ, 2023b) and NPS EN-2 (DESNZ, 2023c)	16
Table 4.1	Compensation Consultation comments and responses.....	20
Table 5.1	Energy Objectives.....	28

<u>Table 5.2 Project Objectives.....</u>	<u>33</u>
<u>Table 5.3 Adverse effect on integrity concluded in the RIAA [APP-178].....</u>	<u>34</u>
<u>Table 5.4 RIAA [APP-178] conclusion reviewed following the consent decision for Rampion 2, such that an AEOL cannot be ruled out.....</u>	<u>34</u>
<u>Table 5.5 Effects considered in the HRA Derogation case without prejudice</u>	<u>35</u>
<u>Table 5.6 Design Parameters Relevant to Displacement and Collision Risk</u>	<u>36</u>

Plates

<u>Plate 3.1 HRA Process</u>	<u>19</u>
--	---------------------------

Appendices

Appendix 1 Compensatory Measures Overview <u>[7.2.1, Rev 3]</u>
Annex 1A Habitats Regulations Assessment Compensation Consultation <u>[APP-185]</u>
Annex 1B Compensation Funding Statement <u>[APP-186]</u>
Annex 1C In Principle Letter of Agreement from Dogger Bank South East and West <u>[APP-187]</u>
Annex 1D Letter of Comfort from Cornwall Wildlife Trust <u>[REP3-010]</u>
Appendix 2 Lesser Black-Backed Gull Compensation Document <u>[REP6-011]</u>
Annex 2A Outline Lesser Black-Backed Gull Compensation Implementation and Monitoring Plan <u>[REP6-013]</u>
Appendix 3 Red Throated Diver Compensation Document <u>[REP6-015]</u>
Annex 3A Outline Red Throated Diver Compensation Implementation and Monitoring Plan <u>[REP6-017]</u>

Appendix 4 Kittiwake Compensation Document [\[REP6-019\]](#)

Annex 4A Outline Kittiwake Compensation Implementation and Monitoring Plan
[\[REP6-021\]](#)

Appendix 5 Guillemot and Razorbill Compensation Document [\[REP6-023\]](#)

Annex 5A Outline Guillemot and Razorbill Compensation Implementation and
Monitoring Plan [\[REP6-025\]](#)

[Appendix 6 Outline Benthic Compensation Implementation and Monitoring Plan
\[9.109, Rev 0\]](#)

Glossary of Acronyms

AA	Appropriate Assessment
AEoL	Adverse Effect on Integrity
AfL	Agreement for Lease
BEIS	Department for Business, Energy and Industrial Strategy
CBRA	Cable Burial Risk Assessment
CCC	Climate Change Committee
CCRA	Climate Change Risk Assessment
CNP	Critical National Priority
COP	Conference of the parties
COWSC	Collaboration on Offshore Wind Strategic Compensation
DCO	Development Consent Order
Defra	Department for Environment, Food & Rural Affairs
DESNZ	Department for Energy Security and Net Zero
EC	European Commission
EIA	Environmental Impact Assessment
ES	Environmental Statement
ETG	Expert Topic Group
FFC	Flamborough and Filey Coast
GGOW	Greater Gabbard Offshore Wind Farm
GPS	Global Navigation Satellite System
GVA	Gross Value Added
GW	Gigawatt
HRA	Habitats Regulation Assessment
IROPI	Imperative Reasons of Overriding Public Interest
LSE	Likely Significant Effects
LSHTM	London School of Hygiene and Tropical Medicine
MCZ	Marine Conservation Zone
MPA	Marine Protected Areas
NDC	Nationally Determined Contribution
NFOW	North Falls Offshore Wind Farm Ltd
NPS	National Policy Statement
NOAA	National Oceanic and Atmospheric Administration
OTE	Outer Thames Estuary
RIAA	Report to Inform Appropriate Assessment
RSPB	Royal Society for the Protection of Birds
RWE	RWE Renewables UK Swindon Limited
SAC	Special Areas of Conservation
SEANSE	Strategic Environmental Assessment North Sea Energy
SNCB	Statutory Nature Conservation Bodies
SSER	SSE Renewables Offshore Windfarm Holdings Limited

SPA	Special Protection Areas
WNO	World Meteorological Organisation
UK	United Kingdom
UNFCCC	United Nations Framework Convention on Climate Change

Glossary of Terminology

Array area	The offshore wind farm area, within which the wind turbine generators, array cables, platform interconnector cable, offshore substation platform(s) and/or offshore converter platform will be located.
Array cables	Cables which link the wind turbine generators with each other, the offshore substation platform(s) and/or the offshore converter platform.
European site	Any site which would be included within the definition at Regulation 8 of the Conservation of Habitats and Species Regulations 2017 and Conservation of Offshore Marine Habitats and Species Regulations 2017 for the purpose of those regulations, including candidate Special Areas of Conservation (SAC), Sites of Community Importance, Special Protection Areas (SPAs) and any relevant marine sites.
Habitats Regulations	The Conservation of Habitats and Species Regulations 2017 ('the terrestrial Habitats Regulations') and the Conservation of Offshore Marine Habitats and Species Regulations 2017 ('the offshore Habitats Regulations') (together 'the Habitats Regulations')
Offshore cable corridor	The corridor of seabed from array area to the landfall within which the offshore export cables will be located.
Offshore converter platform	Should an offshore connection to a third party HVDC cable be selected, an offshore converter platform would be required. This is a fixed structure located within the array area, containing HVAC and HVDC electrical equipment to aggregate the power from the wind turbine generators, increase the voltage to a more suitable level for export and convert the HVAC power generated by the wind turbine generators into HVDC power for export to shore via a third party HVDC cable.
Offshore export cables	The cables which bring electricity from the offshore substation platform(s) to the landfall, as well as auxiliary cables.
Offshore project area	The overall area of the array area and the offshore cable corridor.
Offshore substation platform (s)	Fixed structure(s) located within the array area, containing HVAC electrical equipment to aggregate the power from the wind turbine generators and increase the voltage to a more suitable level for export to shore via offshore export cables.
Platform interconnector cable	Cable connecting the offshore substation platforms (OSP); or the OSP and offshore converter platform (OCP)
The Applicant	North Falls Offshore Wind Farm Limited (NFOW).
The Project or 'North Falls'	North Falls Offshore Wind Farm, including all onshore and offshore infrastructure.
Wind turbine generator	Power generating device that is driven by the kinetic energy of the wind

1 Introduction

1.1 Project background

1. North Falls Offshore Wind Farm (hereafter 'North Falls' or 'the Project') is an extension to the existing Greater Gabbard Offshore Wind Farm (GGOW), in the southern North Sea. When operational, North Falls would have the potential to generate renewable power for approximately 400,000 United Kingdom (UK) homes from up to 57 wind turbines.
2. The Applicant, North Falls Offshore Wind Farm Ltd (NFOW), is a ~~is a~~ joint venture between SSE Renewables Offshore Windfarm Holdings Limited (SSER) and RWE Renewables UK Swindon Limited (RWE), both of which are highly experienced developers.

1.2 Purpose of this document

3. This document provides evidence to support Stage 3 (Derogation) of the Habitats Regulation Assessment (HRA) Process (discussed in Section 3) in relation to the following ~~Special Protection Areas (SPA)s~~European Sites and features:
 - Alde Ore Estuary Special Protection Area (SPA—Lesser) – breeding lesser black-backed gull;
 - Flamborough and Filey Coast SPA – ~~Kittiwake~~breeding kittiwake and guillemot;
 - Farne Islands SPA – ~~Guillemot;~~breeding guillemot;
 - Flamborough and Filey Coast SPA – ~~Razorbill~~breeding razorbill (without prejudice); ~~and, see Section 1.3);~~
 - Outer Thames Estuary (OTE) SPA – ~~Red~~overwintering red throated diver (without prejudice); ~~see Section 1.3); and~~
 - Margate and Long Sands Special Area of Conservation (SAC) (without prejudice, see Section 1.3).
4. This document draws on the Report to Inform Appropriate Assessment (RIAA) [**Document Reference: APP-178173 to APP-182**] which concludes that an adverse effect on integrity (AEol) of European sites cannot be ruled out as a result of North Falls in-combination with other plans and projects for lesser black-backed gull from the Alde Ore Estuary SPA.
5. In the RIAA Part 4 Offshore Ornithology [APP-178], the Applicant concluded that, due to the very low predicted mortality from North Falls alone there would be no AEol of any other species. However, it is noted that in consenting Rampion 2, the Secretary of State concluded that AEol could not be ruled out beyond reasonable scientific doubt for in-combination effects on guillemot at the Flamborough and Filey Coast (FFC) SPA and Farne Islands SPA; and Kittiwake at FFC SPA. Noting that the effects of Rampion 2 are similar to North Falls for these species, the Applicant accepts that the Competent Authority is likely to consider the contribution of North Falls to be material also. Thus, the

proposed compensation for these species is no longer provided on a without-prejudice basis, and has been added to Schedule 15 of the draft DCO at Deadline 6. Section 5.3 of this document has been updated to reflect the Applicant's latest position.

6. For all other sites and features assessed in the RIAA, a conclusion of no AEol is reached, however following consultation with Natural England, the derogation case is also provided in relation to red throated diver from the OTE SPA and, razorbill from the Flamborough and Filey Coast SPA and the Margate and Long Sands SAC Annex I Sandbanks which are slightly covered by sea water all the time, without prejudice of the Applicant's position presented in the RIAA.
7. This document provides the Applicant's submission in relation to alternative solutions (Section 5), Imperative Reasons of Overriding Public Interest (IROPI) (Section 6) and compensatory measures (Section 7160; Appendices 1 to 5 and; [Document References: 7.2.1, Rev 3; REP6-011; REP6-015; REP6-019; REP6-023] Annexes 2A to 5A [Document References: REP6-013; REP6-017; REP6-021; REP6-025] and the Benthic Compensation Implementation and Monitoring Plan [Document Reference: 9.109]).

1.3 Without prejudice derogation

8. As discussed above, the derogation case is provided without prejudice for the following European sites/ features:
 - a. Flamborough and Filey Coast SPA – breeding razorbill;
 - b. OTE SPA – overwintering red throated diver; and
 - c. Margate and Long Sands SAC – Annex I Sandbanks.

1.3.1 Razorbill, Flamborough and Filey Coast SPA

9. North Falls is 297 km from the FFC SPA based on the closest distance by sea between the array area and the SPA boundary, which is well beyond the relevant Mean Maximum Foraging Range of razorbill of 73.8km ± 48.4 km SD (discussed in Section 4.4.4.7.2.1 of the RIAA Part 4 [APP-178]). Modelled at-sea distributions of breeding adults, from tracking data collected during the breeding season from foraging breeding adult individuals (Cleasby et al. 2018, 2020; Wakefield et al. 2017), also suggest that the array area is a considerable distance beyond the breeding season foraging range of razorbill from the FFC SPA. On this basis, no connectivity is identified during the breeding season, so that potential displacement effects to the SPA population would be limited to the non-breeding season.
10. The Applicant's position is that the effect on razorbill would be 0.6 (0.2 – 1.3 95% CL) annual mortalities based on 50% displacement and 1% mortality. Based on Natural England's position of 70% displacement and 2% mortality, the effect on razorbill would be 1.6 (0.7 – 3.6 95% CL) annual mortalities (Section 4 of the Guillemot and Razorbill compensation document, Revision 2 [REP6-023/024 clean/tracked]), Section 4.4.4.7.3 of the RIAA Part 4 [APP-178]). Under both the Applicant and Natural England positions, the predicted increase in the baseline mortality of the FFC SPA razorbill population would be <0.1%.

11. Furthermore, in consenting Hornsea Project 4, Sheringham Shoal and Dudgeon Extension Projects and Rampion 2, the Secretary of State disagreed with Natural England's position regarding razorbill at FFC SPA and concluded that AEol could be ruled out for those projects, alone and in-combination (DESNZ 2023a, 2024, 2025). Noting that the most recent consent for Rampion 2 has impact levels which are comparable to North Falls, and that North Falls was included in the Rampion 2 in-combination assessment, the Applicant considers there is substantial evidence and precedent from previous decisions of the Secretary of State to support ruling out AEol beyond reasonable scientific doubt.

1.3.2 Red throated diver, OTE SPA

12. During the pre-application stage, the Applicant reduced the size of the North Falls array area, increasing the distance from the OTE SPA. The remaining array area is 4.5km from the OTE SPA at its closest point.
13. In accordance with Natural England's advice, a 12km buffer has been assessed for red-throated diver displacement. The North Falls array area plus 12km buffer overlaps 2.8% of the SPA area, however all of the area within the 12km overlap of North Falls and the SPA is already within the 12km buffer of an existing OWF and/or overlaps with International Maritime Organisation shipping measures (discussed in the RIAA Part 4 Offshore Ornithology [APP-178], Section 4.4.1.4).
14. While red-throated diver of the OTE SPA are in unfavourable condition, Natural England's (2025) condition assessment states that the abundance of non-breeding RTD is meeting its target, with the supporting habitat in decline. Noting there is no management measure in place to reduce the existing disturbance in this area and the abundance of the RTD designated feature is already meeting its target despite the existing disturbance, North Falls will not influence the restoration conservation objective.
15. Thus, as the area of the SPA within 12km of North Falls is already subject to sources of displacement for red-throated divers, the Applicant's position is therefore that an AEol of red-throated diver within the OTE SPA can be ruled out beyond reasonable scientific doubt for the Project alone and in-combination.

1.3.3 Annex I Sandbank, Margate and Long Sands SAC

16. During the site selection process, the Applicant avoided any overlap with the Margate and Long Sands SAC, in response to feedback from Natural England. Also, during the pre-application stage the Applicant committed to reduce the number of offshore export cables from four to two further reducing the impact. During the Examination, in response to further feedback from Natural England, the Applicant committed to a 150m minimum buffer between the export cables and associated cable protection and the SAC. This buffer ensures any cable protection would have no discernible effect on the Margate and Long Sands SAC, as demonstrated by hydrodynamic modelling (Hydrodynamic and Dispersion Modelling Report [9.54, Rev 2]) and assessed in the RIAA Part 2 Benthic Ecology Annex I Habitat in SACs and SPA Supporting Habitat [7.1.2, Rev 1].

17. Furthermore, the modelling shows sediment will predominantly settle on the area of the SAC which is not Annex I Sandbank. Sediment arising within the offshore cable corridor will be comparable to that of the SAC and the depth of sediment deposition would be 5-15cm, within an area of only 0.24km² which overlaps the Annex I Sandbank feature of the SAC. This shallow, highly localised deposition of comparable sediment will rapidly be incorporated into the natural processes of the SAC (see Section 2.4.3.1.1X of the RIAA Part 2 [7.1.2, Rev 1]).
18. It should also be noted that a derogation case (including without prejudice) has never been required for indirect effects on seabed habitats, such as has been requested for North Falls.
19. Thus, the Applicant considers there is substantial evidence and precedent to support ruling out an AEOI beyond reasonable scientific doubt.

2 HRA Derogation Legislative and Policy Context

2.1 Habitats Regulations Assessment

- ~~8-20.~~ The EU Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora (92/43/EEC) (the Habitats Directive) provides a framework for the conservation and management of natural habitats, wild fauna (except birds) and flora in Europe. Its aim is to maintain or restore natural habitats and wild species at a favourable conservation status. The relevant provisions of the Directive (Article 6) are the procedures for the protection of SACs and SPAs, collectively referred to as 'European sites'.
- ~~9-21.~~ The EU Directive on the Conservation of Wild Birds (2009/147/EC) (the Birds Directive) provides a framework for the conservation and management of wild birds in Europe.
- ~~10-22.~~ ~~Articles~~Article 6(4) of the Habitats Directive (see ~~Table 2.1~~Table 2.1) provides the 'HRA derogation' procedure, where an AEOI of a European site cannot be ruled out as a result of a plan or project (discussed further in the RIAA).
- ~~11-23.~~ In England and Wales, the Conservation of Habitats and Species Regulations 2017 ('the terrestrial Habitats Regulations') and the Conservation of Offshore Marine Habitats and Species Regulations 2017 ('the offshore Habitats Regulations') (together 'the Habitats Regulations') transposed the Habitats Directive and elements of the Birds Directive into UK law. The provisions of the Habitats Regulations continue to apply as UK law, notwithstanding the UK's exit from the EU. There is no material difference between the provisions of the terrestrial Habitats Regulations and the offshore Habitats Regulations relating to HRA derogation and whilst both provisions are set out below for completeness, no further distinction between the regulations is made in this document as to do so would be unnecessary duplication.

