NORTH FALLS

Offshore Wind Farm

Cumulative Effects Assessment Summary (Tracked)

Document Reference:	9.31
Volume:	9
Date:	~~March~~June 2025
Revision:	~~0~~1

Project Reference: EN010119

NORTH FALLS
Offshore Wind Farm

Project	North Falls Offshore Wind Farm
Document Title	Cumulative Effects Assessment Summary (Tracked)
Document Reference	9.31
Supplier	Royal HaskoningDHV
Supplier Document ID	PB9244-RHD-ZZ-OF-RP-OF-0367

Revision	Date	Status/Reason for Issue	Originator	Checked	Approved
0	March 2025	Deadline 3	RHDHV	NFOW	NFOW
1	June 2025	Deadline 6	RHDHV	NFOW	NFOW

Contents

Table of Tables

Glossary of Acronyms

ALARP	As Low as Reasonably Practicable
ATS	Air Traffic Service
CEA	Cumulative Effects Assessment
EIA	Environmental Impact Assessment
EMF	Electromagnetic Fields
ES	Environmental Statement
EU	European Union
GHG	Greenhouse Gas
HDD	Horizontal Directional Drilling
HLC	Historic Landscape Character
IMO	International Maritime Organisation
IOF	Important Ornithological Features
KKE	Kentish Knock East
LCA	Landscape Character Areas
LNR	Local Nature Reserve
LOCAI	Local Onshore Cable Area of Influence
LVIA	Landscape and Visual Impact Assessment
MCA	Maritime and Coastguard Agency
MCZ	Marine Conservation Zone
MoD	Ministry of Defence
nm	Nautical Mile
NPS	National Policy Statements
NRMM	Non-Road Mobile Machinery
O&M	Operation & Maintenance
OLEMS	Outline Landscape and Ecological Management Strategy
OWF	Offshore Wind Farm
PEIR	Preliminary Environmental Impact Report
PRoW	Public Rights of Way
SAC	Special Area of Conservation
SEA	South & East Anglia
SEZ	Structure Exclusion Zone
SLVIA	Seascape, Landscape and Visual Impact Assessment
SSC	suspended sediment concentrations
SSSI	Site of Special Scientific Interest
TA	Transport Assessment
UK	United Kingdom
VEOWL	Five Estuaries Offshore Wind Farm Limited
WTG	Wind Turbine Generator

1 Cumulative Effects Assessment Summary

1.1 Introduction

1. North Falls Offshore Wind Farm (hereafter 'the Project' or 'North Falls') is subject to an Environmental Impact Assessment (EIA) to ensure the assessment of environmental effects of the Project. This document provides a summary of the Cumulative Effects Assessment (CEA) for the offshore, onshore and project-wide topics assessed within the North Falls Environmental Statement (ES), which records the findings of the EIA. Each technical chapter within the ES considers the likely significant effects associated with the construction, operation and maintenance, and decommissioning phases of North Falls for the Project alone and provides an assessment of the likely significant cumulative effects with other plans and projects.

1.1.1 Updates in this version

2. This version of the Cumulative Effects Assessment Summary (Rev 1) has been updated to reflect the most recent status of other projects and clarify the way the distance of North Falls to other offshore wind farms is presented (when relevant). These updates have not changed the conclusions of the assessments.

1.1.2 Purpose and scope

~~2.~~3. The purpose of this document is to provide an overview of all the potential offshore and onshore cumulative effects of the Project.

~~3.~~4. This document draws information from, and should be read in conjunction with, the following ES Chapters:

- Chapter 8 Marine Geology Oceanography and Physical Processes **[APP-022]**;
- Chapter 9 Marine Water and Sediment Quality **[APP-023]**;
- Chapter 10 Benthic and Intertidal Ecology **[APP-024]**;
- Chapter 11 Fish and Shellfish Ecology **[APP-025]**;
- Chapter 12 Marine Mammals **[APP-026]**;
- Chapter 13 Offshore Ornithology **[APP-027]**;
- Chapter 14 Commercial Fisheries **[APP-028]**;
- Chapter 15 Shipping and Navigation **[APP-029]**;
- Chapter 16 Offshore and Intertidal Archaeology and Cultural Heritage **[APP-030]**;
- Chapter 17 Aviation and Radar **[APP-031]**;
- Chapter 18 Infrastructure and Other Users **[APP-032]**;
- Chapter 19 Ground Conditions and Contamination **[APP-033]**;

- Chapter 20 Air Quality **[APP-034]**;
- Chapter 21 Water Resource and Flood Risk **[APP-035]**;
- Chapter 22 Land Use and agriculture **[APP-036]**;
- Chapter 23 Onshore Ecology **[APP-037]**;
- Chapter 24 Onshore Ornithology **[APP-038]**;
- Chapter 25 Onshore Archaeology and Cultural Heritage **[APP-039]**;
- Chapter 26 Noise and Vibration **[APP-040]**;
- Chapter 27 Traffic and Transport **[APP-041]**;
- Chapter 28 Human Health **[APP-042]**;
- Chapter 29 Seascape, Landscape and Visual Impact Assessment **[APP-043]**;
- Chapter 30 Landscape and Visual Impact Assessment **[APP-044]**;
- Chapter 31 Socio-economics **[AS-010]**;
- Chapter 32 Tourism and Recreation **[APP-046]**; and,
- Chapter 33 Climate Change **[APP-047]**.

