NORTH FALLS

Offshore Wind Farm

Habitats Regulations Derogation: Provision of Evidence

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Glossary of Acronyms

AA	Appropriate Assessment
AEoL	Adverse Effect on Integrity
AfL	Agreement for Lease
BEIS	Department for Business, Energy and Industrial Strategy
CCC	Climate Change Committee
CCRA	Climate Change Risk Assessment
CNP	Critical National Priority
COP	Conference of the parties
COWSC	Collaboration on Offshore Win 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 and features:

   - Alde Ore Estuary SPA - Lesser black-backed gull;
   - Flamborough and Filey Coast SPA – Kittiwake, guillemot and razorbill (without prejudice); and
   - Outer Thames Estuary (OTE) SPA – Red throated diver (without prejudice).

4. This document draws on the Report to Inform Appropriate Assessment (RIAA) (Document Reference: 7.1) which concludes that an adverse effect on integrity 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. For all other sites and features assessed in the RIAA, a conclusion of no adverse effect on site integrity 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 kittiwake, guillemot and razorbill from the Flamborough and Filey Coast SPA, without prejudice of the Applicant's position presented in the RIAA.

5. 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 7 and Appendices 1 to 5).

2 HRA Derogation Legislative and Policy Context

2.1 Habitats Regulations Assessment

6. 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'.

7. 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.

8. Articles 6(4) of the Habitats Directive (see Table 2.1) provides the 'HRA derogation' procedure, where an adverse effect on integrity (AEoI) of a European site cannot be ruled out as a result of a plan or project (discussed further in the RIAA).

9. 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 Regulation 64	*"(1) If the competent authority is satisfied that, there being no alternative solutions, the plan or project must be carried out for imperative reasons of overriding public interest (which, subject to paragraph (2), may be of a social or economic nature), it may agree to the plan or project notwithstanding a negative assessment of the implications for the European site or the European offshore marine site (as the case may be).* *(2) Where the site concerned hosts a priority natural habitat type or a priority species, the reasons referred to in paragraph (1) must be either—* *(a) reasons relating to human health, public safety or beneficial consequences of primary importance to the environment; or* *(b) any other reasons which the competent authority, having due regard to the opinion of the appropriate authority, considers to be imperative reasons of overriding public interest.* *(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—* *(a) identifying the matter on which an opinion is sought; and* *(b) accompanied by any documents or information which may be required.*

Article	Requirement
	(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. *(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—* *(a) the Joint Nature Conservation Committee;* *(b) where the appropriate authority is the Secretary of State, the devolved administrations;* *(c) where the appropriate authority is the Welsh Ministers, the Secretary of State, and the other devolved administrations; and* *(d) any other person the appropriate authority considers appropriate.* *(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—* *(a) it must notify the appropriate authority; and* *(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.* *(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."*
Terrestrial Habitats Regulations Regulation 68	*"Where in accordance with regulation 64—* *(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* *(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."*
Offshore Habitats Regulations Regulation 29	*"(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.* *(2) Where the site concerned hosts a priority natural habitat type or a priority species, the reasons referred to in paragraph (1) must be either—* *(a) reasons relating to human health, public safety or beneficial consequences of primary importance to the environment; or* *(b) any other imperative reasons of overriding public interest.* *(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.* *(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;*

Article	Requirement
	(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 Natura 2000 is protected."*

10. 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.

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

2.2 National Policy

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, 2023a) and EN-3 (DESN, 2023b) 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).

13. 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.

14. Policies related to the HRA derogation process are outlined in Table 2.2

Table 2.2 Relevant policies of NPS EN-1 (DESNZ, 2023a) and NPS EN-2 (DESNZ, 2023b)

Paragraph	Policy
NPS EN-1 paragraph 4.2.11	*"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."*
NPS EN-1 paragraph 4.2.12	*"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*

Paragraph	Policy
	cumulative impacts of multiple developments with residual impacts should also be considered."
NPS EN-1 paragraph 4.2.13	*"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."*
NPS EN-1 paragraph 4.2.19	*"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."*
NPS EN-1 paragraph 4.2.21 and Figure 3	*"…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."*
NPS EN-1 paragraph 4.2.22	*"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."*
NPS EN-1 paragraph 5.4.26	*"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."*
NPS EN-1 paragraph 5.4.27	*"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."*
NPS EN-1 paragraph 5.4.28	*"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 derogation, there will be no expectation that the Secretary of State will allow the applicant the opportunity to provide such information following the examination."*
NPS EN-1 paragraph 5.4.29	*"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."*
NPS EN-1 paragraph 5.4.30	*"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."*
NPS EN-1 paragraph 5.4.31	*"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*