Table 2.1 ~~Articles and~~ Regulations relevant to HRA Derogation

Article	Requirement
Terrestrial Habitats Regulations	<i>"(1) If the competent authority is satisfied that, there being no alternative solutions, the plan or project must be carried out for imperative reasons of overriding public interest (which, subject to paragraph (2), may be of a social or economic nature), it may agree to the plan or</i>

Article	Requirement
Regulation 64	<i>project notwithstanding a negative assessment of the implications for the European site or the European offshore marine site (as the case may be).</i> <i>(2) Where the site concerned hosts a priority natural habitat type or a priority species, the reasons referred to in paragraph (1) must be either—</i> <i>(a) reasons relating to human health, public safety or beneficial consequences of primary importance to the environment; or</i> <i>(b) any other reasons which the competent authority, having due regard to the opinion of the appropriate authority, considers to be imperative reasons of overriding public interest.</i> <i>(3) Where a competent authority other than the Secretary of State or the Welsh Ministers desires to obtain the opinion of the appropriate authority as to whether reasons are to be considered imperative reasons of overriding public interest, it may submit a written request to the appropriate authority—</i> <i>(a) identifying the matter on which an opinion is sought; and</i> <i>(b) accompanied by any documents or information which may be required.</i> <i>(4) In giving its opinion as to whether the reasons are imperative reasons of overriding public interest, the appropriate authority must have regard to the national interest and provide its opinion to the competent authority.</i> <i>(4A) Before giving its opinion as to whether the reasons are imperative reasons of overriding public interest, the appropriate authority must consult the following, and have regard to their opinion—</i> <i>(a) the Joint Nature Conservation Committee;</i> <i>(b) where the appropriate authority is the Secretary of State, the devolved administrations;</i> <i>(c) where the appropriate authority is the Welsh Ministers, the Secretary of State, and the other devolved administrations; and</i> <i>(d) any other person the appropriate authority considers appropriate.</i> <i>(5) Where a competent authority other than the Secretary of State or the Welsh Ministers proposes to agree to a plan or project under this regulation notwithstanding a negative assessment of the implications for the site concerned—</i> <i>(a) it must notify the appropriate authority; and</i> <i>(b) it must not agree to the plan or project before the end of the period of 21 days beginning with the day notified by the appropriate authority as that on which its notification was received, unless the appropriate authority notifies it that it may do so.</i> <i>(6) Without prejudice to any other power, the appropriate authority may give directions to the competent authority in any such case prohibiting it from agreeing to the plan or project, either indefinitely or during such period as may be specified in the direction.”</i>
Terrestrial Habitats Regulations Regulation 68	<i>“Where in accordance with regulation 64—</i> <i>(a) a plan or project is agreed to, notwithstanding a negative assessment of the implications for a European site or a European offshore marine site, or</i> <i>(b) a decision, or a consent, permission or other authorisation, is affirmed on review, notwithstanding such an assessment, the appropriate authority must secure that any necessary compensatory measures are taken to ensure that the overall coherence of the national site network [previously Natura 2000 (see regulation 3(10))] is protected.”</i>
Offshore Habitats Regulations Regulation 29	<i>“(1) If it is satisfied that, there being no alternative solutions, the plan or project referred to in regulation 28(1) must be carried out for imperative reasons of overriding public interest (which, subject to paragraph (2), may be of a social or economic nature), the competent authority may agree to the plan or project notwithstanding a negative assessment of the implications for the site.</i> <i>(2) Where the site concerned hosts a priority natural habitat type or a priority species, the reasons referred to in paragraph (1) must be either—</i> <i>(a) reasons relating to human health, public safety or beneficial consequences of primary importance to the environment; or</i> <i>(b) any other imperative reasons of overriding public interest.</i> <i>(3) A competent authority other than the relevant administration may not agree to a plan or project under paragraph (1) for any reason referred to in paragraph (2)(b) unless it has had due regard to the opinion of the relevant administration in satisfying itself that there are such reasons.</i>

Article	Requirement
	(4) Where a competent authority other than the relevant administration desires to obtain the opinion of the relevant administration as to whether reasons are to be considered imperative reasons of overriding public interest, it must submit a request to the relevant administration — (a) identifying the matter on which an opinion is sought; and (b) accompanied by any documents or information that may be required. (5) In giving its opinion as to whether the reasons are imperative reasons of overriding public interest, the relevant administration must have regard to the national interest and provide its opinion to the competent authority. (6) Before giving its opinion as to whether the reasons are imperative reasons of overriding public interest, the relevant administration must consult the following, and have regard to their opinion— (a) the Joint Nature Conservation Committee; (b) where the relevant administration is the Secretary of State, the devolved administrations; (c) where the relevant administration is a devolved administration, the Secretary of State and the other devolved administrations; and (d) any other person the relevant administration considers appropriate. (7) In this regulation, "the relevant administration" means— (a) in relation to a plan or project relating to an activity other than one specified in regulation 55(16)— (i) where the plan or project is to be carried out in the Scottish offshore region, the Scottish Ministers; and (ii) where the plan or project is to be carried out in the Welsh offshore region, the Welsh Ministers; and (b) in relation to a plan or project relating to an activity specified in regulation 55(16), or in any case not falling within sub-paragraph (a)(i) or (ii), the Secretary of State."
Offshore Habitats Regulations Regulation 36	"(1) This regulation applies where, notwithstanding a negative assessment of the implications for a European offshore marine site or European site— (a) a plan or project is agreed to in accordance with regulation 29; or (b) a decision, or a consent, permission or other authorisation, is affirmed on review in accordance with regulations 29 and 34(3). (2) The appropriate authority must secure that any necessary compensatory measures are taken to ensure that the overall coherence of <u>the national site network [previously Natura 2000]</u> is protected."

~~12.24.~~ It is noted that the UK Government is currently considering amendments to the Habitats Regulations, and has the powers to do so following the coming into force of the Energy Act 2023. The Applicant will maintain a watching brief on any relevant legislative amendments and update and/or supplement this document if necessary during the course of the North Falls (Development Consent Order (DCO) Examination.

~~13.25.~~ This derogation case is drafted based upon legislation in place at the time of the DCO application submission.

2.2 National Policy

~~14.26.~~ The National Policy Statements (NPS)s are the principal policy documents with respect to Nationally Significant Energy Infrastructure projects, under the Planning Act 2008. NPS EN-1 (DESNZ, 2023~~ba~~) and EN-3 (~~DESN~~~~DESNZ~~, 2023~~cb~~) highlights the urgent need to meet the UK Government's energy objectives by defining nationally significant low carbon infrastructure as a Critical National Priority (CNP).

~~15.27.~~ The CNP policy explains how the Secretary of State will consider the HRA derogation case, in light of the need for CNP infrastructure projects. The Project's compliance with the NPS is discussed in Sections 5 and 6.

~~16.28.~~ Policies related to the HRA derogation process are outlined in ~~Table 2.2~~[Table 2.2](#)

Table 2.2 Relevant policies of NPS EN-1 (DESNZ, 2023~~ba~~) and NPS EN-2 (DESNZ, 2023~~cb~~)

Paragraph	Policy
NPS EN-1 paragraph 4.2.11	<i>"Applicants must apply the mitigation hierarchy and demonstrate that it has been applied. They should also seek the advice of the appropriate Statutory Nature Conservation Bodies (SNCB) or other relevant statutory body when undertaking this process. Applicants should demonstrate that all residual impacts are those that cannot be avoided, reduced or mitigated."</i>
NPS EN-1 paragraph 4.2.12	<i>"Applicants should set out how residual impacts will be compensated for as far as possible. Applicants should also set out how any mitigation or compensation measures will be monitored, and reporting agreed to ensure success and that action is taken. Changes to measures may be needed e.g., adaptive management. The cumulative impacts of multiple developments with residual impacts should also be considered."</i>
NPS EN-1 paragraph 4.2.13	<i>"Where residual impacts relate to HRA or Marine Conservation Zone (MCZ) CNPNPS sites then the Applicant must provide a derogation case, if required, in the normal way in compliance with the relevant legislation and guidance."</i>
NPS EN-1 paragraph 4.2.19	<i>"Where, following Appropriate Assessment, CNP Infrastructure has residual adverse impacts on the integrity of sites forming part of the UK national site network, either alone or in combination with other plans or projects, the Secretary of State will consider making a derogation under the Habitats Regulations."</i>
NPS EN-1 paragraph 4.2.21 and Figure 3	<i>"...the Secretary of State will consider the particular circumstances of any plan or project, but starting from the position that energy security and decarbonising the power sector to combat climate change: requires a significant number of deliverable locations for CNP Infrastructure and for each location to maximise its capacity. This NPS imposes no limit on the number of CNP infrastructure projects that may be consented. Therefore, the fact that there are other potential plans or projects deliverable in different locations to meet the need for CNP Infrastructure is unlikely to be treated as an alternative solution. Further, the existence of another way of developing the proposed plan or project which results in a significantly lower generation capacity is unlikely to meet the objectives and therefore be treated as an alternative solution; and are capable of amounting to imperative reasons of overriding public interest (IROPI) for HRAs, and, for MCZ assessments, the benefit to the public is capable of outweighing the risk of environmental damage, for CNP Infrastructure."</i>
NPS EN-1 paragraph 4.2.22	<i>"For HRAs, where an applicant has shown there are no deliverable alternative solutions, and that there are IROPI, compensatory measures must be secured by the Secretary of State as the competent authority, to offset the adverse effects to site integrity as part of a derogation."</i>
NPS EN-1 paragraph 5.4.26	<i>"If, during the pre-application stage, the SNCB indicate that the proposed development is likely to adversely impact the integrity of habitat sites, the applicant must include with their application such information as may reasonably be required to assess a potential derogation under the Habitats Regulations."</i>
NPS EN-1 paragraph 5.4.27	<i>"If the SNCB gives such an indication at a later stage in the development consent process, the applicant must provide this information as soon as is reasonably possible and before the close of the examination. This information must include assessment of alternative solutions, a case for Imperative Reasons of Overriding Public Interest (IROPI) and appropriate environmental compensation."</i>
NPS EN-1 paragraph 5.4.28	<i>"Provision of such information will not be taken as an acceptance of adverse impacts and if an applicant disputes the likelihood of adverse impacts, it can provide this information as part of its application 'without prejudice' to the Secretary of State's final decision on the impacts of the potential development. If, in these circumstances, an applicant does not supply information required for the assessment of a potential</i>

Paragraph	Policy
	<i>derogation, there will be no expectation that the Secretary of State will allow the applicant the opportunity to provide such information following the examination."</i>
NPS EN-1 paragraph 5.4.29	<i>"It is vital that applicants consider the need for compensation as early as possible in the design process as 'retrofitting' compensatory measures will introduce delays and uncertainty to the consenting process."</i>
NPS EN-1 paragraph 5.4.30	<i>"Applicants should work closely at an early stage in the pre-application process with SNCB and Department for Environment, Food and Rural Affairs (Defra)/Welsh Government to develop a compensation plan for all protected sites adversely affected by the development. Applicants should engage with the relevant Local Planning Authority at an early stage regarding the proposed location of compensatory measures. Applicants should also take account of any strategic plan level compensation plans in developing project level compensation plans."</i>
NPS EN-1 paragraph 5.4.31	<i>"Before submitting an application, applicants should seek the views of the SNCB and Defra/Welsh Government as to the suitability, securability and effectiveness of the compensation plan to ensure the development will not hinder the achievement of the conservation objectives for the protected site. In cases where such views are provided, the applicant should include a copy of this information with the compensation plan in their application for further consideration by the Examining Authority."</i>
NPS EN-3 paragraph 2.8.265	<i>"With increasing deployment of offshore wind farms and offshore transmission, environmental impacts upon SACs SPAs, and Ramsar sites and MCZs (individually and as part of a network) may not be addressed by avoidance, reduction, or mitigation alone, therefore compensatory measures (through derogation for SACs SPAs, Ramsar sites, and MCZs) may be required at a plan or project level where adverse effects on site integrity and/or on conservation objectives cannot be ruled out."</i>
NPS EN-3 paragraph 2.8.266	<i>"For many receptors, the scale of offshore wind and offshore transmission developments, and potential in-combination effects, means compensation could be required and applicants must refer to the latest Defra compensation guidance when making their assessments."</i>
NPS EN-3 paragraph 2.8.267	<i>"If, during the pre-application stage, SNCBs indicate that the proposed development is likely adversely to impact a protected site, the applicant should include with their application such information as may reasonably be required to assess potential derogations under the Habitats Regulations or the Marine and Coastal Access Act 2009."</i>
NPS EN-3 paragraph 2.8.268	<i>"Where such an indication is given later in the development consent process, the applicant should share this information as soon as reasonably practical."</i>
NPS EN-3 paragraph 2.8.269	<i>"This information includes: assessment of alternative solutions, showing the relevant tests on alternatives have been met; a case showing that the relevant tests for IROPI or Measures of Equivalent Environmental Benefit have been met; and appropriate securable environmental compensation, which will ensure no net loss to the Marine Protected Areas (MPA) network and help ensure that the MPA target (including any interim target) set under the Environment Act 2021 targets can be met."</i>
NPS EN-3 paragraph 2.8.270	<i>"Provision of such information will not be taken as an acceptance of adverse impacts, and if applicants dispute the likelihood of adverse effects they can provide this information as part of their application, 'without prejudice' to the Secretary of State's final decision on the impacts of the potential development."</i>
NPS EN-3 paragraph 2.8.271	<i>"If, in these circumstances, an applicant does not supply information required for the assessment of a potential derogation, consent may be refused as there will be no expectation that the Secretary of State will allow the applicant the opportunity to provide such information following the examination."</i>
NPS EN-3 paragraph 2.8.272	<i>"It is vital that applicants consider the need for compensation as early as possible in the design process, as 'retrofitting' compensatory measures will introduce delays and uncertainty to the consenting process. Applicants are encouraged to include all compensatory measures considered, with reasoning for why they have been discounted."</i>

Paragraph	Policy
NPS EN-3 paragraph 2.8.273	<i>“Applicants should work closely at an early stage in the pre-application process with SNCBs, and Defra, in conjunction with the relevant regulators, Local Planning Authorities, National Park Authorities, landowners and other relevant stakeholders to develop a compensation plan for all protected sites adversely affected by the development.”</i>
NPS EN-3 paragraph 2.8.274	<i>“Before submitting an application, applicants should seek the views of the SNCB and Defra, as to the suitability, securability and effectiveness of the compensation plan to ensure that the overall coherence of the National Site Network for the impacted SAC/SPA/MCZ feature is protected. Consultation should also take place throughout the pre-application phase with key stakeholders (e.g., via the evidence plan process and use of expert topic groups).”</i>
NPS EN-3 paragraph 2.8.275	<i>“In cases where such views are provided, the applicant should include a copy of this information with the compensation plan in their application for further consideration by the Examining Authority and Secretary of State.”</i>
NPS EN-3 paragraph 2.8.276	<i>“The British Energy Security Strategy contains a commitment to introduce mechanisms to support strategic compensatory measures, to compensate for environmental impacts and reduce delays to individual projects.”</i>
NPS EN-3 paragraph 2.8.277	<i>“Strategic compensation is defined as a measure or a series of measures that can be delivered at scale and/or extended timeframes, which cannot be delivered by individual offshore wind and/or offshore transmission project developers in isolation. Any measure(s) would usually be led and delivered by a range of organisations, including Government, industry and relevant stakeholders. Strategic compensation measures would normally be identified at a plan level and applied across multiple offshore wind projects to provide ecologically meaningful compensation to designated site habitats and species adversely impacted, ensuring the coherence of the MPA network.”</i>
NPS EN-3 paragraph 2.8.278	<i>“This may include central coordination for measures delivered across a series of projects or biogeographic region.”</i>
NPS EN-3 paragraph 2.8.279	<i>“Applicants will be able to access tools and mechanisms to support identification of suitable compensation and facilitate delivery of strategic compensation measures where appropriate.”</i>
NPS EN-3 paragraph 2.8.280	<i>“The government is still developing its policies on strategic compensation through the Collaboration on Offshore Win Strategic Compensation (COWSC) programme, and guidance will be published in due course.”</i>
NPS EN-3 paragraph 2.8.281	<i>“The government will work collaboratively with industry and stakeholders to develop strategic compensation for projects currently in the consenting process (where possible) as well as for future developments.”</i>
NPS EN-3 paragraph 2.8.282	<i>“Not every impact for every project will initially fall within the strategic compensation proposals, so applicants should continue to discuss with SNCBs and Defra the need for site specific or strategic compensation at the earliest opportunity.”</i>
NPS EN-3 paragraph 2.8.283	<i>“Applicants should also coordinate with other marine industry sectors, e.g., oil and gas, who might also need to find compensatory measures. This will ensure compensatory measures are complementary and/or take advantage of opportunities to join together to deliver strategic compensation. Applicants should demonstrate they have consulted with those industries/stakeholders who are affected by any proposed compensation measures.”</i>

2.3 Guidance

~~17-29.~~ The following guidance documents address Habitats Regulations derogation:

- Defra (2024) Consultation on policies to inform updated guidance for Marine Protected Area (MPA) assessments. Draft for consultation

- Defra, Natural England, Welsh Government, and Natural Resources Wales (Defra et al, 2021). Habitats Regulations Assessments: protecting a European site, published February 2021
- Defra (2021) Best practice guidance for developing compensatory measures in relation to Marine Protected Areas (MPA). Draft for consultation
- The Planning Inspectorate (2025). Nationally Significant Infrastructure Projects: Advice on Habitats Regulations Assessments

3 Habitats Regulations Assessment Process

~~18-30.~~ Under the Habitats Regulations, the relevant Competent Authority must consider whether a plan or project has the potential to have an AEoI on a European site (discussed further in the RIAA [**Document Reference: APP-178**]). The HRA derogation procedure can only apply after the Appropriate Assessment (AA) has concluded that an AEoI cannot be ruled out.

~~19-31. Plate 3.1~~ **Plate 3.1** provides an outline of the sequential HRA process. This document provides information only relating to Stage 3.

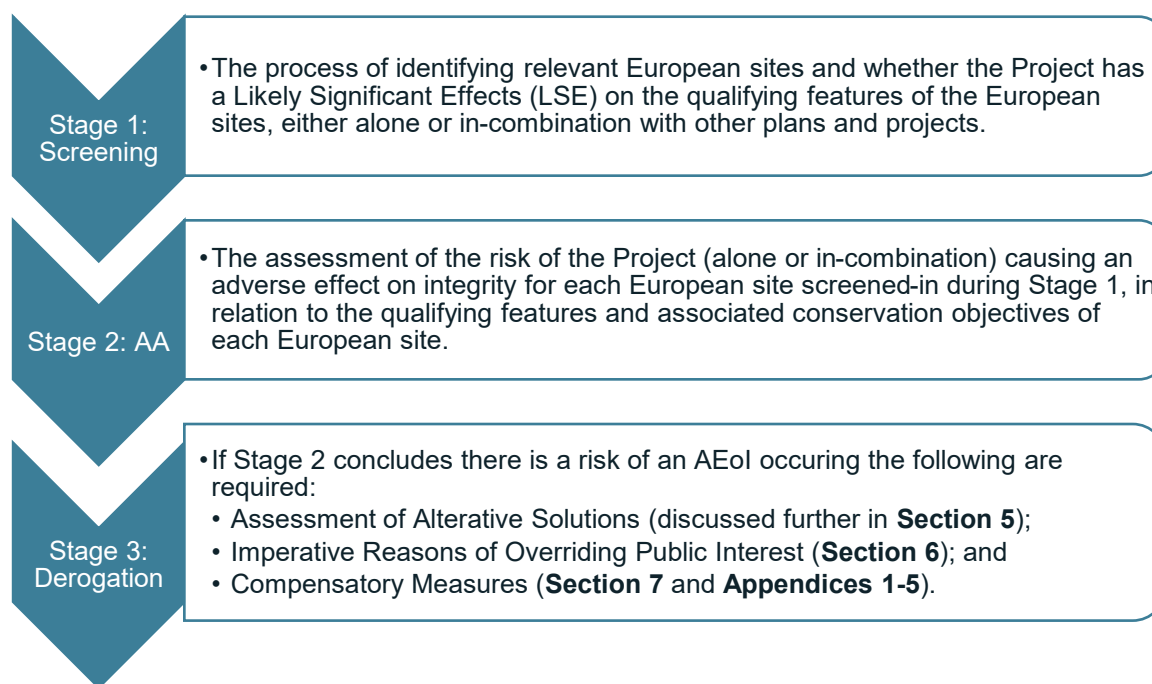


Plate 3.1 HRA Process

4 Consultation

~~20-32.~~ In accordance with NPS EN-1 paragraphs 5.4.29 and 5.4.30, the Applicant has undertaken extensive consultation on potential compensation measures throughout the pre-application stage commencing in 2022 (see North Falls Compensatory Measures Overview [**Document Reference: 7.2.1, Rev 23**]).