~~4.~~5. Cumulative effects in relation to major accidents and disasters are considered, where relevant, within the technical ES Chapters.

1.2 Legislation, Policy and Guidance

~~5.~~6. There are numerous pieces of legislation and guidance that are applicable to a CEA. The following sections provide an overview of the international and UK legislation and guidance, which are relevant to this document.

1.2.1 Legislation

~~6.~~7. The EIA process originates from the European Union (EU) and is codified by Directive 2011/92/EU (as further amended by Directive 2014/52/EU). The provisions of the EU Directive are currently incorporated into English law for Nationally Significant Infrastructure Projects by the ~~–~~Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (hereafter referred to as the 'EIA Regulations'). Such provisions have been retained in English law following the UK's exit from the EU in January 2020.

~~7.~~8. ES Chapter 6 EIA Methodology **[APP-020]** outlines the requirement for EIA.

~~8.~~9. Schedule 4, paragraph 5 of the EIA Regulations (abridged below) states the need for:

"A description of the likely significant effects of the development on the environment resulting from, inter alia:

(e) the cumulation of effects with other existing and/or approved projects, taking into account any existing environmental problems relating to areas of

particular environmental importance likely to be affected or the use of natural resources

The description of the likely significant effects on the factors specified in regulation 5(2) should cover the direct effects and any indirect, secondary, cumulative, transboundary, short-term, medium-term and long-term, permanent and temporary, positive and negative effects of the development."

~~9.~~10. In line with this requirement, a description of likely significant cumulative effects is provided in each technical ES Chapter and has been summarised in this document.

1.2.2 Policy

~~10.~~11. The Project has been developed to ensure it accords with each relevant policy as detailed in the Planning Statement submitted with the Development Consent Order (DCO) application.

~~11.~~12. Policy and legislation specific to each EIA topic are also outlined in the relevant technical ES Chapter (Chapters 8 to 34). The CEA within each ES Chapter has been undertaken with specific reference to the relevant National Policy Statements (NPS). Please refer to the National Policy Statement Accordance Table **[REP1-053]**, submitted by the Applicant, which outlines the relevant policies contained within the NPS and identifies how the Project, and the application for development consent for the Project, have complied with these policies.

1.2.3 Guidance

~~12.~~13. Guidance that is applicable to a specific assessment can be found in the relevant technical ES Chapter.

~~13.~~14. Of relevance to CEA in general, and which has been used to guide the approach taken, is RenewableUK (2013) Cumulative impact assessment guidelines, guiding principles for cumulative impacts assessments in offshore wind farms.

~~14.~~15. The PINS Nationally Significant Infrastructure Projects Advice page on Cumulative Effects Assessment (2024) summarises the process for undertaking cumulative effects assessments in the context of Nationally Significant Infrastructure Projects (NSIPs) under the Planning Act 2008, which supersedes Advice Note Seventeen.

1.3 Cumulative Effects Assessment Methodology

~~15.~~16. A cumulative effect is an effect that results from changes caused by other past, present or reasonably foreseeable actions when considered together with North Falls. The CEA therefore considers other reasonably foreseeable development-related activities occurring within a similar timeframe to the construction and operation of North Falls, for which there is reasonable information upon which to base a meaningful assessment.

~~16.~~17. PINS– Advice on Cumulative Effects Assessment (Planning Inspectorate, 2024) advise that the following plans and projects should be considered in the CEA:

- **Tier 1**
    - Projects that are under construction;
    - Permitted applications under the Planning Act or other regimes, not yet implemented;
    - Submitted applications under the Planning Act or other regimes, not yet determined; and,
- All refusals subject to appeal procedures not yet determined.
- **Tier 2**
- Projects on the Planning Inspectorate's Programme of Projects.
- **Tier 3**
- Projects on the Planning Inspectorate's programme of projects where a scoping report has not been submitted;
- Other existing and, or approved development identified in the relevant Development Plan and emerging Development Plans, with appropriate weight given as they near adoption, recognising that there will be limited information available on the relevant proposals; and,
- Other existing and, or approved development identified in other plans and programmes, as appropriate, which set the framework for future development consents or approvals, where such development is reasonably likely to come forward.