Paragraph	Policy
	compensation plan in their application for further consideration by the Examining Authority."
NPS EN-3 paragraph 2.8.265	*"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."*
NPS EN-3 paragraph 2.8.266	*"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."*
NPS EN-3 paragraph 2.8.267	*"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."*
NPS EN-3 paragraph 2.8.268	*"Where such an indication is given later in the development consent process, the applicant should share this information as soon as reasonably practical."*
NPS EN-3 paragraph 2.8.269	*"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."*
NPS EN-3 paragraph 2.8.270	*"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."*
NPS EN-3 paragraph 2.8.271	*"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."*
NPS EN-3 paragraph 2.8.272	*"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."*
NPS EN-3 paragraph 2.8.273	*"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."*
NPS EN-3 paragraph 2.8.274	*"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)."*
NPS EN-3 paragraph 2.8.275	*"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."*

Paragraph	Policy
NPS EN-3 paragraph 2.8.276	*"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."*
NPS EN-3 paragraph 2.8.277	*"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."*
NPS EN-3 paragraph 2.8.278	*"This may include central coordination for measures delivered across a series of projects or biogeographic region."*
NPS EN-3 paragraph 2.8.279	*"Applicants will be able to access tools and mechanisms to support identification of suitable compensation and facilitate delivery of strategic compensation measures where appropriate."*
NPS EN-3 paragraph 2.8.280	*"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."*
NPS EN-3 paragraph 2.8.281	*"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."*
NPS EN-3 paragraph 2.8.282	*"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."*
NPS EN-3 paragraph 2.8.283	*"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."*

2.3 Guidance

15. 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 (2022). Advice Note Ten: Habitat Regulations Assessment relevant to Nationally Significant Infrastructure Projects.

3 Habitats Regulations Assessment Process

16. 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). The HRA derogation procedure can only apply after the Appropriate Assessment (AA) has concluded that an AEoI cannot be ruled out.

17. Plate 3.1 provides an outline of the sequential HRA process. This document provides information only relating to Stage 3.