~~21-33.~~ In addition, during early consultation with Natural England on the aerial survey and EIA Scoping, feedback was raised which relates to HRA derogation and is detailed in ~~Table 4.1~~ **Table 4.1**.

Table 4.1 Compensation Consultation comments and responses

Species	Date	Consultation	Comment	Applicant Response
Red-throated Diver	29/03/2021	Natural England comments on first year survey report	The proposed NFOW is located approximately 2-3km from the OTE SPA. Therefore, we are concerned that given the proximity of the OWF to the OTE, displacement effects on red-throated diver will result in a long-lasting reduction in the availability of diver habitat in part of the SPA and a change of the distribution of divers within the SPA. In turn, this would result in an adverse effect on site integrity (AEoI), both alone and in-combination with other plans and projects. We advise that NFOW give this immediate consideration and we recommend they follow the advice we have recently provided during the East Anglia One North (EA1N) examination.	NFOW has undertaken detailed consultation with Natural England over the methodology for the shadow AA of red-throated diver displacement within the OTE SPA and development of compensatory measures. Significant further commitments have been made by the Applicant regarding the mitigation hierarchy, such as reduction in the array area. This is reflected in the Assessment of Alternative Solutions (Section 5). Without prejudice compensation proposals for red-throated diver displacement within the OTE SPA is provided in [Document Reference: 7.2.3, Rev 2].
Lesser Black-backed Gull	29/03/2021	Natural England comments on first year survey report	The proposed NFOW is located within the mean-maximum foraging range of lesser black-backed gull (Woodward et al. 2019) of the Alde-Ore Estuary SPA. Therefore, there is the potential that birds recorded within the proposal site during the breeding season will be breeding birds from this colony. Birds from the colony may also interact with the proposal outside the breeding season (e.g. on migration). During the recent Norfolk Vanguard and Norfolk Boreas OWF examinations and in the ongoing East Anglia One North and East Anglia Two OWFs, we have advised that an AEoI cannot be ruled out in respect of lesser black-backed gull at Alde-Ore Estuary SPA in-combination with other plans and projects. Therefore, any additional mortality arising from this proposal would be considered adverse.	It is recognised that some recent consents for OWFs in the UK Southern North Sea have been granted on the basis of derogation and compensatory measures for lesser black-backed gull at the Alde-Ore Estuary, reflecting the view of Regulators that the magnitude of current in combination effects from OWFs (collision risk) represents an AEoI. A review of options for compensatory measures for lesser black-backed gulls at the Alde Ore Estuary SPA was included alongside PEIR. Compensation proposals for lesser black-backed gull at the Alde-Ore Estuary is provided in [Document Reference: 7.2.2, Rev 2].
Lesser Black-backed Gull; Kittiwake; Red-throated Diver	29/03/2021	Natural England comments on first year survey report	We note that in the Secretary of State's (SoS) decision letter for Vanguard, the SoS stated: 'that it is important that potential AEoI of designated sites are identified during the pre-application period and full consideration is given to the need for derogation of the Habitat Regulations during the Examination. He expects Applicants and SNCBs to engage constructively during the pre-application period and provide all necessary evidence on these matters, including possible compensatory	A review of options for compensatory measures for red-throated diver at the OTE SPA, lesser black-backed gull at the Alde-Ore Estuary SPA, and kittiwake at the Flamborough and Filey Coast SPA was included alongside the PEIR. This review of potential compensatory measures was provided without prejudice of the

Species	Date	Consultation	Comment	Applicant Response
			measures, for consideration during the Examination.' Therefore, based on the points above, we strongly recommend that NFOW give consideration to this and to development of in principle compensation measures for the OTE SPA, Alde-Ore Estuary SPA and (FFC SPA before submission of their application to the Planning Inspectorate.	conclusions of the final RIAA for North Falls. Evidence to support an HRA derogation case is provided in this document. This is provided without prejudice for kittiwake, guillemot and razorbill in relation to the Flamborough and Filey Coast SPA; and Red-throated diver at OTE SPA. Compensatory measures are provided for lesser black-backed gull in relation to the Alde-Ore Estuary SPA (Document Reference: 7.2.2, Rev 2).
Red-throated Diver	16/08/2021	Natural England comments on Scoping Report	Natural England is particularly concerned by the close proximity of the North Falls proposal (2.5km) to the Outer Thames Estuary (OTE) Special Protection Area (SPA), which creates the potential for an Adverse Effect on Integrity (AEol) on the OTE SPA from the Project alone and also in-combination. The extent of the potential displacement on red throated diver, using a methodology agreed with Natural England, needs to be carried out as soon as possible to enable a full assessment of the impact on all the OTE's conservation objectives. This should be presented in the Environmental Statement (ES)/information to inform the Habitats Regulations Assessment. We strongly advise that this is done before the Application is submitted, to allow for any mitigation measures to be incorporated in the array design. In relation to the HRA impacts on OTE SPA, Natural England anticipate the need for significant mitigation, given the close proximity of North Falls to the boundary of the OTE SPA. Should displacement effects on the SPA not be reduced to a level where there is no contribution to in combination effects, the Applicant will need to present a derogations case and bring forward compensatory measures.	Detailed consultation has been undertaken with Natural England over the methodology for the shadow AA of red-throated diver displacement within the OTE SPA and the development of compensatory measures. A without prejudice derogation case for red-throated diver is provided in this document and without prejudice compensatory measures are provided in (Document Reference: 7.2.3, Rev 2).
Red-throated Diver	16/08/2021	Natural England comments on Scoping Report	It is stated that the array areas are a minimum of 2.5km from the from the OTE SPA at the closest point. Natural England are concerned that given the proximity of the array to the OTE SPA, displacement effects on red-throated diver will result in a long-lasting reduction in the availability of diver habitat in part of the SPA and a change of the distribution of divers within the SPA. In turn, this would result in an aEol, both alone and in-combination with other plans and projects. Given the level of concern regarding displacement impacts for the Project alone and in-combination	The Applicant has made significant embedded mitigation commitments. This includes the reduction of the array area from 149.5km ² down to 95km ² . This has involved the complete removal of the former northern array and refinement of the former southern array (now the array area), increasing the distance from the OTE SPA (discussed in Section 5.4.4.15-4.3.1). Consultation with the

Species	Date	Consultation	Comment	Applicant Response
			for this feature of this SPA, we strongly advise that North Falls assess the full extent of the potential displacement effects on all the site's Conservation Objectives and based on Natural England's advice on assessment to East Anglia One North/East Anglia Two as soon as possible. This work can inform a mitigation strategy based on the removal of some planned turbines to increase the buffer between the proposed array and the SPA boundary. Given that it is likely that any additional impacts arising from the North Falls proposal would be considered adverse, we note that in the Secretary of State's (SoS) decision letter for Vanguard, the SoS stated: 'that it is important that potential aEol of designated sites are identified during the pre-application period and full consideration is given to the need for derogation of the Habitat Regulations during the Examination. He expects Applicants and SNCBs to engage constructively during the pre-application period and provide all necessary evidence on these matters, including possible compensatory measures, for consideration during the Examination.'	ornithology Expert Topic Group (ETG) has been undertaken throughout the pre-application process and has informed the development of mitigation and compensation proposals.
Lesser Black-backed Gull	16/08/2021	Natural England comments on Scoping Report	It is stated that the array areas are located within the mean-maximum foraging range of lesser black-backed gull (Woodward et al. 2019) of the Alde-Ore Estuary SPA. Therefore, there is the potential that birds recorded within the proposal site during the breeding season will be breeding birds from this colony. Birds from the colony may also interact with the proposal outside the breeding season (e.g. on migration). During the recent Norfolk Vanguard, Norfolk Boreas, East Anglia One North and East Anglia Two offshore wind farm examinations, we have advised that an AEol cannot be ruled out in respect of lesser black-backed gull at Alde-Ore Estuary SPA in combination with other plans and projects. Therefore, any additional mortality arising from this proposal would be considered adverse. Given the level of concern regarding in-combination collision mortality for this feature of this SPA, as noted above, we strongly advise that North Falls consider at an early stage raising the draught height of their turbines by as much as possible in order to minimise their contribution to the cumulative/in-combination collision totals by as much as is possible and to include this as embedded mitigation within the ES. We would also recommend that North Falls provide evidence/justification (e.g. engineering or technological constraints)	The minimum air gap for turbines is set at 27m above Mean High Water Springs (MHWS) which is a 5m increase from that proposed at Scoping stage (discussed further in Section 5.4.5.1.25.4.4.1.2). The derogation case also includes compensatory measures for lesser black-backed gull at the Alde-Ore Estuary SPA.

Species	Date	Consultation	Comment	Applicant Response
			for the draught heights they arrive at. Given that it is likely that any additional mortality arising from the North Falls proposal would be considered adverse, we note that in the Secretary of State's (SoS) decision letter for Vanguard, the SoS stated: 'that it is important that potential AEol of designated sites are identified during the pre-application period and full consideration is given to the need for derogation of the Habitat Regulations during the Examination. He expects Applicants and SNCBs to engage constructively during the pre-application period and provide all necessary evidence on these matters, including possible compensatory measures, for consideration during the Examination.' Therefore, based on the above regarding AEol for Alde-Ore Estuary SPA, we strongly recommend that North Falls give consideration to this and to development of in principle compensation measures for this SPA before submission of their application to the Planning Inspectorate.	
Kittiwake	16/08/2021	Natural England comments on Scoping Report	Whilst the proposed array areas may be located outside of foraging range of kittiwakes breeding at the Flamborough and Filey Coast (FFC) SPA, there is the potential for birds from this site to interact with the proposal outside of the breeding season (e.g. on migration). We highlight that the in-combination total of collision mortality across consented plans/projects has already exceeded levels which are considered to be of an AEol to kittiwake at FFC SPA, and that any additional mortality arising from the proposal would therefore be considered adverse. Given the level of concern regarding in-combination collision mortality for this feature of this SPA, as noted above, we strongly advise that North Falls consider at an early stage raising the draught height of their turbines by as much as possible in order to minimise their contribution to the cumulative/in-combination collision totals by as much as is possible, and to include this as embedded mitigation in the ES. We would also recommend that North Falls provide evidence/justification (e.g. engineering or technological constraints) for the draught heights they arrive at. Given that any additional mortality arising from the North Falls proposal would be considered adverse, we note that in the Secretary of State's (SoS) decision letter for Vanguard, the SoS stated: 'that it is important that potential	Since consultation on the Scoping Report (and PEIR), the distance of North Falls from the Flamborough and Filey Coast SPA has increased due to removal of the former northern array area. The Applicant therefore concludes that there will be no material contribution of North Falls to an in-combination effect and no AEol from the Project alone. As above, the minimum air gap for turbines is set at 27m above MHWS (discussed further in Section 5.4.5.1.25-4.4.1-2). Discussions on in principle compensatory measures for kittiwake at Flamborough and Filey Coast SPA have been held as part of the EPP. Evidence to support an HRA derogation case is provided in this document and without prejudice compensation is provided in the Kittiwake Compensation Document [Document Reference: 7.2.4, Rev 2).

Species	Date	Consultation	Comment	Applicant Response
			AEol of designated sites are identified during the pre-application period and full consideration is given to the need for derogation of the Habitat Regulations during the Examination. He expects Applicants and SNCBs to engage constructively during the pre-application period and provide all necessary evidence on these matters, including possible compensatory measures, for consideration during the Examination.' Therefore, based on the above regarding AEol for Flamborough and Filey Coast SPA, we strongly recommend that North Falls give consideration to this and to development of in principle compensation measures for this SPA before submission of their application to the Planning Inspectorate.	
Lesser Black-backed Gull	26/08/2021	Natural England comments on EIA and HRA outline methodology	As noted in our recent advice on the North Falls year 1 aerial bird surveys report (dated 29th March), the proposed North Falls site is located within the mean-maximum foraging range of lesser black-backed gull (Woodward et al. 2019) of the Alde-Ore Estuary SPA. Therefore, there is the potential that birds recorded within the proposal site during the breeding season will be breeding birds from this colony. Birds from the colony may also interact with the proposal outside the breeding season (e.g. on migration). During the recent Norfolk Vanguard, Norfolk Boreas, East Anglia One North and East Anglia Two offshore wind farm examinations, we have advised that an aEol cannot be ruled out in respect of lesser black-backed gull at Alde-Ore Estuary SPA in-combination with other plans and projects. Therefore, any additional mortality arising from this proposal would be considered adverse.	It is recognised that some recent consents for OWFs in the UK Southern North Sea have been on the basis of derogation and compensation measures for lesser black-backed gull at the Alde-Ore Estuary, indicating the Regulators' view that the magnitude of current in combination effects from OWFs (collision risk) represents an AEol. A review of options for compensatory measures for lesser black-backed gulls at the Alde Ore Estuary SPA was included with the PEIR. Evidence to support an HRA derogation case is provided with the DCO application.
Kittiwake	26/08/2021	Natural England comments on EIA and HRA outline methodology	As noted in our recent advice on the North Falls year 1 aerial bird surveys report (dated 29th March), whilst the proposed North Falls site may be located outside of foraging range of kittiwakes breeding at the Flamborough and Filey Coast (FFC) SPA, there is the potential for birds from this site to interact with the proposal outside of the breeding season (e.g. on migration). We highlight that the in-combination total of collision mortality across consented plans/projects has already exceeded levels which are considered to be of an aEol to kittiwake at FFC SPA, and that any additional mortality arising from the proposal would therefore be considered adverse.	It is recognised that some recent consents for OWFs in the UK southern North Sea have been on the basis of derogation and compensatory measures for kittiwakes at the Flamborough and Filey Coast SPA, indicating the view of Regulators' that the magnitude of current in combination effects from OWFs (collision risk) represents an AEol. The Applicant's RIAA submitted with the DCO application [Document Reference: APP-178] concludes that North Falls would make no material contribution to the in-combination effect.

Species	Date	Consultation	Comment	Applicant Response
				A review of options for without prejudice compensatory measures for kittiwakes at the Flamborough and Filey Coast SPA has been consulted on with the ETG and through Section 42 consultation. Evidence to support an HRA derogation case, including without prejudice compensation proposals for kittiwake, is provided with the DCO application, without prejudice of the Applicant's conclusions in the RIAA.
Red-throated Diver	26/08/2021	Natural England comments on EIA and HRA outline methodology	We welcome that it is accepted that there is likely to be a requirement for North Falls to prepare an in-principal compensation case. However, it should be noted that Natural England is not aware of any feasible compensatory measures for displaced red throated diver at OTE SPA. We therefore strongly advise that assessment is carried out to determine the full extent of displacement, and mitigation measures such as increasing the buffer between the North Falls and the OTE SPA boundary.	Significant commitments have been made by the Applicant to mitigate the effect of the Project on red-throated diver, such as reduction in the array area. This is reflected in the HRA Derogation Provision of Evidence [Document Reference: APP-183], in relation to the Assessment of Alternative Solutions. Without prejudice compensation proposals for red-throated diver have been developed throughout the pre-application process in consultation with Natural England.
N/A	26/08/2021	Natural England comments on EIA and HRA outline methodology	As noted in our advice to North Falls dated 29th March, we again note that in the Secretary of State's (SoS) decision letter for Vanguard, the SoS stated: <i>'that it is important that potential AEol of designated sites are identified during the pre-application period and full consideration is given to the need for derogation of the Habitat Regulations during the Examination. He expects Applicants and SNCBs to engage constructively during the pre-application period and provide all necessary evidence on these matters, including possible compensatory measures, for consideration during the Examination.'</i> Therefore, based on the points above regarding AEol for the OTE, FFC and Alde-Ore Estuary SPAs, we again strongly recommend that North Falls give consideration to this and to development of mitigation and in principle compensation measures for these three SPAs before submission of their application to the Planning Inspectorate.	The Applicant has made significant embedded mitigation commitments. This includes the reduction of the array area from 149.5km ² down to 95km ² . This has involved the complete removal of the former northern array and refinement of the former southern array (now the array area), increasing the distance from the OTE SPA (discussed in Section 5.4.3.15.4.4.1). In addition, Evidence to support an HRA derogation case is provided in this document. Consultation with the ornithology ETG has been undertaken throughout the pre-application process and has informed the development of mitigation and compensation proposals.
Natural England	28/07/2023	HRA Assessment	Natural England is content that Adverse Effect on Integrity (AEol) can be excluded for Margate and Long Sands Special Area of Conservation (MLS	Following the seabed ETG in October 2023, Natural England confirmed that the comment

Species	Date	Consultation	Comment	Applicant Response
			SAC) only if the export cable is routed 10km or more away from the designated site boundary. We look forward to understanding the final route boundary as the project is refined, and up-to-date data is included. We will provide our final advice once this has been completed. Please also refer to our comments on suspended sediment concentrations in the Annex on Marine Geology, Oceanography and Physical Processes.	regarding 10km can be disregarded. Indirect impacts on the Margate and Long Sands SAC have been assessed in Section 2.4 of the RIAA Part 2 [APP-175].

5 Assessment of Alternative Solutions

5.1 Approach

22-34. Defra *et al.* (2021) provides guidance on the approach to the consideration of alternative solutions under the HRA derogation tests. Of relevance to an offshore wind farm array, the guidance states that the assessment of alternative solutions must consider:

- Alternative locations;
- Alternative scale/size;
- Alternative design;
- Alternative method; and
- Alternative timing.

23-35. In order to assess the alternative solutions, Defra *et al.* (2021) states:

“An alternative solution is acceptable if it:

- *achieves the same overall objective as the original proposal;*
- *is financially, legally and technically feasible; and*
- *is less damaging to the European site and does not have an adverse effect on the integrity of this or any other European site.”*

24-36. Defra *et al.* (2021) establishes that the consideration of alternative solutions need not go beyond the form of energy generation proposed, in order to deliver the objectives of renewable energy production:

“Examples of alternatives that may not meet the original objective include a proposal that...offers nuclear instead of offshore wind energy.”

25-37. Defra (2021) compensatory measures guidance also advises that a "do nothing" option should be considered.

26-38. The approach to this derogation case has also been developed through consideration of UK precedents, namely the HRA produced by the Secretary of State for the following consented offshore wind farms:

- Hornsea Project Three (BEIS, 2020a);
- Norfolk Boreas HRA (BEIS, 2021);
- Norfolk Vanguard (BEIS, 2022);
- East Anglia One North (BEIS, 2022);
- East Anglia Two HRA (BEIS, 2022);
- Hornsea Project Four (DESNZ, 2023~~da~~); ~~and~~
- Dudgeon and Sheringham Extension Project (DESNZ, 2024~~);~~ ~~and~~
- Rampion 2 (DESNZ, 2025).