~~17.~~18. Where it is helpful to do so 'tiers' of these other projects' statuses have been defined as well as the availability of information to be used within the CEA. This approach is based on the three-tier system proposed in PINS Advice on Cumulative Effects Assessment (2024) which indicates the certainty which can be assigned to each development.

~~18.~~19. As advised by Natural England in the Benthic and Intertidal Ecology, Marine Mammals and Offshore Ornithology chapters, a more refined tiering system based on the guidance issued by Natural England and Defra (2022) is employed and involves seven tiers as presented below:

- **Tier 1**
- Built and operational projects where they have not been included within the environmental characterisation survey, i.e., they were not operational when baseline surveys were undertaken, and/or any residual effect may not have yet fed through to and been captured in estimates of "baseline" conditions, such as "background" distribution or mortality rate for birds.
- **Tier 2**
    - Projects under construction plus Tier 1 projects.

- **Tier 3**
- Projects that have been consented (but construction has not yet commenced) plus Tiers 1 and 2.
- **Tier 4**
- Projects that have an application submitted to the appropriate regulatory body that have not yet been determined, plus Tiers 1-3.
- **Tier 5**
- Projects that have produced a Preliminary Environmental Information Report (PEIR) and have characterisation data within the public domain, plus Tiers 1-4.
- **Tier 6**
- Projects that the regulatory body are expecting to be submitted for determination (e.g., projects listed under the Planning Inspectorate programme of projects), plus Tiers 1-5.
- **Tier 7**
- Projects that have been identified in relevant strategic plans or programmes plus Tiers 1-6.

~~19.~~20. The CEA is a two-part process in which an initial list of projects with the potential to interact with North Falls are identified, based on the potential mechanism of interaction. The tiered approach is then adopted to enable further assessment based on the availability of information for each project.

~~20.~~21. In line with the RenewableUK CEA Guidelines for offshore wind farms (RenewableUK, 2013), the approach to CEA attempts to incorporate an appropriate level of pragmatism. This is demonstrated in the confidence levels applied to the understanding of other projects (either their design or their likely significant effects), particularly those that are known but currently lack detailed design documentation, such as those projects at the scoping stage only. Projects can be considered in the CEA only where it is considered that there is sufficient detail with which to undertake a meaningful assessment. Where there is a lack of specific information in the public domain, such as how and when (or if) projects will be built, it is not always possible to undertake a meaningful CEA.

~~21.~~22. Where projects which were sufficiently implemented at the time of undertaking the characterisation of the existing environment as their effects had been fully determined, these are considered as part of the baseline for the EIA in line with PINS Advice on Cumulative Effects Assessment (Planning Inspectorate, 2024).

~~22.~~23. Offshore cumulative effects may arise from interactions with the following activities and industries (but are not limited to):

- Other offshore wind farms;
- Aggregate extraction and dredging;

- Licensed disposal sites;
- Sub-sea cables and pipelines;
- Potential port/harbour development; and,
- Oil and gas activities.

~~23.~~24. Onshore plans or projects to be taken into consideration include (but are not limited to):

- Other energy generation or transmission infrastructure;
- Building/housing developments;
- Installation or upgrade of roads;
- Installation or upgrade of cables and pipelines;
- Coastal protection works; and,
- National grid works.

~~24.~~25. Due to ongoing co-ordination and collaboration with the Five Estuaries Offshore Wind Farm Limited (VEOWL), the projects have shared data and information informing their environmental assessments, as well as collaboration on design of the Projects' onshore infrastructure. This has included the development of build-out scenarios for the build out of the Projects' onshore infrastructure. The CEA section of each technical chapter therefore include a detailed consideration of the Five Estuaries project considering these different build-out scenarios.

~~25.~~26. Using the design information provided by VEOWL, and checked/updated against the submission of the Five Estuaries ES, a realistic worst case cumulative scenario has been developed for each technical ES Chapter.

~~26.~~27. This realistic worst case cumulative scenario considers three potential cumulative scenarios, as outlined in ES Chapter 5 Project Description **[APP-019]**:

- **Scenario 1**: North Falls 'Option 2' build out is progressed, and VEOWL undertakes landfall, onshore substation construction and cable pull which overlaps with North Falls equivalent works. In this scenario, onshore cable route associated works, including TCCs, accesses and haul road, all remain in place and are used by the second project during its construction.
- **Scenario 2**: North Falls 'Option 1 build out is progressed, and VEOWL undertakes landfall, onshore substation and onshore cable route construction and cable pull, all of which does not overlap with North Falls' equivalent works. There would be a gap of between 1 and 3 years between each Projects' construction. In this scenario, onshore cable route associated works, including TCCs, accesses and haul road, all remain in place and are used by the second project during its construction.
- **Scenario 3**: North Falls 'Option 1' build out is progressed, and VEOWL undertakes a separate landfall, onshore substation and onshore cable route construction and cable pull with a multi-year (i.e. >3 year) gap

between the two construction activities. In this scenario, there is no reuse in onshore temporary works between the two projects, and all onshore cable route associated works are rebuilt and reinstated in full by the second project.