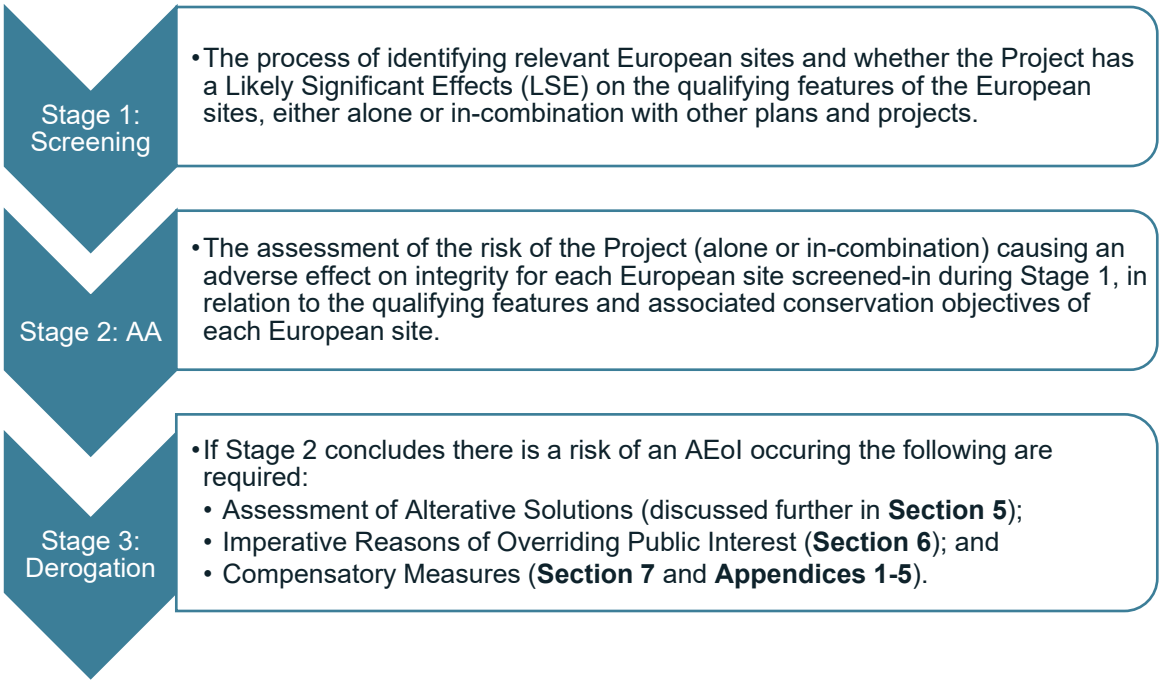

Plate 3.1 HRA Process

4 Consultation

18. 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)).

19. 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 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	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

Species	Date	Consultation	Comment	Applicant Response
			immediate consideration and we recommend they follow the advice we have recently provided during the East Anglia One North (EA1N) examination.	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).
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).
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 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 Flamborough and Filey Coast (FFC) SPA before submission of their application to the Planning Inspectorate.	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 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).

Species	Date	Consultation	Comment	Applicant Response
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 (aEoI) 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).
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 aEoI, 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 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	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 5.4.3.1). Consultation with the ornithology Expert Topic Group (ETG) has been undertaken throughout the pre-application process and has informed the development of mitigation and compensation proposals.

Species	Date	Consultation	Comment	Applicant Response
			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 measures, for consideration during the Examination.'	
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 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. 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) 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 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	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 5.4.4.1.2). The derogation case also includes compensatory measures for lesser black-backed gull at the Alde-Ore Estuary SPA.

Species	Date	Consultation	Comment	Applicant Response
			measures, for consideration during the Examination.' Therefore, based on the above regarding AEoI 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 AEoI 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 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 measures, for consideration during the Examination.' Therefore, based on the above regarding AEoI 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	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 AEoI from the Project alone. As above, the minimum air gap for turbines is set at 27m above MHWS (discussed further in Section 5.4.4.1.2). 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).

Species	Date	Consultation	Comment	Applicant Response
			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 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 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 AEoI. 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 aEoI 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 AEoI. The Applicant's RIAA submitted with the DCO application (Document Reference: 7.1) concludes that North Falls would make no material contribution to the in-combination effect. 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	We welcome that it is accepted that there is likely to be a requirement for North Falls to prepare an in-principal	Significant commitments have been made by the Applicant to mitigate the effect of the

Species	Date	Consultation	Comment	Applicant Response
		EIA and HRA outline methodology	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.	Project on red-throated diver, such as reduction in the array area. This is reflected in the HRA Derogation Provision of Evidence (Document Reference: 7.2), 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: '*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 measures, for consideration during the Examination.*' Therefore, based on the points above regarding AEoI 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 5.4.3.1). 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.

5 Assessment of Alternative Solutions

5.1 Approach

20. 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.

21. 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."*

22. 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*."

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

24. 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, 2023d); and
- Dudgeon and Sheringham Extension Project (DESNZ, 2024).

25. 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

26. 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".

27. The Needs Case for North Falls (Document Reference: 2.1) is discussed in ES Chapter 2 Need for the Project (Document Reference: 3.1.4), 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.

28. 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.

29. 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

30. The key UK targets and objects, underpinned by policy and legislation, of relevance to North Falls are outlined in 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	

UK Energy Objective	Source	North Falls contribution
	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

31. Commitments made by the UK and international governments at COP21 (the Paris Agreement) were to limit global temperature increase to below 2ºC (preferably 1.5ºC). 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).

32. 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).

33. 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 2ºC and 4ºC. 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 2ºC 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).

34. 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.

35. 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.

36. 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).

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

5.2.1.3 Need for energy security

38. 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).

39. 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.

40. 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".

41. 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.

42. Total UK generating capacity has fallen from 85GW in 2009 to 76.7GW in 2022 (DESNZ, 2023c). In addition, electricity demand is projected to increase. NPS EN-1 (DESNZ, 2023a) 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).

43. "*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).

44. 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".

45. 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).

46. 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

47. 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.

48. 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, 2023c).