~~27-39.~~ The methodology adopted herein adopts the following steps:

- Step 1 – summarise the Project need and objectives in order to allow the assessment (Step 3) to determine whether the alternative solution(s) achieve the same overall objective(s);
- Step 2 – identify the risk of harm of the Project to the integrity of the relevant Habitat sites in order to allow the assessment (Step 5) to determine whether the alternative solution(s) is less damaging to the Habitat site;
- Step 3 – produce a long list of potential alternative solutions and screen these in terms of whether they meet the objectives of the Project, to produce a short list of alternative solutions that meet the Project objectives;
- Step 4 – consider whether any short-listed potential alternative solutions identified in Step 3 are feasible (financially, legally and technically); and
- Step 5 – consider whether any feasible alternative solutions identified in Step 4 would have a lesser effect on the integrity of the national site network.

5.2 Step 1: Project need and objectives

5.2.1 The Need for the Project

~~28-40.~~ NPS EN-1 identifies the urgent need for CNP infrastructure to achieve the UK “energy objectives, together with the national security, economic, commercial, and net zero benefits”.

~~29-41.~~ The Needs Case for North Falls [**Document Reference: REP2-004**] is discussed in ES Chapter 2 Need for the Project [**Document Reference: APP-016**], and is grounded on achieving relevant national policies, on the need for renewable energy and on the social and economic benefits that could be generated by the project. The issues discussed are summarised below.

- Need to reduce greenhouse gas emissions;
 - Climate change;
 - Key policy drivers;
- Need for energy security;

- Global imports; and
- Decommissioning of fossil fuel and nuclear generation.

~~30.42.~~ Apart from the needs listed above, the Project would also produce added benefits (discussed further in Section 6) including:

- Opportunity to maximise social and economic growth through energy infrastructure investment; and
- Benefits to the ecosystem through contributing to reducing climate change.

~~31.43.~~ North Falls would have a design life of approximately 30 years. During its operation, the Project would provide a significant contribution to the achievement of the national renewable energy targets discussed below and to the UK's contribution to global efforts to reduce the effects of climate change.

5.2.1.1 Energy objectives

~~32.44.~~ The key UK targets and ~~objects~~objectives, underpinned by policy and legislation, of relevance to North Falls are outlined in ~~Table 5.1~~Table 5.1. These targets are discussed further in the sections below.

Table 5.1 Energy Objectives

UK Energy Objective	Source	North Falls contribution
Limit global temperature increase to below 2°C (preferably 1.5°C).	Conference of the Parties 21 (COP21) to the Framework Convention on Climate Change, in Paris in 2015 (the Paris Agreement)	North Falls would make an important contribution to UK policies and targets through the generation of low carbon, renewable electricity. North Falls is expected to become operational in 2030, in accordance with the Project's National Grid connection offer.
50 GW of offshore wind by 2030	HM Government (2022b) British Energy Security Strategy	
All electricity coming from low carbon sources by 2035	Department for Energy Security and Net Zero (DESNZ, 2021) Net Zero Strategy: Build Back Greener	
Net Zero by 2050	Climate Change Act 2008 (as amended 2019)	

5.2.1.2 Need to reduce greenhouse gas emissions

~~33.45.~~ Commitments made by the UK and international governments at COP21 (the Paris Agreement) were to limit global temperature increase to below 2°C (preferably 1.5°C). On a global scale, the world is currently not on track to meet the Paris Agreement. The latest IPCC report shows that modelled pathways of the planned Nationally Determined Contribution(s) (NDC)s up to 2030, announced prior to COP26 and considering no further increased ambitions, result in median global warming projections of 2.8°C by 2100 (IPCC, 2023).

~~34.46.~~ The same report informs that when considering the policies implemented by 2020 with no further action strengthening, projections indicate a median global warming of 3.2°C by 2100 (IPCC, 2023).

~~35-47.~~ Under the 2008 Climate Change Act, the UK Government is required to publish a Climate Change Risk Assessment (CCRA) every five years. The latest CCRA3, identifies sixty-one climate change risks distributed into 5 categories: natural environment and assets; infrastructure, health, communities and the built environment, business and industry and international dimensions. The report assesses the urgency of further action regarding each of the identified risks based on global warming scenarios of 2°C and 4°C. CCRA3 concludes that thirty-four of sixty-one risks are ranked as 'more action needed', meaning that new stronger or different government action is required in the next five years over and above those already planned. For only seven of the identified risks further action is not recommended (HM Government, 2022a). Considering a global warming pathway of 2°C scenario, eight identified risks are considered as of 'very high' impact by 2050s and ten, by 2080s (HM Government, 2022a). When considering a global warming pathway of 4°C scenario, twelve identified risks are classified as of 'very high' impact by 2080s (HM Government, 2022a).

~~36-48.~~ Independent assessment by a consortium of experts led by the University of Exeter has been completed in 2021 to inform the CCRA process (Sustainability West Midlands, 2021). Accordingly, to this assessment, high magnitude score climate risks identified for England, which require further action to be addressed include:

- Impacts of climate change on the natural environment, including terrestrial, freshwater, coastal and marine species, forests and agriculture;
- An increase in the range, quantities and consequences of pests, pathogens and invasive species, negatively affecting terrestrial, freshwater and marine priority habitats species, forestry and agriculture;
- More frequent flooding and coastal erosion, causing damage to our infrastructure services, including energy, transport, water and information and communication technologies;
- A reduction in public water supplies due to increasing periods of water scarcity;
- The impact of extreme temperatures, high winds and lightning on the transport network;
- The impact of increasing high temperatures on people's health and wellbeing and changes in household energy demand due to seasonal temperature changes;
- Increased severity and frequency of flooding of homes, communities and businesses;
- The viability of coastal communities and the impact on coastal businesses due to sea level rise, coastal flooding and erosion;
- Disruption to the delivery of health and social care services due to a greater frequency of extreme weather;
- Damage to our cultural heritage assets as a result of temperature, precipitation, groundwater and landscape changes; and

- Impacts internationally that may affect the UK, such as risks to food availability, safety and security, risks to international law and governance from climate change that will affect the UK, international trade routes, public health and the multiplication of risks across systems and geographies.

37.49. The Climate Change Act 2008 (2050 Target Amendment) Order 2019 amended the UK's carbon emission target, previously set at 80% reduction, to a 100% reduction by 2050 relative to the 1990 baseline, legally committing the UK to reaching 'net zero' by 2050.

38.50. In the NDC to the United Nations Framework Convention on Climate Change (UNFCCC), submitted in December 2020, the UK committed to reducing economy-wide greenhouse gas emissions by at least 68% by 2030, compared to 1990 levels (BEIS, 2022).

39.51. Furthermore, the Climate Change Committee advice report (CCC, ~~2023b~~**2025**) regarding the UK's ~~sixth~~**seventh** Carbon Budget, proposes a target of ~~78~~**87**% reduction on 1990 baseline by 2035.

5.2.1.3 Need for energy security

40.52. Energy security is about ensuring secure, reliable, uninterrupted supplies to consumers, and having a system that can effectively and efficiently respond and adapt to changes. It is made up of three characteristics: flexibility, adequacy and resilience (BEIS, 2017).

41.53. Reliance on global markets for imported energy leaves the UK vulnerable to spikes in world energy market prices, political pressure, and potentially physical supply disruptions and the knock-on effects of supply challenges in other countries.

42.54. The British Energy Security Strategy (BEIS, 2022) provides a target of 50GW of operational offshore wind farms by 2030 and recognises the need to fast track the consenting process, in order to achieve this target and improve the UK's energy security. In addition, the Strategy involves an "*approach to reduce global reliance on Russian fossil fuels whilst pivoting towards clean, affordable energy*" in the light of the invasion of Ukraine and concerns around reliance in Europe on Russian fuel imports, the constraining of which has led to significant global price rises for consumers. The strategy was rapidly deployed, with House of Commons Library research finding in August 2022 (House of Commons, 2022) that:

"In 2021 imports from Russia made up 4% of gas used in the UK, 9% of oil and 27% of coal. In 2021, imports of gas, oil and coal from Russian [sic] to the UK were worth a combined £4.5 billion. According to Eurostat, in 2020, imports from Russia made up 39% of the gas used in the EU, 23% of oil imports and 46% of coal imports. In June 2022, the fourth full month since the invasion, according to UK trade statistics, the UK Imported no oil, gas or coal from Russia. This was the third month in a row with no Russian gas imports, but the first month (since 2000 when this data is available back to) with no gas, oil or coal imports from Russia".

- 43-55. In a global market, this reduction in supply from Russia continues the upward pressure on prices for energy in the UK and wider Europe, even when the UK's supplies are more diversified.
- 44-56. Total UK generating capacity has fallen from 85GW in 2009 to 76.7GW in 2022 (DESNZ, 2023c~~2023cb~~). In addition, electricity demand is projected to increase. NPS EN-1 (DESNZ, 2023ba) states that to ensure the UK's supply of energy remains secure, reliable, affordable, and consistent with meeting the target of net zero by 2050, decarbonisation of the energy system is required. Meeting these objectives necessitates a significant amount of energy infrastructure, both large and small-scale. *"Decarbonisation means we are likely to become more dependent on some forms of energy compared to others. Using electrification to reduce emissions in large parts of transport, heating and industry could lead to more than half of final energy demand being met by electricity in 2050, up from 17 per cent in 2019, representing a doubling in demand for electricity. Low carbon hydrogen is also likely to play an increasingly significant role."* (paragraph 2.3.7, NPS EN-1).
- 45-57. *"Wind and solar are the lowest cost ways of generating electricity, helping reduce costs and providing a clean and secure source of electricity supply (as they are not reliant on fuel for generation). Our analysis shows that a secure, reliable, affordable, net zero consistent system in 2050 is likely to be composed predominantly of wind and solar. As part of delivering this, UK government announced in the British Energy Security Strategy an ambition to deliver up to 50 gigawatts (GW) of offshore wind by 2030, including up to 5GW of floating wind, and the requirement in the Energy White Paper for sustained growth in the capacity of onshore wind and solar in the next decade."* (paragraphs 3.3.20 and 3.3.21, NPS EN-1). These represent ambitious targets, with only 13.8GW of offshore wind capacity currently installed in the UK (HM Government, 2023a).
- 46-58. Energy security is also critical to achieving the energy targets discussed in Section 5.2.1.1), with NPS EN-1 stating that targets, such as all electricity coming from low carbon sources by 2035 in order to achieve the Net Zero Strategy, are "subject to security of supply".
- 47-59. A review by the Climate Change Committee (CCC) shows that achieving the target of decarbonising the UK power system by 2035 requires a significant increase in the pace of deployment. The 50GW target for offshore wind by 2030 implies annual build rates around 40% higher than emerging data on the 2022 peak (CCC, 2023a).
- 48-60. North Falls would make a significant contribution to the achievement of both the national renewable energy targets and to the UK's contribution to global efforts to reduce the effects of climate change. The ambitious 'net zero' target described above, will only be met by the crucial contribution from the offshore wind industry. North Falls would help to reduce the UK's reliance on imported energy and to improve energy security, generating enough clean renewable energy to power over 400,000 typical UK households per year.

5.2.1.4 Need to increase low carbon sources of electricity generation

- 49-61. In light of the need to reduce greenhouse gas emissions and increase energy security, offshore wind farms represent an opportunity to increase electricity generation from a low carbon, low cost, renewable source.

~~50-62.~~ In 2022, the total UK greenhouse gas emissions were provisionally estimated to be 48.7% lower than in 1990 (DESNZ, 2023e). This has been mainly associated to a reduction in fuel usage for buildings heating due to 2022 being considerably warmer than 2021, and higher energy prices may also have been a factor, particularly towards the end of the year (DESNZ, 2023e). The CCC Progress Report highlights that 2022 was the UK's warmest recorded year with its first ever 40°C Day, and one of the six warmest years on record globally (CCC, ~~2023e~~2023b).

~~51-63.~~ Despite the UK having achieved and surpassed its first (2008-2012) and second (2013-2017) emission reductions targets and, being on track to meet the third one (2018-2022) (HM Government, 2023a), the latest CCC progress report (CCC, ~~2023e~~2023b) states that the emissions reduction rate will need to increase significantly for the UK to meet its 2030 NDC and the Sixth Carbon Budget.

~~52-64.~~ NPS EN-1 states that electricity demand may be more than double by 2050 as the transport, heating and industry sectors make the change from fossil fuels to low carbon electricity to support their decarbonisation.

~~53-65.~~ This is supported by page 45 in the Powering Up Britain – Energy Security Plan (DESNZ, 2023f) which states:

“As we transition to a more resilient and clean energy system, we anticipate that demand for electricity could double by 2050. Between now and then, the system will need to enable 50 gigawatts of offshore wind by 2030; and the decarbonisation of the power system, subject to security of supply, by 2035.”

~~54-66.~~ Through its Sixth Carbon Budget published in December 2020, the CCC advise that the UK reduce its emissions at least 78% by 2035 relative to 1990, a 63% reduction from 2019 (CCC, ~~2020b~~2020). According to the CCC's 'Balanced Pathway' approach to achieving Net Zero by 2050, deployment of low-cost renewables would need to account for 75% - 90% of electricity demand in 2050. Therefore, there is a need to increase low carbon sources of electricity generation.

~~55-67.~~ With an indicative 850MW capacity, the Project will contribute to meeting the UK Government's ambitious target of net zero by 2050, including the interim target of fully decarbonising the UK power system by 2035. This will help to alleviate the risks associated with climate change such as flooding, water supply shortages and risks to health, food security and productivity and trade.

5.2.1.5 Summary of the Need for the Project

~~56-68.~~ There is a clear and urgent need for the development of North Falls to help meet the UK Government targets outlined in Section 5.2.1.1.

~~57-69.~~ The Project will provide secure, reliable, affordable renewable energy supply in the UK for over 400,000 homes. North Falls would help the UK meet its Net Zero targets and significantly contribute to the economy by providing substantial investment locally and nationally, as well as employment and new infrastructure during all phases of the Project.

~~58-70.~~ The Need for the Project is set out in full in the Needs Case [**Document Reference: REP2-004**] and ES Chapter 2 [**Document Reference: APP-016**].

5.2.2 Project objectives

~~59-71.~~ The North Falls project objectives are outlined in ~~Table 5.2~~ [Table 5.2](#).

Table 5.2 Project Objectives

ID	Objective	Basis for the Objective
1	To deliver low carbon electricity from an offshore wind farm to the National Grid in support of the decarbonisation of the UK electricity supply	The UK Government has committed to reducing its greenhouse gas emissions by at least 100% of 1990 levels (net zero) by 2050. This commitment is made through the Climate Change Act 2008 (2050 Target Amendment) Order 2019 which was brought into force in June 2019 in response to recommendations by the Climate Change Committee (CCC) (CCC, 2019a). The CCC states that 75GW of offshore wind could be required to reach net zero by 2050 (CCC, 2019b). The British Energy Security Strategy (BEIS, 2022d) includes a target of delivering up to 50 gigawatts (GW) of offshore wind by 2030. In addition, NPS EN-3 (DESNZ, 2023cb) states: <i>“Electricity generation from renewable sources is an essential element of the transition to net zero and meeting our statutory targets for the sixth carbon budget (CB6). Our analysis suggests that demand for electricity is likely to increase significantly over the coming years and could more than double by 2050. This could require a fourfold increase in low carbon electricity generation, with most of this likely to come from renewables.</i> <i>In the Net Zero Strategy, published in October 2021, government committed to action so that by 2035, all our electricity will come from low carbon sources, subject to security of supply, whilst meeting a 40-60% increase in demand.”</i> Legislation has committed the UK to achieving Net Zero emissions by 2050. North Falls will contribute to meeting UK Government objectives of delivering sustainable development to enable decarbonisation.
2	To export electricity to the UK National Grid to support UK commitments for offshore wind generation and security of supply	Part 2 of NPS EN-1 notes that <i>“Given the vital role of energy to economic prosperity and social well-being, it is important that our supply of energy remains secure, reliable and affordable.”</i> Paragraph 2.8.1 of NPS EN-3 states <i>“As set out in the British Energy Security Strategy, the Government expects that offshore wind (including floating wind) will play a significant role in meeting demand and decarbonising the energy system. The ambition is to deploy up to 50GW of offshore wind capacity (including up to 5GW floating wind) by 2030, with an expectation that there will be a need for substantially more installed offshore capacity beyond this to achieve net zero carbon emissions by 2050)”</i>.
3	To coordinate and optimise generation and export capacity within the constraints of available sites and onshore transmission infrastructure whilst delivering project skills, employment and investment benefits.	The 2017 Extension projects, which includes North Falls, were identified by TCE to provide an intermediate process between Rounds 3 and 4 to help achieve the urgent need for renewable energy and recognising that extensions to existing offshore wind farms are a proven way of efficiently developing more offshore generating

ID	Objective	Basis for the Objective
		capacity (The Crown Estate, undated). An Agreement for Lease (AfL) with TCE was awarded to North Falls in 2020. In addition grid connections have also been secured with a capacity up to 1GW.

5.3 Step 2: Define the potential for harm

~~60-72.~~ ~~Table 5.3~~~~Table 5.3~~, ~~Table 5.4~~~~Table 5.4~~ and ~~Table 5.5~~~~Table 5.5~~ list the sites and features relevant to this derogation case and considered within the assessment of alternative solutions. Further information on the quantification of these effects is provided in the RIAA Part 4 Offshore Ornithology [**Document Reference: APP-178**] and RIAA Part 2 Benthic Ecology [**Document Reference: 7.1.2, Rev 1**], along with relevant Examination documents listed in ~~Table 5.3~~~~Table 5.3~~, ~~Table 5.4~~~~Table 5.4~~ and ~~Table 5.5~~~~Table 5.5~~.

~~61-73.~~ Further information on the scale of compensation in relation to these effects is summarised in Appendix 1, with further information in Appendices 2 to 5. [These Appendices have been updated at Deadline 6].

Table 5.3 Adverse effect on integrity concluded in the RIAA [APP-178]

Site	Feature	Relevant Effect	Scale of North Falls Effect	Further information
Alde Ore Estuary SPA	Lesser black-backed gull	In-combination collision mortality	Annual mortality of 2.8 (95% Confidence Interval (CI) 0 – 7.8)	Section 7.2.2 of RIAA Part 4 [Document Reference: APP-178]; Update to breeding season apportioning, [REP1-058], subsequently adjusted for the latest SNCB advised avoidance rate (see [REP3-040], section 2.3)

Table 5.4 RIAA [APP-178] conclusion reviewed following the consent decision for Rampion 2, such that an AEOL cannot be ruled out.

Site	Feature	Relevant Effect	Scale of North Falls Effect	Further information
Flamborough and Filey Coast SPA	Kittiwake	In-combination collision mortality	Annual mortality: 0.76 (95% CI 0.09 – 2.72)	Section 7.2.4 of RIAA Part 4 [Document Reference: APP-178];
	Guillemot	In-combination displacement / barrier effect during operation	Annual mortality 50%/1%*: 1.2 (95% CI 0.2-3.2) 70%/2%*: 3 (95% CI 0.5 - 9)	Section 7.2.4 of RIAA Part 4 [Document Reference: APP-178];
Farne Islands SPA	Guillemot	In-combination displacement / barrier effect during operation	Annual mortality 50%/1%*: 1.0 (95% CI 0.2-2.7) 70%/2%*: 2.8 (95% CI 0.5 – 7.8)	Shadow Appropriate Assessment for guillemot at the Farne Islands SPA [REP1-056].

Site	Feature	Relevant Effect	Scale of North Falls Effect	Further information
* 50%/1% refers to 50% displacement and 1% mortality of displaced birds, the Applicant's preferred rate, and 70%/2%, the rate applied by the Secretary of State in consenting recent OWFs including Hornsea Four and Rampion 2.				

Table 5.5 Effects considered in the HRA Derogation case without prejudice

Site	Feature	Relevant Effect	Scale of North Falls Effect	Further information
Flamborough and Filey Coast SPA	Razorbill	In-combination displacement / barrier effect during operation	Annual mortality 50%/1%*: 0.6 (95%CI 0.2-1.3) 70%/2%*: 1.6 (95% CI 0.7 – 3.6)	Section 7.2.4 of RIAA Part 4 [Document Reference: APP-178]
Outer Thames Estuary SPA	Red throated diver		Effective displacement area 35.64km ² Total Displacement area ¹ of 108.7km ² Annual mortality 1-11 (1-10% mortality)	Section 7.2.1 of RIAA Part 4 [Document Reference: APP-178]
<u>Margate and Long Sands SAC</u>	<u>Annex I Sandbanks</u>	<u>Indirect effects</u>	<u>Temporary deposition of c. 5-15cm of comparable sediment, could overlap up to 0.24km² of the Annex I Sandbank feature of the SAC.</u> <u>Modelling presented in the Hydrodynamic and Dispersion Modelling Report [9.54, Rev 2] and assessed in the RIAA Part 2 [7.1.2, Rev 1] shows cable protection will have no discernible effect on the MLS SAC.</u>	<u>Section 2.4.3.1.1X of RIAA Part 2</u> [Document Reference: APP-175]

5.3.1 Relevant design parameters

~~62.74.~~ The Project design parameters that are of relevance to the effects outlined above, which are considered in the assessment of alternative solutions are detailed in Table 5.6~~Table 5.6~~. During the pre-application phase, these parameters have been significantly refined. Changes (i.e. alternative solutions) to these parameters are considered in Sections ~~5.4.4.25.4.3.2~~ and 5.5. Any other element of the project design parameters would have no bearing on collision or displacement risk for these features and cannot be alternative solutions.

¹ It is the Applicant's position that this area of displacement is already subject to displacement from existing activities/ infrastructure and therefore there is no material contribution from North Falls to an adverse effect on integrity alone or in-combination

Table 5.6 Design Parameters Relevant to Displacement and Collision Risk

Parameter	Maximum parameters at PEIR	Maximum parameters in DCO application
Collision risk parameters		
Maximum number of smallest wind turbine generators	72	57
Maximum number of largest wind turbine generators	40	34
Maximum WTG rotor diameter of smallest wind turbine generators (m)	164	236
Maximum WTG rotor diameter of largest wind turbine generators (m)	337	
Maximum rotor tip height (m above Mean High Water Springs (MHWS))	397.4	377.4
Minimum rotor tip clearance above sea level (m above MHWS) ²	27	
Displacement parameters		
Array area (km ²)	150	95
Distance between the array area and OTE SPA at the closest point (km)	2.3	4.5
Indicative design life (years)	30	
Indirect benthic effects		
Number of export cables	4	2
Minimum distance between cables/ cable protection and the MLS SAC (m)	0	150
Export cable sandwave levelling in the offshore cable corridor (no overlap with the MLS SAC) (m ³)	30,096,000	4,634,673
Cable protection area in the offshore cable corridor (no overlap with the MLS SAC) (m ²)	150,480	75,240

5.4 Step 3: Long list of alternative solutions

63.75. Step 3, described in the following sections, involves consideration of a long list of potential alternative solutions. These are screened in terms of whether they meet the objectives of the Project, to produce a short list of alternative solutions that meet the Project objectives;

5.4.1 Do nothing scenario

64.76. While the Defra (2021) compensatory measures guidance advised that the "*do nothing*" option should be considered, it acknowledges this would rarely be a true alternative:

² 26.6m above HAT

"It is unlikely in most cases that the 'do nothing' option (i.e., no proposed activity) would be an acceptable alternative as it would not deliver the same overall objective as 'the activity'. However, it is useful to provide a comparison for other alternatives and to act as a baseline against which public benefits can be assessed. Where it is most likely to be an option is where no or limited tangible public benefit can be demonstrated."

65-77. In addition, NPS EN-1 (DESNZ, 2023^{ba}) states the following which clearly shows a do nothing scenario is not applicable:

"...the Secretary of State will consider the particular circumstances of any plan or project but starting from the position that energy security and decarbonising the power sector to combat climate change...are capable of amounting to imperative reasons of overriding public interest (IROPI) for HRAs, and, for MCZ assessments, the benefit to the public is capable of outweighing the risk of environmental damage, for CNP Infrastructure." (paragraph 4.2.21)

66-78. Given the need for the Project, as set out in Section 5.2.1 and expanded in the IROPI case (Section 6), the alternative of not developing an offshore wind farm would clearly not satisfy any of the project objectives outlined in Section 5.2.2 and would not comply with precedents set by other recent offshore wind farm decisions (Hornsea Project Three, Norfolk Boreas, Norfolk Vanguard, East Anglia ONE North, East Anglia TWO ~~and~~, Hornsea Project Four ~~and~~ **Rampion 2**). The "do nothing" scenario is not considered to be an alternative solution as it would not meet the Project objectives and is not considered further.

5.4.2 Alternative offshore wind farm locations

67-79. In accordance with NPS EN-1, decarbonising the power sector by 2035 requires a significant number of deliverable locations for CNP infrastructure and for each location to maximise its capacity: *"the fact that there are other potential plans or projects deliverable in different locations to meet the need for CNP Infrastructure is unlikely to be treated as an alternative solution"*. (DESNZ, 2023^{ba})

68-80. The development of offshore wind farms in the UK is constrained by the requirement to secure an AfL from The Crown Estate. This process is undertaken through prescribed leasing rounds in line with Marine Plans and informed by Strategic Environmental Assessment and plan-level HRA. As discussed in Section 1.1, North Falls is an extension to GGOW and was identified during The Crown Estate's 2017 Extensions leasing round. During this process, consultation was undertaken by The Crown Estate which led to the selection of former North Falls array areas. Subsequently, The Crown Estate undertook a plan level HRA which determined the Project would be awarded an AfL.

69-81. Key criteria set by The Crown Estate's extension process, which influenced the site selection process of the former North Falls array areas, included the fact that wind farm extensions must share a boundary with the existing (parent) wind farm; and that the proposed wind farm to be extended must be constructed and fully operational at the date of the application. GGOW was previously extended from its eastern boundary by Galloper Wind Farm, therefore the starting point for the North Falls site selection was that it had to be an extension to the north,

west and/or south of GGOW. Taking into account a range of existing constraints, in particular shipping lanes and aggregates sites (discussed further in ES Chapter 4 Site selection [Document Reference: APP-028], an extension to the west of GGOW was selected. Given the constraints of the leasing process and constraints associated with the ability to safely co-exist with existing sea users, there are no alternative locations that meet the Project objectives and satisfy NPS EN-1.

~~70-82.~~ Alternative offshore wind farm locations are not considered to be an alternative as they would not meet the Project objectives and are not considered further.

5.4.3 Alternative offshore cable corridor/ grid connection locations

~~83.~~ In response to early feedback from Natural England, and given the fixed nature of the onshore connection point, the alternative routing options for the cables are limited given the sensitivity to shipping and navigation stakeholders. The Applicant routed the offshore cable corridor as far north as possible to avoid the Margate and Long Sands SAC, noting various shipping and navigation constraints, including a pilot boarding area north of the SAC and requirement to cross the main Sunk Traffic Separation Scheme (TSS) south shipping channel at an angle as close as practicable to perpendicular. Furthermore, the Applicant has committed to a 150m buffer between the export cables/ cable protection and the SAC. Therefore, the proposed offshore cable corridor is the only radial solution which avoids any direct effect on the Margate and Long Sands SAC and minimises potential indirect effects on the SAC.

~~84.~~ The Applicant included an offshore connection option within its design envelope to facilitate this potential option, subject to the Offshore Transmission Network Review (OTNR). On 3 September 2024, the Secretary of State for DESNZ decided not to grant further funding to explore the potential for offshore cable and offshore grid connection coordination as part of the OTNR. It is therefore essential that the Project has a radial connection option, in order to meet the Project objectives.

~~85.~~ Alternative offshore cable corridor or grid connection locations are not an alternative as they would not meet the Project objectives and these are therefore not considered further.

5.4.35.4.4 Alternative scale

~~71-86.~~ In accordance with the approach outlined in Section 5.1, an assessment of alternative scale/size of development is considered in relation to smaller array areas to increase distance from the OTE SPA (Section 5.4.4.15.4.3.1) and deployment of fewer turbines to reduce collision risk (Section 5.4.4.25.4.3.2).

5.4.3.15.4.4.1 Smaller/alternative array area

~~72-87.~~ Following stakeholder feedback, the array area has been significantly reduced during the pre-application stage from 150km² to 95km². This has increased the distance between the array area and the OTE SPA from c. 2.3km to 4.5km at the closest point.

~~73-88.~~ This size of the array area represents a balance between delivering the capacity of North Falls, ensuring commercial viability, and reducing environmental

effects. The array area is based on external constraints e.g. shipping and navigation. It has already been reduced from the PEIR array area by 37% in area, a substantial reduction on the originally proposed area. There are also potentially further constraints on the array area which will be informed by geotechnical surveys, UXO surveys and discussions with the Maritime and Coastguard Agency post consent to agree the layout. The reduction in array area and future constraint considerations result in a significantly reduced size of wind farm, or an increased wind turbine generator density (which is expected to be higher than for the average wind farm in the UK) resulting in turbines being more tightly packed together, and therefore less efficient than originally planned. This leads to a reduced energy yield from the wind farm, and hence any further reduction to the array area would have an impact on the commercial viability of North Falls and a significant impact on its ability to contribute to the legally binding decarbonisation targets, security of supply and policy in support of CNP Infrastructure.

74-89. A smaller array is not considered to be an alternative solution as it would not meet the Project objectives and is not considered further.

5.4.3-25.4.4.2 Fewer turbines

75-90. Due to the reduction in the array area discussed above, the maximum number of turbines has also reduced significantly during the pre-application process, from 72 to 57 of the smallest turbines³ in the design envelope (or from 40 to 34 of the largest turbines).

76-91. Fewer turbines would result in a lower generation capacity and as with a reduction in array area, would have an impact on the commercial viability of North Falls and a significant impact on its ability to contribute to the legally binding decarbonisation targets, security of supply and policy in support of CNP Infrastructure.

77-92. Fewer turbines is not considered to be an alternative solution as it would not meet the Project objectives and is not considered further.

5.4.4.3 Reduced sandwave levelling volume

93. In order to reduce the sandwave levelling adjacent to the SAC, there would need to be less export cables and/or less sandwave levelling. This is not considered to be an alternative solution as it would not meet the Project objectives for the reasons outlined in Sections 5.4.4.3.1 and 5.4.4.3.2, and is therefore not considered further.

5.4.4.3.1 Fewer export cables

94. As discussed in Section 5.3.1, the Applicant has already reduced the number of export cables from four to two. Further reduction to one export cable would represent a significant risk to achieving the Project objectives, as a single cable would limit the size the windfarm could build out at, and also any failure in a single cable would stop the Project's ability to export electricity to the UK National Grid to support UK commitments for offshore wind generation and security of supply.

³ Turbine sizes are discussed further in ES Chapter 5 Project Description [Document Reference: APP-019].

5.4.4.3.2 Less sandwave levelling

95. As discussed in Section 5.3.1, the Applicant has already reduced the quantum of sandwave levelling, informed by engineering analysis of geophysical data. While sandwave levelling is expected to be limited adjacent to the Margate and Long Sands SAC, it is essential it is included in the design envelope to facilitate the Applicant's commitment to bury cables where practicable.

5.4.45.4.5 Alternative design

78-96. In accordance with the approach outlined in Section 5.1, an assessment of alternative design options, in relation to the relevant parameters outlined in Section 5.3.1 is provided in the following sections. Alternative design options include:

- Smaller rotors/swept area to reduce collision risk (Section 5.4.5.1.15-4.4.1.1); and
- Increased air gap to reduce collision risk (Section 5.4.5.1.25-4.4.1.2).

5.4.4.1.15.4.5.1.1 Smaller rotors/swept area

79-97. The amount of power a turbine can produce reduces significantly as the size of the rotors is reduced. For example, a reduction in rotor diameter of approximately 30% results in a reduction in the power that can be captured by the wind turbine of approximately 50%. Therefore reducing the size of the rotors and their associated swept area, would reduce the power output of the turbine, and thus would result in a lower capacity project which would limit the ability of the Project to contribute to the Project objectives.

80-98. Smaller rotors to achieve the same offshore wind farm capacity would require a greater number of turbines which would increase the magnitude of potential effects e.g. on ornithology receptors.

81-99. A smaller rotor diameter is not considered to be an alternative solution as it would not meet the Project objectives and is not considered further.

5.4.4.1.25.4.5.1.2 Increased air gap

82-100. An increased air gap could potentially achieve the project objectives whilst having a lesser effect on kittiwake and lesser black backed gull. The feasibility of this alternative solution is therefore discussed in Section 5.5.1.

5.4.55.4.6 Alternative method

83-101. As the ornithological effects of relevance to this derogation case relate to the operation of the offshore wind farm, no alternative methods are available beyond the scale, design and timing options considered in the preceding and following sections. There are no alternative solutions relating to an alternative method of carrying out North Falls, and this is not considered further.

102. Alternative methods related to export cable installation would relate to:

- No, or reduced, sandwave levelling and as discussed in Section 5.4.4.3, this is not an alternative solution that would meet the Project objectives.
- Avoidance of cable protection in proximity to Margate and Long Sands SAC

5.4.6.1 Cable protection methods

103. Modelling presented in the Hydrodynamic and Dispersion Modelling Report [9.54, Rev 2] and assessed in the RIAA Part 2 [7.1.2, Rev 1] shows cable protection will have no discernible effect on the MLS SAC. This takes into account the 150m buffer between export cables/ cable protection and the MLS SAC.
104. While the Applicant will bury cables where practicable, there is always the risk of encountering situations which prevent burial to a sufficient depth to provide adequate protection from risk of damage. This could include unforeseen hard substrate and/or a force majeure incident whereby the cable lay vessel needs to move away (e.g. from a hazard) and leave the cable insufficiently buried to protect it from damage.
105. The area in proximity to the offshore cable corridor and MLS SAC has a high degree of shipping traffic, and as such, should there be a force majeure incident during cable installation, the Project needs to retain flexibility in this area, as a matter of human safety.
106. In the event that a cable is insufficiently buried, surface laid cable protection is required to protect the cables from damage. Given the size and frequency of shipping traffic in the area, the amount of cable protection is expected to be significant due to the anchor penetration depths from large ships. The amount of cable protection is calculated based on the requirements of the Cable Burial Risk Assessment (CBRA), and will depend on the burial depth achieved. If the cable is near the surface, it is possible the full 1.4m will be needed to give the cable the required protection from anchor damage.
107. Damage to the export cables would represent a significant risk to achieving the Project objectives, stopping the Project's ability to export electricity to the UK National Grid to support UK commitments for offshore wind generation and security of supply. It would also represent a potential health and safety risk.

5.4.6.5.4.7 Alternative timing

- ~~84-~~108. In accordance with the approach outlined in Section 5.1, alternative timing options are considered.
- ~~85-~~109. Displacement effects on red throated diver, guillemot and razorbill may be caused by the physical presence of the wind farm infrastructure, rather than specifically by the operation of the turbines. This is confirmed by feedback from Natural England that once the array is constructed but not yet operational it *"may present the same displacement stimulus as an operational farm"*. Therefore any operational timing restrictions would not have ~~allessera~~ lesser effect on distribution and are therefore not considered further.
- ~~86-~~110. In order for seasonal restrictions for turbine operation to have any material effect on the number of predicted collisions of kittiwake from the Flamborough and Filey Coast SPA or lesser black-backed gull from the Alde Ore Estuary SPA, shutdowns of turbines would need to occur for several months of the year. Furthermore, since the contribution of North Falls to the in-combination collision risk total is already small (0.~~31~~% for kittiwake and ~~3.5-3~~% for lesser black-backed gull), (Updated ornithology in-combination assessment [Document Reference 9.95]), it follows that the degree of reduction to the in-

combination total that would be achieved through turbine shutdown would be insignificant to the overall in-combination effect. Reducing the operation period of North Falls would significantly reduce the Project's ability to deliver low carbon electricity to the National Grid and contribute to a secure energy supply.

~~87.111.~~ In addition, whilst not all kittiwake and lesser black-backed gull at risk of potential collision are on migration, it is noted that the NPS EN-3 (DESNZ, 2023~~cb~~) states:

"[3.8.260] The exact timing of peak migration events is inherently uncertain although research is ongoing into estimates for peak migration periods for a number of bird species and detection technologies (e.g., using radar and integrated sensors) are improving.

[3.8.261] Currently, shutting down turbines within migration routes during estimated peak migration periods is unlikely to offer suitable mitigation, but this might be a possibility in the future."

~~88.112.~~ As outlined above, reducing the timing of the operation of the turbines e.g., through seasonal restrictions and/or reducing the operational life would limit the ability of the Project to generate low carbon electricity and export electricity to the National Grid and deliver little to no reduction in the effects on the National Site Network. This alternative solution would therefore not satisfy the Project objectives and is not considered further.