49. 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, 2023c) states that the emissions reduction rate will need to increase significantly for the UK to meet its 2030 NDC and the Sixth Carbon Budget.

50. 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.

51. 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."*

52. 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). 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.

53. 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

54. 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.

55. 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.

56. The Need for the Project is set out in full in the Needs Case (Document Reference: 2.1) and ES Chapter 2 (Document Reference: 3.1.4).

5.2.2 Project objectives

57. The North Falls project objectives are outlined in 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, 2023b) states: "*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.* *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."* 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.

ID	Objective	Basis for the Objective
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 "*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.*" Paragraph 2.8.1 of NPS EN-3 states "*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)*".
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 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

58. Table 5.3 and Table 5.4 list the sites and features relevant to this derogation case and considered within this assessment of alternative solutions. Further information on the quantification of these effects is provided in the RIAA Part 4 Offshore Ornithology (Document Reference: 7.1.4).

59. 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.

Table 5.3 Adverse effect on integrity concluded in the RIAA

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 3.1 (Confidence Interval (CI) 0 – 11) 5.3% of the in-combination total	Section 7.2.2 of RIAA Part 4 (Document Reference: 7.1.4); ES Appendix 3 (Document Reference: 7.2.3) of this HRA Derogation case

Table 5.4 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	Kittiwake	In-combination collision mortality	Annual mortality of 0.76 (CI 0.09 – 2.72) 0.3% of the in-combination total	Section 7.2.4 of RIAA Part 4 (Document Reference: 7.1.4);

Site	Feature	Relevant Effect	Scale of North Falls Effect	Further information
				ES Appendix 4 (Document reference 7.2.4) of this HRA Derogation case
	Guillemot	In-combination displacement / barrier effect during operation	Annual mortality 3 (CI 1 - 9)	Section 7.2.4 of RIAA Part 4 (Document Reference: 7.1.4); ES Appendix 5 (Document Reference: 7.2.5) of this HRA Derogation case
	Razorbill		Annual mortality 2 (CI 1 – 4)	Section 7.2.4 of RIAA Part 4 (Document Reference: 7.1.4); ES Appendix 5 (document reference 7.2.5) of this HRA Derogation case
OTE 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: 7.1.4); ES Appendix 2 (Document Reference: 7.2.2) of this HRA Derogation case

5.3.1 Relevant design parameters

60. 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 5.5. During the pre-application phase, these parameters have been significantly refined. Changes (i.e. alternative solutions) to these parameters are considered in Sections 5.4.3.2 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.

Table 5.5 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

[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

Parameter	Maximum parameters at PEIR	Maximum parameters in DCO application
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	

5.4 Step 3: Long list of alternative solutions

61. 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

62. 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:

"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."

63. In addition, NPS EN-1 (DESNZ, 2023a) 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)

64. 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). The "*do*

[2] 26.6m above HAT

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

65. 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, 2023a)

66. 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.

67. 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: 3.1.16), 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.

68. 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 scale

69. 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 5.4.3.1) and deployment of fewer turbines to reduce collision risk (Section 5.4.3.2).

5.4.3.1 Smaller/alternative array area

70. Following stakeholder feedback, the array area has been significantly reduced during the pre-application stage from 150km^2 to 95km^2. This has increased the distance between the array area and the OTE SPA from c. 2.3km to 4.5km at the closest point.

71. 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.

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

5.4.3.2 Fewer turbines

73. 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 turbines[3] in the design envelope (or from 40 to 34 of the largest turbines).

74. 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.

75. 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 Alternative design

76. 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 5.4.4.1.1); and
- Increased air gap to reduce collision risk (Section 5.4.4.1.2).

5.4.4.1.1 Smaller rotors/swept area

77. 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

[3] Turbine sizes are discussed further in ES Chapter 5 Project Description (Document Reference: 3.1.7).

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.

78. 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.

79. 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.

5.4.4.1.2 Increased air gap

80. 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.

5.4.5 Alternative method

81. As the 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.

5.4.6 Alternative timing

82. In accordance with the approach outlined in Section 5.1, alternative timing options are considered.

83. 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 alesser effect on distribution and are therefore not considered further.

84. 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 (0.3% for kittiwake and 5.3% for lesser black-backed gull), 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 Projects ability to deliver low carbon electricity to the National Grid and contribute to a secure energy supply.

85. 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, 2023b) 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*."