113. There is no seasonable component to the Margate and Long Sands SAC designation and therefore alternative timing is not applicable to this site.

5.5 Step 4: Feasibility of alternative solutions

~~89.114.~~ The following ~~sections—outline~~section outlines the feasibility of the alternative ~~solutions~~solution identified in Step 3. The only potential alternative solution, that could in theory meet the Project objectives, identified during Stage 3 is an increased air gap to reduce ornithological collision risk.

5.5.1 Increased air gap

~~90.115.~~ Due to the expected height of the turbines likely to be available at the time of installation, and the capability of the largest installation vessels on the market currently, the use of a 27m air gap means that for the smaller turbines expected to be available on the market at the time of installation, these have the potential to be installed by the largest vessels currently available on market. To increase the height further, even by 1m, may rule out these vessels and hence limit the number of capable vessels. Given the number of wind farms that are expected to be constructing in the late 2020s, there will be high competition for installation vessels and therefore an increase in turbine height, whilst maintaining the Project programme, is unfeasible.

~~91.116.~~ An increased air gap is therefore not considered to be a feasible alternative solution as it would not meet the Project objectives and is not considered further.

5.6 Step 5: Assessment of effects of feasible alternative solutions

~~92-117.~~ Step 5 is not applicable, as there are no feasible alternative solutions.

5.7 Assessment of alternative solutions conclusion

~~93-118.~~ The information presented in this document demonstrates the robust assessment of alternative solutions that has been undertaken by the Applicant. The assessment followed available guidance and included a ‘do nothing scenario’, and alternative locations, scale, design, methodology and timing. No feasible alternative solutions which could host comparable scale offshore wind farms and meet the Project Need and Objectives were identified.

6 Imperative Reasons of Overriding Public Interest

6.1 Introduction

~~94-119.~~ Having determined that there are no feasible alternative solutions which would meet the Project Need or Objectives, consideration is given to the IROPI case.

~~95-120.~~ In order to define the IROPI case for a plan or project, Defra et al. (2021) provides the following definitions:

- *“Imperative - it’s essential that it proceeds for public interest reasons*
- *in the public interest - it has benefits for the public, not just benefits for private interests*
- *overriding - the public interest outweighs the harm, or risk of harm, to the integrity of the European site that’s predicted by the appropriate assessment”.*

~~96-121.~~ Furthermore, DESNZ (2023~~ad~~) summarises the key principles (as set out in guidance) in defining the IROPI case for Hornsea Project Four:

- *“Imperative – urgency and importance: There would usually be urgency to the objective(s), and it must be considered “indispensable” or “essential” (i.e., imperative). In practical terms, this can be evidenced where the objective falls within a framework for one or more of the following;*
 - i. *actions or policies aiming to protect fundamental values for citizens’ life (health, safety, environment);*
 - ii. *fundamental policies for the State and the Society; or*
 - iii. *activities of an economic or social nature, fulfilling specific obligations of public service.*
- *Public interest: The interest must be a public rather than a solely private interest (although a private interest can coincide with delivery of a public objective).*
- *Long-term: The interest would generally be long-term; short-term interests are unlikely to be regarded as overriding because the conservation objectives of protected sites are long term interests.*

- *Overriding: The public interest of development must outweigh the harm, or risk of harm, to the integrity of the protected site that's predicted by the AA."*

~~97-122.~~ It should be noted that there are no priority habitats or species listed under Article 1(d) and Article 1(h) of the Habitats Directive present within the Flamborough and Filey Coast SPA, the Alde Ore Estuary SPA, OTE SPA or the Farne Islands SPA. As stipulated by the Habitats Directive (Article 6(4)), Habitats Regulations (Regulation 64) and Offshore Habitats Regulations (Regulation 29), where no priority habitats and species are present, the IROPI case need only consider reasons of socio-economic nature.

6.2 Imperative

~~98-123.~~ As discussed in Section 5.2.1, there is an urgent need to establish a secure, energy supply and meet decarbonisation targets. This provides clear evidence of the imperative need for the Project to help meet the UK Government commitment to net zero by 2050.

~~99-124.~~ A key purpose of the Extension leasing round was to maximise offshore wind capacity in the UK, with The Crown Estate stating: "*Extensions to operational wind farms have proven to be a successful way of efficiently developing more offshore generating capacity*" (The Crown Estate, 2019).

~~100-125.~~ The Project will make a substantial contribution to the achievement of national renewable energy targets towards net zero and to the UK's contribution to global efforts to reduce the effects of climate change, which are fundamental policies for the state and the society of the UK.

6.2.1 Energy security

~~101-126.~~ As discussed in Section 5.2.1.3, decarbonisation of the UK energy supply chain and increasing electricity demand, results in a significant deficit in UK electricity supply compared with demand. In the Clean Growth Strategy (BEIS, 2017), the UK Government set out a plan to decarbonise all sectors of the UK economy through the 2020s including innovation in the power sector and renewables.

~~102-127.~~ Reliance on global markets for imported energy leaves the UK vulnerable to spikes in world energy market prices, political pressure, potential physical supply disruptions and the knock-on effects of supply challenges in other countries.

~~103-128.~~ There is therefore a clear public benefit inherent in the creation of new electricity supply capacity, such as will be provided by the Project.

~~104-129.~~ With an indicative 850MW capacity, North Falls would help to reduce the UK's reliance on imported energy and to improve energy security, generating enough clean renewable energy to power over 400,000 typical UK households per year.

6.2.2 Climate change/ decarbonisation imperative

~~405-130.~~ WHO (2024) discusses the impacts of climate change on global health risks, stating:

“Climate change is impacting human lives and health in a variety of ways. It threatens the essential ingredients of good health – clean air, safe drinking water, nutritious food supply and safe shelter – and has the potential to undermine decades of progress in global health.

Between 2030 and 2050, climate change is expected to cause approximately 250 000 additional deaths per year from malnutrition, malaria, diarrhoea and heat stress alone. The direct damage costs to health are estimated to be between US\$ 2–4 billion per year by 2030. Areas with weak health infrastructure – mostly in developing countries – will be the least able to cope without assistance to prepare and respond.”

~~406-131.~~ The World Meteorological Organisation (WMO) reported that between 2001 and 2010 extreme weather events caused more than 370,000 deaths worldwide (including a large increase in heatwave deaths from 6,000 to 136,000) – 20% higher than the previous decade (House of Commons, 2018).

~~407-132.~~ In the UK, floods and droughts have had significant health impacts, including fatalities in recent years. In addition, health impacts as a result of climate change are likely to be more far-reaching than the immediate dangers of flooding. Climate change effects such as flooding have potential to impact on mental health and provide other indirect impacts as a result of disruption to critical supplies of utilities such as electricity and water (Health Protection Agency, 2012).

~~408-133.~~ As discussed in Section 5.2.1, the CCC Progress Report highlights that 2022 was the UK’s warmest recorded year with its first ever 40°C day (CCC, ~~2023d~~[2023c](#)). Since records began in 1884, the warmest years in the UK were (in order) 2022, 2023, and 2020, and the ten warmest years have all occurred since 2003 (Met Office, 2024).

~~409-134.~~ Globally, 2023 was the hottest year on record. Each month from June to December in 2023 was warmer than the corresponding month in any previous year, and every day exceeded 1°C above the 1850-1900 pre-industrial level which is the first time this has ever occurred (European Centre for Medium-Range Weather Forecasts, 2023).

~~410-135.~~ Climate change has been greatly affecting coastal areas in the UK in recent years, including in Essex, where coastal erosion has become a greater problem now than in the past due to a combination of increasing storm frequency (due in part to climate change) and the already sensitive nature of the Essex coast to this erosion, particularly low elevation and a loss of saltmarsh habitats that can provide a buffer.

~~411-136.~~ The switch to renewable sources of energy also has air quality benefits and associated effects on human health. A study has demonstrated the huge beneficial impacts on human health from decarbonisation, stating that *“around 3.5 million or so premature deaths from air pollution worldwide could be prevented annually from phasing out fossil fuels at today’s population. If all sources of air pollution from human activities could be eliminated, our estimates*

show that more than five million premature deaths from air pollution would be prevented annually.” (London School of Hygiene and Tropical Medicine (LSHTM), 2019).

412-137. Generating and harnessing energy from low carbon, renewable sources, such as offshore wind, is one of the solutions available to substantially reduce carbon emissions. North Falls would make a significant contribution both to the achievement of UK decarbonisation targets and to global commitments to mitigating climate change.

413-138. In February 2025, the UK set a 7th Carbon Budget, recommending a reduction in UK GHG emissions of 87% by 2042, relative to a 1990 baseline (CCC, ~~2024a~~2024). This is an increase of 10% since the 6th Carbon Budget and further emphasises the imperative of offshore wind farms such as North Falls.

6.2.3 Socio-economic benefit

414-139. The offshore wind industry presents an opportunity to utilise and further develop the UK’s maritime engineering skills, particularly during a time when other industries are in decline (such as North Sea oil), in order to secure supply chain and other employment opportunities in the UK. As offshore wind supply chains are developing in areas of relatively low economic productivity, the benefit to local communities and businesses is very important. The replacement of existing infrastructure with new technologies also represents significant investment in the UK economy.

415-140. The Clean Growth Strategy (BEIS, 2017) set out how the Government intends to invest in clean growth technology between 2015 and 2021, including in innovation in the power sector (and renewables). Additionally, in March 2018, the UK offshore wind sector committed to a Sector Deal (BEIS, 2022) which aims to increase offshore wind capacity to 50GW by 2030. The 2030 vision envisages an investment of £48 billion in UK offshore wind infrastructure. The Sector Deal also expects to create 27,000 skilled jobs across the UK by 2030.

416-141. The Clean Growth Strategy concludes that between 1990 and 2016, the UK reduced its emissions by 42% while the economy grew by 67%. Further analysis has concluded that, by continuing to develop low carbon technologies, significant economic benefits can be captured. By taking no action, the UK economy could miss out on a potential low carbon economy growth of 11% per year to 2030 (BEIS, 2017).

417-142. The UK is able to continue growth in the offshore wind sector by maximising domestic energy resources and utilising the vast offshore wind resource to which the UK has access. An assessment in June 2017 of Europe’s offshore wind resources (Wind Europe, 2017) found that the UK has the greatest potential for offshore wind out of all assessed EU member states⁴ in the Atlantic, North Sea and Baltic Sea areas and at present, has the largest installed capacity in the world. The assessment looked at gross resource potential, technical resource potential and economically attractive resource

⁴ EU member states, including the UK at the time of the study

potential, and found that the UK topped all other countries in all three categories (Wind Europe, 2017).

~~118-143.~~ A key commitment within the Green Paper: Building our Industrial Strategy (HM Government, 2017) is to “*lead the world in delivering clean energy technology*” and to support innovation in this area. The aim is for “*the UK to be a global leader in innovation, science and research and our Industrial Strategy will help us to deliver our ambitious CO₂ reduction targets while, creating jobs and opportunities for people across the country*”. The energy sector in the UK plays a central role in the economy by boosting investment and providing new jobs and skills.

~~119-144.~~ North Fall’s location in the East of England is well placed to provide social benefits given the region’s offshore wind heritage and the fact that more than 800 supply chain companies are already operating in the region, ready to leverage new opportunities.

~~120-145.~~ North Falls could provide opportunities for the UK supply chain, through installation and commissioning, and operation and maintenance. The GGOW ‘parent’ wind farm has provided a £1.5 billion investment and has created hundreds of jobs during the construction phase as well as 100 long-term recruits to the operations base, of which 95% were from the local area. Additionally, more than 10 local apprentices have graduated from the wind farm’s apprentice training scheme as wind turbine and balance-of-plant technicians. GGOW has also provided junior engineering roles and employed ex-fishermen as part of an initiative to find locally skilled people to fill requirements for roles. North Falls will similarly provide contracting opportunities for local companies and career opportunities for local people throughout each phase of its lifecycle.

~~121-146.~~ The above employment opportunities not only provide economic benefits, but also social benefits to local communities given that job creation is linked to increases in wellbeing.

6.2.4 Consequences for the Ecosystem

~~122-147.~~ The Environment Improvement Plan (HM Government, 2023b) recognises the effects of climate change include an increase in pests, pathogens and invasive non-native species; and knock-on impacts on the ecosystems.

~~123-148.~~ Global warming places many species at greater risk, with a loss of suitable habitat due to changing conditions and shifts in prey distributions. Species may migrate to areas where conditions remain suitable (e.g. marine species moving further north in the UK to cooler climates), however, there may be insufficient new habitats available or no pathway for migration.

~~124-149.~~ The Strategic Environmental Assessment North Sea Energy (SEANSE) project assessed the impact of climate change on key bird species (Rijkswaterstaat Zee & Delta, 2020) and concluded that changes in prey availability due to climate change is the current pressure which appears to have the largest impact on kittiwake and lesser black-backed gull at the wider North Sea level. This is likely to be responsible for a substantially greater effect than impacts resulting from any other activity (including collision risk).

~~125-150.~~ Further investment in renewable energy and offshore wind energy generation are imperative in helping to mitigate these effects.

6.3 Overriding

~~126-151.~~ The relevant public interests relating to North Falls must be set against the weight of the interest protected by the Habitats Regulations, having regard to the nature and extent of the harm identified to the relevant European sites and features (described in Section 5.3).

~~127-152.~~ The overriding nature of the public interest served by renewable energy production, including offshore wind energy, is evidenced by the suite of legislation and policy outlined in Section 5.2.1, which North Falls would provide a significant contribution to achieving. The benefits of North Falls are overriding of the potential harm to European sites, noting:

- There is an absence of any priority habitats or species which are particularly rare or endangered in the Flamborough and Filey Coast SPA, the Alde Ore Estuary SPA, OTE SPA ~~or~~ the Farne Islands SPA or the Margate and Long Sands SAC and therefore any AEoI identified in relation to North Falls would not relate to features receiving the highest level of protection.
- The scale of the impacts predicted from North Falls are minimal (see Section 5.3) and the impact predictions are highly precautionary (see RIAA Part 2 Benthic Ecology [Document Reference: 7.1.2, Rev 1] and RIAA Part 4 Offshore Ornithology [Document Reference: APP-178]).
- In the consideration of harm against benefits, North Falls would deliver energy security benefits (Section 6.2.1), benefits of reducing greenhouse gas emissions to reduce the risks of climate change such as relating to human health and public safety (Section 6.2.2) and ecosystem benefits (Section 6.2.4), and socio-economic benefits (Section 6.2.3~~),-).~~

~~128-153.~~ The benefits of North Falls therefore significantly override the small scale of the predicted effects summarised in Section 5.3 and discussed further in the RIAA Part 2 [Document Reference: 7.1.2, Rev 1] and RIAA Part 4 [Document Reference: APP-178].

6.4 Public Interest

~~129-154.~~ Offshore wind, as a source of renewable energy, offers the UK public a wide range of benefits including:

- Energy security (discussed in Sections 5.2.1.3 and 6.2.1) is important to the public interest as an absence of security can result in volatile energy prices due to reliance on global markets and ultimately could result in interruptions to energy supply;
- Decarbonisation (discussed in Sections 5.2.1.2, 5.2.1.4 and 6.2.2) is clearly in the public interest in terms of combatting climate change and its associated risks such as flooding, water supply shortages, health impacts and food security; and

- Economic growth (discussed in Section 6.2.3) is in the public interest, with offshore wind farms providing investment and job opportunities.

~~130-155.~~ North Falls would make a significant contribution to renewable energy supply and energy security, decarbonisation and economic growth, consequently helping provide these benefits to the UK and globally.

~~131-156.~~ As discussed in Section 6.2, “*extensions to operational wind farms have proven to be a successful way of efficiently developing more offshore generating capacity*” (The Crown Estate, 2019). Therefore, North Falls also represents an opportunity to maximise efficient energy generation and provide benefits to the consumer.

~~132-157.~~ Wind farms provide opportunities for social and economic growth. The Offshore Wind Sector Deal (HM Government, 2019) estimates that by 2030, offshore wind could support 27,000 jobs in the UK, covering all aspects of a wind farm.

6.5 IROPI Summary

~~133-158.~~ North Falls is in accordance with the key relevant policy and legislation outlined in Section 5.2.1.1. The importance of offshore wind farms, such as North Falls is evidenced by NPS EN-1 (DESNZ, 2023~~ba~~) which states:

“...the Secretary of State will consider the particular circumstances of any plan or project but starting from the position that energy security and decarbonising the power sector to combat climate change...are capable of amounting to imperative reasons of overriding public interest (IROPI) for HRAs, and, for MCZ assessments, the benefit to the public is capable of outweighing the risk of environmental damage, for CNP Infrastructure.”

~~134-159.~~ The environmental and social benefits to the UK from increasing the generation of low carbon energy are clear, with the Project providing a critical contribution. North Falls will contribute to the UK's legally binding climate change targets by helping to decarbonise the UK's energy supply, whilst contributing to security of supply and providing socio-economic benefits, in line with the UK Government's national policies.

~~135-160.~~ Given the information provided in Section 6.2 to Section 6.4, there are clear imperative reasons of public interest for the Project, that override the potential adverse effect on the integrity of the Alde Ore Estuary SPA, Flamborough and Filey Coast SPA, the OTE SPA, ~~or the Farne Islands SPA.~~ or the Margate and Long Sands SAC.

7 Compensatory measures

~~136-161.~~ As discussed in Section 1.2, compensatory measures are provided for North Falls contribution to the following in-combination effects:

- Collision risk of lesser black-backed gull from the Alde Ore Estuary SPA;
- Collision risk of kittiwake from Flamborough and Filey Coast SPA;
- Displacement of guillemot from Flamborough and Filey Coast SPA; and

- Displacement of guillemot from the Farne Islands SPA.

~~137.162.~~ These compensatory measures are secured in Schedule 15 of the draft DCO submitted at Deadline 6.

~~138.163.~~ Compensatory measures are also provided for the following, without prejudice to the Applicant's conclusions presented in the RIAA Part 4 [Document Reference: APP-178] and RIAA Part 2 [7.1.2, Rev 1] that there would be no AEol:

- Displacement of red-throated diver from the OTE SPA; ~~and~~
- Displacement of razorbill from Flamborough and Filey Coast SPA; ~~and~~
- Indirect effects on the Margate and Long Sands SAC.

~~139.164.~~ If required following the Secretary of State's AA, compensation for these species can be legally secured through the DCO in accordance with the without prejudice draft DCO Schedules (Document Reference 9.73), Rev 2.

~~140.165.~~ This HRA Derogation Provision of Evidence contains within its appendices and annexes the following suite of compensatory measures documents:

- Appendix 1 Compensatory Measures Overview [7.2.1, ~~Rev 4~~;3];
 - Annex 1A HRA Compensation Consultation [APP-185];
 - Annex 1B Compensation Funding Statement [APP-186];
 - Annex 1C In Principle Letter of Agreement from Dogger Bank South (East and West) [APP-187];
 - Annex 1D Letter of Comfort from Cornwall Wildlife Trust [REP3-010]
- Appendix 2 Lesser Black-Backed Gull Compensation Document [7.2.2, ~~Rev 2~~;1];
 - Annex 2A Outline Lesser Black-backed Gull Compensation Implementation and Monitoring Plan (CIMP) [7.2.2.1, ~~Rev 2~~;1]
- Appendix 3 Without Prejudice Red Throated Diver Compensation Document [7.2.3, ~~Rev 2~~;1];
 - Annex 3A Outline Red Throated Diver CIMP [7.2.3.1, ~~Rev 2~~;1]
- Appendix 4 Kittiwake Compensation Document [7.2.4, ~~Rev 2~~;1];
 - Annex 4A Outline Kittiwake CIMP [7.2.4.1, ~~Rev 2~~;1]
- Appendix 5 Guillemot and Razorbill Compensation Document [7.2.5, ~~Rev 2~~;1] and
 - Annex 5A Outline Guillemot and Razorbill CIMP [7.2.5.1, ~~Rev 2~~;1]
- Appendix 6 Outline Benthic Compensation Implementation and Monitoring Plan [9.109, Rev 0]

8 Conclusion

~~141.166.~~ The evidence presented in this document clearly demonstrates that there are no alternative solutions (Section 5) which could deliver the project objectives (Section 5.2.2), in accordance with the need for North Falls (Section 5.2.1).

~~142.167.~~ In addition, there is a clear case for IROPI underpinned by international and national policy and legislation, as outlined in Section 6.

~~143.168.~~ Appendices 1 to ~~56~~ which are listed in Section ~~7~~ 160 describe the proposed compensatory measures which are deliverable post consent and can be secured by the DCO, if required.

~~144.169.~~ This derogation case is provided for lesser black-backed gull of the Alde Ore Estuary SPA, kittiwake from Flamborough and Filey Coast SPA, and guillemot from Flamborough and Filey Coast SPA and the Farne Islands SPA, and without prejudice of the Applicant's position regarding razorbill from Flamborough and Filey Coast SPA ~~and~~, red-throated diver from the OTE SPA and Annex I Sandbanks of the Margate and Long Sands SAC.

9 References

- APEM. (2021) Final Ornithological Monitoring Report for London Array Offshore Wind Farm – 2021 (draft) (Report to London Array Operations and Maintenance Base No. P00002714). Provided as Appendix 25 to the Natural England Deadline 13 Submission for East Anglia TWO Offshore Wind Farm. Cleasby, I.R., Owen, E., Wilson, L.J., and Bolton, M. (2018). Combining habitat modelling and hotspot analysis to reveal the location of high density seabird areas across the UK (Research Report no. 63). RSPB Centre for Conservation Science.
- Climate Change Committee (CCC) (2019a). Meeting Carbon Budgets – Implications of Brexit for UK climate policy. Available at: [REDACTED].
- Climate Change Committee (CCC) (2019b). Net Zero – The UK's contribution to stopping global warming. Available at: [REDACTED].
- Climate Change Committee (CCC) (2020). Reducing UK Emissions: 2020 Progress Report to Parliament. Available at: Reducing UK emissions: 2020 Progress Report to Parliament - Climate Change Committee [Accessed on 09/07/2025]
- Climate Change Committee (CCC) (2023a). Delivering a reliable decarbonised power system. Available at: Delivering a reliable decarbonised power system - Climate Change Committee [REDACTED] [Accessed 23/01/2024]
- Climate Change Committee (CCC) (2023b). The Sixth Carbon Budget Electricity generation Available at: Sector-summary-Electricity-generation.pdf [REDACTED] [Accessed 23/01/2024]
- Climate Change Committee (CCC) (2023c2023b). 2023 Progress Report to Parliament. Available at: 2023 Progress Report to Parliament - Climate Change Committee [REDACTED] [Accessed 23/01/2024]
- Climate Change Committee (CCC) (2023d2023c). Progress in reducing emissions. Available at: Progress in reducing UK emissions - 2023 Report to Parliament (theccc.org.uk) [Accessed 23/01/2024]
- Committee on Climate Change (CCC) (2017). Reducing emissions and preparing for climate change: 2017 Report to Parliament Summary and recommendations. June 2017. Available at: [REDACTED].pdf [Accessed 09/10/2023]
- Climate Change Committee (CCC) (2024). Progress Report to Parliament. Available at: Progress in reducing emissions 2024 Report to Parliament - Climate Change Committee. [Accessed on 09/07/2025]
- Copernicus Climate Change service (2020). Copernicus: 2020 warmest year on record for Europe; globally, 2020 ties with 2016 for warmest year recorded. Available from: Copernicus: 2020 warmest year on record for Europe; globally, 2020 ties with 2016 for warmest year recorded | Copernicus [Accessed 09/10/2023]

Change Committee (CCC) (2025). The Seventh Carbon Budget Electricity generation. [Redacted]

Defra (2024) Consultation on policies to inform updated guidance for Marine Protected Area (MPA) assessments. https://consult.defra.gov.uk/offshore-wind-environmental-improvement-package/consultation-on-updated-guidance-for-environmental/supporting_documents/090224%20OWEIP%20Consultation%20on%20updated%20policies%20to%20inform%20guidance%20for%20MPA%20assessments.pdf

Department for Business, Energy & Industrial Strategy (BEIS) (2017). The Clean Growth Strategy Leading the way to a low carbon future. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/700496/clean-growth-strategy-correction-april-2018.pdf [Accessed 09/10/2023]

Department for Business, Energy and Industrial Strategy (BEIS) (2020a) Hornsea Three Offshore Windfarm HRA. Available at:

<https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010080/EN010080-003267-EN010080%20Hornsea%20Three%20%20Habitats%20Regulations%20Assessment.pdf> [Accessed: 19/01/2022]

Department for Business, Energy and Industrial Strategy (BEIS) (2021) Norfolk Boreas Offshore Wind Farm Habitats Regulation Assessment. Available at: <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010087/EN010087-002919-NORB-Habitats-Regulations-Assessment.pdf> [Accessed: 19/01/2022]

Department for Business, Energy and Industrial Strategy (BEIS) (2022). United Kingdom of Great Britain and Northern Ireland's Nationally Determined Contribution. Available at: [UK NDC ICTU 2022.pdf](https://assets.publishing.service.gov.uk/media/64000000/UK_NDC_ICTU_2022.pdf) (unfccc.int) [Accessed 23/01/2024]

Department for Energy Security and Net Zero (DESNZ) (2021). Net Zero Strategy: Build Back Greener. Available at: [net-zero-strategy-beis.pdf](https://assets.publishing.service.gov.uk/media/64000000/net-zero-strategy-beis.pdf) (publishing.service.gov.uk) [Accessed 23/01/2024]

Department for Energy Security and Net Zero (DESNZ) (2023a). Habitats Regulations Assessment for an Application Under the Planning Act 2008 Hornsea Project Four Offshore Windfarm. Available at: https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010098/EN010098-002331-DESNZ%20HRA%20%20Hornsea%20Four_Final.pdf [Accessed 23/01/2024]

Department for Energy Security and Net Zero (DESNZ) (2023b). Overarching National Policy Statement for Energy (EN-1). Available at: <https://assets.publishing.service.gov.uk/media/655dc190d03a8d001207fe33/overarching-nps-for-energy-en1.pdf> [Accessed 20/12/2023]

Department for Energy Security and Net Zero (DESNZ) (2023c). National Policy Statement for Renewable Energy Infrastructure (EN 3) Available at: <https://assets.publishing.service.gov.uk/media/655dc352d03a8d001207fe37/nps-renewable-energy-infrastructure-en3.pdf> [Accessed 20/12/2023]

<u>Department for Energy Security and Net Zero (DESNZ) (2023d). Digest of UK Energy Statistics (DUKES): energy. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1174355/DUKES_2023_Chapter_1.pdf [Accessed 09/10/2023]</u>
<u>Department for Energy Security and Net Zero (DESNZ) (2023e). 2022 UK greenhouse gas emissions, provisional figures. Available at: 2022 UK greenhouse gas emissions: provisional figures - statistical release (publishing.service.gov.uk) [Accessed 23/01/2024]</u>
<u>Department of Energy Security and Net Zero (DESNZ) (2023f). Powering Up Britain. Available at: https://www.gov.uk/government/publications/powering-up-britain [Accessed 14 October 2023]</u>
<u>Department for Energy Security and Net Zero (DESNZ) (2024). Habitats Regulations Assessment for an Application Under the Planning Act 2008 Sheringham Shoal and Dudgeon Extensions Offshore Wind Farm Projects. Available at: https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010109/EN010109-002342-SADEP%20HRA%20DESNZ%2017042024.pdf [Accessed 12/06/2024]</u>
<u>Department for Energy Security and Net Zero (DESNZ) (2025) Habitats Regulations Assessment for an Application Under the Planning Act 2008 Rampion 2 Offshore Wind Farm. Available at: https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010117/EN010117-002456-Habitats%20Regulations%20Assessment.pdf</u>
<u>Department for Environment, Food & Rural Affairs (Defra) (2012) Habitats and Wild Birds Directives: guidance on the application of Article 6(4) Alternative solutions, IROPI and compensatory measures. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/969512/pb13840-habitats-iropi-guide-20121211.pdf [Accessed: 19/01/2022]</u>
<u>Department for Environment, Food & Rural Affairs (Defra) (2021) Best practice guidance for developing compensatory measures in relation to Marine Protected Areas. Draft for consultation.</u>
<u>Department for Environment, Food & Rural Affairs (Defra) (2022a). Available at: Background Doc 1 HRA Review Working Group Summary of Findings.pdf (defra.gov.uk) [Accessed 23/01/2024]</u>
<u>Department for Environment, Food & Rural Affairs (Defra) (2022b) Nature recovery green paper: protected sites and species. Available at: Nature Recovery Green Paper Consultation Protected Sites and Species.pdf (defra.gov.uk) [Accessed 23/01/2024]</u>
<u>Department for Environment, Food & Rural Affairs (Defra), Natural England, Welsh Government, and Natural Resources Wales (2021). Habitats regulations assessments: protecting a European site; How a competent authority must decide if a plan or project proposal that affects a European site can go ahead. Available at: https://www.gov.uk/guidance/habitats-regulations-assessments-protecting-a-european-site [Accessed: 19/01/2022]</u>

European Centre for Medium-Range Weather Forecasts (2023) Copernicus: 2023 is the hottest year on record, with global temperatures close to the 1.5°C limit. Available at: Copernicus: 2023 is the hottest year on record, with global temperatures close to the 1.5°C limit | Copernicus [Accessed: 24/01/2022]

European Commission, Directorate-General for Environment (2001) Assessment of plans and projects significantly affecting Natura 2000 sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC. Available at:

[Redacted]
[Redacted] [Accessed: 19/01/2022]

European Commission, Directorate-General for Environment (2012) Guidance document on Article 6(4) of the 'Habitats Directive' 92/43/EEC. Clarification of the concepts of: Alternative solutions, imperative reasons of overriding public interest, compensatory measures, overall coherence, opinion of the Commission. Available at:

[Redacted]
[Redacted] [Accessed: 19/01/2022]

European Commission, Directorate-General for Environment (2018) Managing Natura 2000 sites: The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC. Available at:

[Redacted]
[Redacted] [Accessed: 19/01/2022]

Health Protection Agency (2012) Annual Report and Accounts. Available at: Health Protection Agency Annual Report and Accounts 2012-13 HC 174 Session 2013-2014 (publishing.service.gov.uk) [Accessed on 23/01/2024]

HM Government (2017). UK Climate Change Risk Assessment 2022. Available at: Building our Industrial Strategy - GOV.UK (www.gov.uk). [Accessed 23/01/2024]

HM Government (2019). Industrial Strategy Offshore Wind Sector Deal. Available at: BEIS Offshore Wind Single Pages web optimised.pdf (publishing.service.gov.uk) [Accessed 23/01/2024]

HM Government (2022a). Building our Industrial Strategy. Available at: UK Climate Change Risk Assessment 2022 (publishing.service.gov.uk) [Accessed 23/01/2024]

HM Government (2022b) British Energy Security Strategy. Available at: https://www.gov.uk/government/publications/british-energy-security-strategy [Accessed 23/01/2024]

HM Government (2023a). Carbon Budget Delivery Plan. Available at: Carbon Budget Delivery Plan (publishing.service.gov.uk) [Accessed 23/01/2024]

HM Government (2023b). Environmental Improvement Plan 2023. Available at: Environmental Improvement Plan (publishing.service.gov.uk) [Accessed 23/01/2024]

House of Commons (2018). Extreme weather events related to climate change. Available at: Extreme weather events related to climate change (parliament.uk) [Accessed 23/01/2024]

<u>House of Commons (2022). Imports of energy from Russia. Briefing Note Number 9523. House of Commons Library. Available at: CBP-9523.pdf (parliament.uk) CBP-9523.pdf (parliament.uk)</u>
<u>IPCC (2023) Climate Change 2023 Synthesis Report. Available at: IPCC AR6 SYR LongerReport.pdf [Accessed 23/01/2024]</u>
<u>JNCC (2023) Special Protection Areas (SPAs): Changes to the UK network of SPAs. Available at: UK SPA changes JNCC - Adviser to Government on Nature Conservation [Accessed 23/01/2024]</u>
<u>Klaassen, R.H., Ens, B.J., Shamoun-Baranes, J., Exo, K.M. and Bairlein, F (2012). Migration strategy of a flight generalist, the Lesser Black-backed Gull <i>Larus fuscus</i>. <i>Behavioral Ecology</i>, 23(1), pp.58-68. Available at: arr150 58..68 (gull-research.org) [Accessed 23/01/2024]</u>
<u>London School of Hygiene and Tropical Medicine (LSHTM) (2019). Rapid global switch to renewable energy estimated to save millions of lives annually. Available at: Rapid global switch to renewable energy estimated to save millions of lives annually LSHTM [Accessed 23/01/2024]</u>
<u>MacArthur Green 2015. East Anglia Three Ornithology Evidence Plan Expert Topic Group Meeting 6. Appendix 7 Sensitivity analysis of collision mortality in relation to nocturnal activity factors and wind farm latitude.</u>
<u>Met Office 2024. 2023 was second warmest year on record for UK. Available at: 2023 was second warmest year on record for UK - Met Office [Accessed on 24/01/2024]</u>
<u>Ministry of Housing, Communities & Local Government (2019). Appropriate assessment; Guidance on the use of Habitats Regulations Assessment. Available at: https://www.gov.uk/guidance/appropriate-assessment</u>
<u>National Oceanic and Atmospheric Administration, (NOAA) (2016). Annual Roiss2016 Global Climate Report. Available at: Annual 2016 Global Climate Report National Centers for Environmental Information (NCEI) (noaa.gov) [Accessed on 23/01/2024]</u>
<u>Natural England (2018). Flamborough and Filey Coast SPA Citation. Available at: European Site Conservation Objectives for Flamborough and Filey Coast SPA - UK9006101 (naturalengland.org.uk) [Accessed: 20/12/2023]</u>
<u>Natural England (2020). Natural England comments on outline method statement for North Falls, 2 July 2021</u>
<u>Natural England (2022). Offshore Wind Marine Environmental Assessments: Best Practice Advice for Evidence and Data Standards Phase III: Expectations for data analysis and presentation at examination for offshore wind applications.</u>
<u>Natural England and JNCC (2010).(2025). Designated sites view; Outer Thames Estuary SPA Departmental Brief- Red-throated diver, <i>Gavia stellata</i>. Available at: https://designatedsites.naturalengland.org.uk/MarineCondition/SubFeature.aspx?featureGuid=2ac63fb1-2919-e611-9771-000d3a2004ef&SiteCode=UK9020309</u>
<u>Natural England and JNCC (2015). Outer Thames Estuary SPA [extension] Departmental Brief.</u>

<u>O'Brien, K., (2012) Global environmental change II: From adaptation to deliberate transformation. <i>Progress in human geography</i>, 36(5), pp.667-676. Available from: Global environmental change II: From adaptation to deliberate transformation - Karen O'Brien, 2012 (sagepub.com) [Accessed: 20/12/2023]</u>
<u>Planning Inspectorate (2025). Nationally Significant Infrastructure Projects - Advice on Habitats Regulations Assessments. Available at: https://www.gov.uk/guidance/nationally-significant-infrastructure-projects-advice-on-habitats-regulations-assessments</u>
<u>Rijkswaterstaat Zee & Delta (2020) Assessment of relative impact of anthropogenic pressures on marine species. Available at: relative impacts of activities on marine species.pdf [Accessed: 23/01/2024]</u>
<u>Ross-Smith, V.H., Grantham, M.J., Robinson, R.A., Clark, J., 2014b. Analysis of Lesser Black-backed Gull data to inform meta-population studies (No. BTO Research Report no. 654). British Trust for Ornithology, Thetford, Norfolk</u>
<u>Ross-Smith, V.H., Thaxter, C.B., Masden, E.A., Shamoun-Baranes, J., Burton, N.H., Wright, L.J., Rehfisch, M.M. and Johnston, A. (2016). Modelling flight heights of lesser black-backed gulls and great skuas from GPS: A Bayesian approach. <i>Journal of Applied Ecology</i>, 53(6), pp.1676-1685. Available at: Modelling flight heights of lesser black-backed gulls and great skuas from GPS: a Bayesian approach - Ross-Smith - 2016 - Journal of Applied Ecology - Wiley Online Library [Accessed 23/01/2024]</u>
<u>Sustainability West Midlands (2021). Evidence for the third UK Climate Change Risk Assessment (CCRA3); Summary for England. Available at: [REDACTED] 1</u>
<u>The Crown Estate (2019). Offshore wind extension projects 2017. Available at: [REDACTED] 1</u>
<u>The Planning Inspectorate (2022). Advice Note Ten: Habitat Regulations Assessment relevant to Nationally Significant Infrastructure Projects. Available at: https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/advice-note-ten/ [Accessed: 20/12/2023]</u> <u>Wakefield, E.D., Owen, E., Baer, J., Carroll, M.J., Daunt, F., Dodd, S.G., Green, J.A., Guilford, T., Mavor, R.A., Miller, P.I., Newell, M.A., Newton, S.F., Robertson, G.S., Shoji, A., Soanes, L.M., Votier, S.C., Wanless, S., and Bolton, M. (2017). Breeding density, fine-scale tracking, and large-scale modelling reveal the regional distribution of four seabird species. <i>Ecol. Appl.</i> 27, 2074–2091.</u>
<u>Wind Europe (2017). Unleashing Europe's offshore wind potential. A new resource assessment. Available at: Unleashing-Europes-offshore-wind-potential.pdf (windeurope.org) [Accessed 23/01/2024]</u>
<u>Woodward, I, Thaxter, C.B., Owen, E. and Cook, A.S.C.P. (2019). Desk-based revision of seabird foraging ranges used for HRA screening. BTO Research Report No. 724. Report of work carried out by the British Trust for Ornithology on behalf of NIRAS and The Crown Estate.</u>