86. 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.

5.5 Step 4: Feasibility of alternative solutions

87. The following sections outline the feasibility of the alternative solutions identified in Step 3.

5.5.1 Increased air gap

88. 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.

89. 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

90. Step 5 is not applicable, as there are no feasible alternative solutions.

5.7 Assessment of alternative solutions conclusion

91. 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

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

93. 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".*

94. Furthermore, DESNZ (2023d) 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*."

95. 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 or the OTE 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

96. 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.

97. 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).

98. 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

99. 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.

100. 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.

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

102. 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

103. 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."

104. 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).

105. 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).

106. 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). 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).

107. 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).

108. 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.

109. 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).

110. 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.

6.2.3 Socio-economic benefit

111. 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.

112. 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.

113. 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).

114. 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 states[4] 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 potential, and found that the UK topped all other countries in all three categories (Wind Europe, 2017).

115. 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 CO_2 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.

116. 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.

117. 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

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

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.

118. 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

119. 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.

120. 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.

121. 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).

122. Further investment in renewable energy and offshore wind energy generation are imperative in helping to mitigate these effects.

6.3 Overriding

123. 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).

124. 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 or the OTE SPA 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 4 Offshore Ornithology (Document Reference: 7.1.4).

- 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),.

125. 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 4 (Document Reference: 7.1.4).

6.4 Public Interest

126. 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.

127. 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.

128. 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 maximise efficient energy generation and provide benefits to the consumer.

129. 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

130. 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, 2023a) 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*."

131. 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.

132. 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, or the OTE SPA.

7 Compensatory measures

133. As discussed in Section 1.2, the RIAA Part 4 (Document Reference: 7.1.4) concludes that an AEoI cannot be ruled out for lesser black-backed gull from the Alde Ore Estuary as a result of predicted mortality due to collision risk, when considered in-combination with other OWFs. As such, the Applicant has provided proposals for compensatory measures which are secured in the draft DCO (Document Reference: 6.1).

134. Compensatory measures are also provided for the following, without prejudice of the Applicants conclusions presented in the RIAA Part 4 (Document Reference: 7.1.4) that there would be no AEoI:

- Collision risk of kittiwake from Flamborough and Filey Coast SPA;
- Displacement of red-throated diver from the OTE SPA;
- Displacement of guillemot from Flamborough and Filey Coast SPA; and
- Displacement of razorbill from Flamborough and Filey Coast SPA.

135. If required following the Secretary of State's AA, compensation for these species can be legally secured through the DCO.

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

- Appendix 1 Compensatory Measures Overview (Document Reference: 7.2.1);
    - Annex 1A HRA Compensation Consultation (Document Reference: 7.2.1.1);
    - Annex 1B Compensation Funding Statement (Document Reference: 7.2.1.2);
    - Annex 1C In Principle Letter of Agreement from Dogger Bank South (East and West) (Document Reference: 7.2.1.3);
- Appendix 2 Lesser Black-Backed Gull Compensation Document (Document Reference: 7.2.2);
    - Annex 2A Outline Lesser Black-backed Gull Compensation Implementation and Monitoring Plan (CIMP) (Document Reference: 7.2.2.1);
- Appendix 3 Without Prejudice Red Throated Diver Compensation Document (Document Reference: 7.2.3);
    - Annex 3A Outline Red Throated Diver CIMP (Document Reference: 7.2.3.1);
- Appendix 4 Kittiwake Compensation Document (Document Reference: 7.2.4);
    - Annex 4A Outline Kittiwake CIMP (Document Reference: 7.2.4.1);

- Appendix 5 Guillemot and Razorbill Compensation Document (Document Reference: 7.2.5); and
    - Annex 5A Outline Guillemot and Razorbill CIMP (Document Reference: 7.2.5.1).

8 Conclusion

137. 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).

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

139. Appendices 1 to 5 which are listed in Section 7 describe the proposed compensatory measures which are deliverable post consent and can be secured by the DCO, if required.

140. This derogation case is provided for lesser black-backed gull of the Alde Ore Estuary SPA and without prejudice of the Applicant's position regarding kittiwake, guillemot and razorbill from Flamborough and Filey Coast SPA and red-throated diver from the OTE SPA, presented in the RIAA Part 4 (Document Reference: 7.1.4).

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