<u>World Health Organization (WHO) (2024). Climate change. Available at: Climate change (who.int) [Accessed on 23/01/2024]</u>
<u>APEM. (2021) Final Ornithological Monitoring Report for London Array Offshore Wind Farm— 2021 (draft) (Report to London Array Operations and Maintenance Base No. P00002714). Provided as Appendix 25 to the Natural England Deadline 13 Submission for East Anglia TWO Offshore Wind Farm. Cleasby, I.R., Owen, E., Wilson, L.J., and Bolton, M. (2018). Combining habitat modelling and hotspot analysis to reveal the location of high density seabird areas across the UK (Research Report no. 63). RSPB Centre for Conservation Science.</u>
<u>Climate Change Committee (CCC) (2019a). Meeting Carbon Budgets— Implications of Brexit for UK climate policy, Available at: https://www.theccc.org.uk/publication/meeting-carbon-budgets-implications-of-brexit-for-uk-climate-policy/.</u>
<u>Climate Change Committee (CCC) (2019b). Net Zero— The UK's contribution to stopping global warming. Available at: https://www.theccc.org.uk/wp-content/uploads/2019/05/Net-Zero-The-UKs-contribution-to-stopping-global-warming.pdf.</u>
<u>Climate Change Committee (CCC) (2020). Reducing UK Emissions: 2020 Progress Report to Parliament. Available at: Reducing UK emissions: 2020 Progress Report to Parliament - Climate Change Committee [Accessed on 09/07/2025]</u>
<u>Climate Change Committee (CCC) (2023a). Delivering a reliable decarbonised power system. Available at: Delivering a reliable decarbonised power system - Climate Change Committee (theccc.org.uk) [Accessed 23/01/2024]</u>
<u>Climate Change Committee (CCC) (2023b). The Sixth Carbon Budget Electricity generation Available at: Sector summary Electricity generation.pdf (theccc.org.uk) [Accessed 23/01/2024]</u>
<u>Climate Change Committee (CCC) (2023c2023b). 2023 Progress Report to Parliament, Available at: 2023 Progress Report to Parliament - Climate Change Committee (theccc.org.uk) [Accessed 23/01/2024]</u>
<u>Climate Change Committee (CCC) (2023d2023c). Progress in reducing emissions. Available at: Progress in reducing UK emissions - 2023 Report to Parliament (theccc.org.uk) [Accessed 23/01/2024]</u>
<u>Committee on Climate Change (CCC) (2017). Reducing emissions and preparing for climate change: 2017 Report to Parliament Summary and recommendations. June 2017. Available at: https://www.theccc.org.uk/wp-content/uploads/2017/06/Reducing-emissions-and-preparing-for-climate-change-2017-Report-to-Parliament-Summary-and-recommendations.pdf [Accessed 09/10/2023]</u> <u>Climate Change Committee (CCC) (2024). Progress Report to Parliament. Available at: Progress in reducing emissions 2024 Report to Parliament - Climate Change Committee. [Accessed on 09/07/2025]</u>
<u>Copernicus Climate Change service (2020). Copernicus: 2020 warmest year on record for Europe; globally, 2020 ties with 2016 for warmest year recorded. Available from: Copernicus: 2020 warmest year on record for Europe; globally, 2020 ties with 2016 for warmest year recorded Copernicus [Accessed 09/10/2023]</u> <u>Climate</u>

Change Committee (CCC) (2025). The Seventh Carbon Budget Electricity generation. Available at: <https://www.theccc.org.uk/publication/the-seventh-carbon-budget/> [Accessed 03/07/25]

Department for Business, Energy & Industrial Strategy (BEIS) (2017). The Clean Growth Strategy Leading the way to a low carbon future. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/700496/clean-growth-strategy-correction-april-2018.pdf [Accessed 09/10/2023]

Department for Business, Energy and Industrial Strategy (BEIS) (2020a) Hornsea Three Offshore Windfarm HRA. Available at: <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010080/EN010080-003267-EN010080%20Hornsea%20Three%20-%20Habitats%20Regulations%20Assessment.pdf> [Accessed: 19/01/2022]

Department for Business, Energy and Industrial Strategy (BEIS) (2021) Norfolk Boreas Offshore Wind Farm Habitats Regulation Assessment. Available at: <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010087/EN010087-002919-NORB-Habitats-Regulations-Assessment.pdf> [Accessed: 19/01/2022]

Department for Business, Energy and Industrial Strategy (BEIS) (2022). United Kingdom of Great Britain and Northern Ireland's Nationally Determined Contribution. Available at: [UK NDC ICTU 2022.pdf \(unfccc.int\)](#) [Accessed 23/01/2024]

Department for Energy Security and Net Zero (DESNZ) (2021). Net Zero Strategy: Build Back Greener. Available at: [net-zero-strategy-beis.pdf \(publishing.service.gov.uk\)](#) [Accessed 23/01/2024]

Department for Energy Security and Net Zero (DESNZ) (2023a). Overarching National Policy Statement for Energy (EN-1). Available at: <https://assets.publishing.service.gov.uk/media/655dc190d03a8d001207fe33/overarching-nps-for-energy-en1.pdf> [Accessed 20/12/2023]

Department for Energy Security and Net Zero (DESNZ) (2023b). National Policy Statement for Renewable Energy Infrastructure (EN-3) Available at: <https://assets.publishing.service.gov.uk/media/655dc352d03a8d001207fe37/nps-renewable-energy-infrastructure-en3.pdf> [Accessed 20/12/2023]

Department for Energy Security and Net Zero (DESNZ) (2023c). Digest of UK Energy Statistics (DUKES): energy. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1174355/DUKES_2023_Chapter_1.pdf [Accessed 09/10/2023]

Department for Energy Security and Net Zero (DESNZ) (2023d). Habitats Regulations Assessment for an Application Under the Planning Act 2008. DESNZ (2023d). Available at: https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010098/EN010098-002331-DESNZ%20HRA%20-%20Hornsea%20Four_Final.pdf [Accessed 23/01/2024]

Department for Energy Security and Net Zero (DESNZ) (2023e). 2022 UK greenhouse gas emissions, provisional figures. Available at: [2022 UK greenhouse](#)

gas emissions: provisional figures – statistical release (publishing.service.gov.uk) [Accessed 23/01/2024]
Department of Energy Security and Net Zero (DESNZ) (2023f). Powering Up Britain. Available at: https://www.gov.uk/government/publications/powering-up-britain [Accessed 14 October 2023]
Department for Energy Security and Net Zero (DESNZ) (2024). Habitats Regulations Assessment for an Application Under the Planning Act 2008 Sheringham Shoal and Dudgeon Extensions Offshore Wind Farm Projects. Available at: https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010109/EN010109-002342-SADEP%20HRA%20DESNZ%2017042024.pdf [Accessed 12/06/2024]
Department for Environment, Food & Rural Affairs (Defra) (2012) Habitats and Wild Birds Directives: guidance on the application of Article 6(4) Alternative solutions, IROPI and compensatory measures. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/969512/pb13840-habitats-iropi-guide-20121211.pdf [Accessed: 19/01/2022]
Department for Environment, Food & Rural Affairs (Defra) (2021) Best practice guidance for developing compensatory measures in relation to Marine Protected Areas. Draft for consultation.
Department for Environment, Food & Rural Affairs (Defra) (2022a). Available at: Background Doc 1 HRA Review Working Group Summary of Findings.pdf (defra.gov.uk) [Accessed 23/01/2024]
Department for Environment, Food & Rural Affairs (Defra) (2022b) Nature recovery green paper: protected sites and species. Available at: Nature Recovery Green Paper Consultation Protected Sites and Species.pdf (defra.gov.uk) [Accessed 23/01/2024]
Defra (2024) Consultation on policies to inform updated guidance for Marine Protected Area (MPA) assessments. https://consult.defra.gov.uk/offshore-wind-environmental-improvement-package/consultation-on-updated-guidance-for-environmental/supporting-documents/090224%20OWEIP%20Consultation%20on%20updated%20policies%20to%20inform%20guidance%20for%20MPA%20assessments.pdf
Department for Environment, Food & Rural Affairs (Defra), Natural England, Welsh Government, and Natural Resources Wales (2021). Habitats regulations assessments: protecting a European site; How a competent authority must decide if a plan or project proposal that affects a European site can go ahead. Available at: https://www.gov.uk/guidance/habitats-regulations-assessments-protecting-a-european-site [Accessed: 19/01/2022]
European Commission, Directorate-General for Environment (2001) Assessment of plans and projects significantly affecting Natura 2000 sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC. Available at:

https://ec.europa.eu/environment/nature/natura2000/management/docs/art6/natura_2000_assess_en.pdf [Accessed: 19/01/2022]
European Commission, Directorate General for Environment (2012) Guidance document on Article 6(4) of the 'Habitats Directive' 92/43/EEC. Clarification of the concepts of: Alternative solutions, imperative reasons of overriding public interest, compensatory measures, overall coherence, opinion of the Commission. Available at: https://ec.europa.eu/environment/nature/natura2000/management/docs/art6/guidance_art6_4_en.pdf [Accessed: 19/01/2022]
European Commission, Directorate General for Environment (2018) Managing Natura 2000 sites: The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC. Available at: https://ec.europa.eu/environment/nature/natura2000/management/docs/art6/EN_art_6_guide_jun_2019.pdf [Accessed: 19/01/2022]
European Centre for Medium-Range Weather Forecasts (2023) Copernicus: 2023 is the hottest year on record, with global temperatures close to the 1.5°C limit. Available at: Copernicus: 2023 is the hottest year on record, with global temperatures close to the 1.5°C limit Copernicus [Accessed: 24/01/2022]
Health Protection Agency (2012) Annual Report and Accounts. Available at: Health Protection Agency Annual Report and Accounts 2012-13 HC 174 Session 2013-2014 (publishing.service.gov.uk) [Accessed on 23/01/2024]
HM Government (2017). UK Climate Change Risk Assessment 2022. Available at: Building our Industrial Strategy - GOV.UK (www.gov.uk) . [Accessed 23/01/2024]
HM Government (2019). Industrial Strategy Offshore Wind Sector Deal. Available at: BEIS Offshore Wind Single Pages web optimised.pdf (publishing.service.gov.uk) [Accessed 23/01/2024]
HM Government (2022a). Building our Industrial Strategy. Available at: UK Climate Change Risk Assesment 2022 (publishing.service.gov.uk) [Accessed 23/01/2024]
HM Government (2022b) British Energy Security Strategy. Available at: https://www.gov.uk/government/publications/british-energy-security-strategy [Accessed 23/01/2024]
HM Government (2023a). Carbon Budget Delivery Plan. Available at: Carbon Budget Delivery Plan (publishing.service.gov.uk) [Accessed 23/01/2024]
HM Government (2023b). Environmental Improvement Plan 2023. Available at: Environmental Improvement Plan (publishing.service.gov.uk) [Accessed 23/01/2024]
House of Commons (2018). Extreme weather events related to climate change. Available at: Extreme weather events related to climate change (parliament.uk) [Accessed 23/01/2024]
House of Commons (2022). Imports of energy from Russia. Briefing Note Number 9523. House of Commons Library. Available at: CBP-9523.pdf (parliament.uk) CBP-9523.pdf (parliament.uk)

IPCC (2023) Climate Change 2023 Synthesis Report. Available at: IPCC_AR6_SYR_LongerReport.pdf [Accessed 23/01/2024]
JNCC (2023) Special Protection Areas (SPAs): Changes to the UK network of SPAs. Available at: UK SPA changes JNCC – Adviser to Government on Nature Conservation [Accessed 23/01/2024]
Klaassen, R.H., Ens, B.J., Shamoun-Baranes, J., Exo, K.M. and Bairlein, F (2012). Migration strategy of a flight generalist, the Lesser Black-backed Gull <i>Larus fuscus</i> . <i>Behavioral Ecology</i> , 23(1), pp.58-68. Available at: arr150-58..68 (gull-research.org) [Accessed 23/01/2024]
London School of Hygiene and Tropical Medicine (LSHTM) (2019). Rapid global switch to renewable energy estimated to save millions of lives annually. Available at: Rapid global switch to renewable energy estimated to save millions of lives annually LSHTM [Accessed 23/01/2024]
MacArthur Green 2015. East Anglia Three Ornithology Evidence Plan Expert Topic Group Meeting 6. Appendix 7 Sensitivity analysis of collision mortality in relation to nocturnal activity factors and wind farm latitude.
Met Office 2024. 2023 was second warmest year on record for UK. Available at: 2023 was second warmest year on record for UK – Met Office [Accessed on 24/01/2024]
Ministry of Housing, Communities & Local Government (2019). Appropriate assessment; Guidance on the use of Habitats Regulations Assessment. Available at: https://www.gov.uk/guidance/appropriate-assessment
National Oceanic and Atmospheric Administration, (NOAA) (2016). Annual Reiss2016 Global Climate Report. Available at: Annual 2016 Global Climate Report National Centers for Environmental Information (NCEI) (noaa.gov) [Accessed on 23/01/2024]
Natural England (2018). Flamborough and Filey Coast SPA Citation. Available at: European Site Conservation Objectives for Flamborough and Filey Coast SPA – UK9006101 (naturalengland.org.uk) [Accessed: 20/12/2023]
Natural England (2020). Natural England comments on outline method statement for North Falls, 2 July 2021
Natural England (2022). Offshore Wind Marine Environmental Assessments: Best Practice Advice for Evidence and Data Standards Phase III: Expectations for data analysis and presentation at examination for offshore wind applications.
Natural England and JNCC (2010).(2025). Designated sites view; Outer Thames Estuary SPA Departmental Brief. Red-throated diver, <i>Gavia stellata</i> . Available at: https://designatedsites.naturalengland.org.uk/MarineCondition/SubFeature.aspx?featureGuid=2ac63fb1-2919-e611-9771-000d3a2004ef&SiteCode=UK9020309
Natural England and JNCC (2015). Outer Thames Estuary SPA [extension] Departmental Brief.
O'Brien, K., (2012) Global environmental change II: From adaptation to deliberate transformation. <i>Progress in human geography</i> , 36(5), pp.667-676. Available from:

<u>Global environmental change II: From adaptation to deliberate transformation – Karen O’Brien, 2012 (sagepub.com) [Accessed: 20/12/2023]</u>
<u>Planning Inspectorate (2025). Nationally Significant Infrastructure Projects – Advice on Habitats Regulations Assessments. Available at: https://www.gov.uk/guidance/nationally-significant-infrastructure-projects-advice-on-habitats-regulations-assessments</u>
<u>Rijkswaterstaat Zee & Delta (2020) Assessment of relative impact of anthropogenic pressures on marine species. Available at: relative_impacts_of_activities_on_marine_species.pdf [Accessed: 23/01/2024]</u>
<u>Ross-Smith, V.H., Grantham, M.J., Robinson, R.A., Clark, J., 2014b. Analysis of Lesser Black-backed Gull data to inform meta-population studies (No. BTO Research Report no. 654). British Trust for Ornithology, Thetford, Norfolk</u>
<u>Ross-Smith, V.H., Thaxter, C.B., Masden, E.A., Shamoun-Baranes, J., Burton, N.H., Wright, L.J., Rehfisch, M.M. and Johnston, A. (2016). Modelling flight heights of lesser black-backed gulls and great skuas from GPS: A Bayesian approach. <i>Journal of Applied Ecology</i>, 53(6), pp.1676-1685. Available at: Modelling flight heights of lesser black-backed gulls and great skuas from GPS: a Bayesian approach – Ross-Smith – 2016 – Journal of Applied Ecology – Wiley Online Library [Accessed 23/01/2024]</u>
<u>Sustainability West Midlands (2021). Evidence for the third UK Climate Change Risk Assessment (CCRA3); Summary for England. Available at: https://www.ukclimaterisk.org/wp-content/uploads/2021/06/CCRA-Evidence-Report-England-Summary-Final.pdf [Accessed 23/01/2024]</u>
<u>The Crown Estate (2019). Offshore wind extension projects 2017. Available at: https://www.thecrownestate.co.uk/en-gb/what-we-do/on-the-seabed/energy/offshore-wind-extension-projects-2017/ [Accessed 23/01/2024]</u>
<u>The Planning Inspectorate (2022). Advice Note Ten: Habitat Regulations Assessment relevant to Nationally Significant Infrastructure Projects. Available at: https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/advice-note-ten/ [Accessed: 20/12/2023]</u> <u>Wakefield, E.D., Owen, E., Baer, J., Carroll, M.J., Daunt, F., Dodd, S.G., Green, J.A., Guilford, T., Mavor, R.A., Miller, P.I., Newell, M.A., Newton, S.F., Robertson, G.S., Shoji, A., Soanes, L.M., Votier, S.C., Wanless, S., and Bolton, M. (2017). Breeding density, fine-scale tracking, and large-scale modelling reveal the regional distribution of four seabird species. <i>Ecol. Appl.</i> 27, 2074–2091.</u>
<u>Wind Europe (2017). Unleashing Europe’s offshore wind potential. A new resource assessment. Available at: Unleashing Europe’s offshore wind potential.pdf (windeurope.org) [Accessed 23/01/2024]</u>
<u>World Health Organization (WHO) (2024). Climate change. Available at: Climate change (who.int) [Accessed on 23/01/2024]</u>
<u>Woodward, I, Thaxter, C.B., Owen, E. and Cook, A.S.C.P. (2019). Desk-based revision of seabird foraging ranges used for HRA screening. BTO Research Report No. 724. Report of work carried out by the British Trust for Ornithology on behalf of NIRAS and The Crown Estate.</u>



NORTH FALLS

Offshore Wind Farm



HARNESSING THE POWER OF NORTH SEA WIND

North Falls Offshore Wind Farm Limited

A joint venture company owned equally by SSE Renewables and RWE.

To contact please email contact@northfallsoffshore.com

© 2024 All Rights Reserved