~~27.~~28. The outcomes of this detailed CEA with Five Estuaries has then been subject to a further CEA with other plans and projects identified through the approach outlined above, to reach overall conclusions about the potential cumulative effects arising from the development of North Falls and other plans and projects. The specific approach taken for each technical topic is described in the CEA section of each chapter.

~~28.~~29. The list of offshore ~~and~~, onshore and project wide projects included in the CEA within each ES Chapter, can be found in ~~Table 1.1~~Table 1.1, ~~Table 1.2~~Table 1.2 and ~~Table 1.3.~~Table 1.3, respectively.

Table 1.1 Projects included in the CEA for offshore technical assessments

Project	Status	Construction Period	Closest Distance from the ~~Array~~array area (km)	Closest Distance from the Offshore Cable Corridor (km)	Confidence in Data	Included in CEA	Rationale
Chapter 8 Marine Geology Oceanography and Physical Processes							
NeuConnect Interconnector	Pre-construction	2023-2028	2.5	0	High	Yes	The NeuConnect Interconnector bisects the North Falls offshore cable corridor and there is potential for temporal overlap of cable installation activities.
Nautilus Interconnector	Pre-application	2025-2028	Cable route currently unknown		Low	Yes	The offshore study area for Nautilus intersects with the North Falls offshore project area. Therefore, there is potential for cumulative effects, subject to the final location and programme for the interconnector.
South & East Anglia (SEA) Link	Undergoing DCO Examination ~~Pre-application~~	2026-2030	5.4	0	High	Yes	The emerging preferred and alternative routes for Sea Link intersect with the North Falls offshore cable corridor. Therefore, there is potential for cumulative effects.

Project	Status	Construction Period	Closest Distance from the ~~Array~~array area (km)	Closest Distance from the Offshore Cable Corridor (km)	Confidence in Data	Included in CEA	Rationale
Tarchon Energy Interconnector	Pre-planning	2027-2030	Cable route currently unknown		Low	Yes	Interconnector between UK and Germany with potential to be in proximity to the North Falls offshore project area. Therefore, there is potential for cumulative effects, subject to the final location and programme for the interconnector.
Greater Gabbard offshore wind farm	Operational since 2012	N/A	To array: 0	To array: 3.9	Medium	Yes	Potential cumulative effects on the wave and tidal regimes, and from ongoing maintenance activities.
			To cable corridor: 0	To cable corridor: 5.4			
Galloper offshore wind farm	Operational since 2018	N/A	To Array: 0	To Array: 6.4	Medium	Yes	Potential cumulative effects on the wave and tidal regimes, and from ongoing maintenance activities.
			To cable corridor: 5.4	To cable corridor: 11.4			
Five Estuaries offshore wind farm	~~Undergoing~~Waiting for DCO ~~Examination~~decision	2028-2030	To array: 0	To array: 12.9	Medium	Yes	Potential for some interaction between the dredging plumes from the cable/foundation installation from Five Estuaries with North Falls. During operation, there is potential for cumulative effects on the wave and tidal regimes, and from
			To cable corridor: 0.6	To cable corridor: 0			

Project	Status	Construction Period	Closest Distance from the ~~Array~~array area (km)	Closest Distance from the Offshore Cable Corridor (km)	Confidence in Data	Included in CEA	Rationale
							ongoing maintenance activities.
Thames D aggregates production agreement area 524	Production agreement secured 202	2022-2036	0	10.3	Low	Yes	There is potential for some interaction between the dredging plumes from the aggregate exploration and option areas and plumes from cable/foundation installation / decommissioning and operation and maintenance activities.
Chapter 9 Marine Water and Sediment Quality							
NeuConnect Interconnector	Construction	2023-2028	2.5	0	High	Yes	The NeuConnect Interconnector bisects the North Falls offshore cable corridor and there is potential for temporal overlap of cable installation activities.
South & East Anglia (SEA) Link	~~Pre-application~~Undergoing DCO Examination	2026-2030	5.4	0	High	Yes	The emerging preferred and alternative routes for Sea Link intersect with the North Falls offshore cable corridor. Therefore, there is potential for cumulative effects, subject to the final location and programme for the interconnector.

Project	Status	Construction Period	Closest Distance from the ~~Array~~array area (km)	Closest Distance from the Offshore Cable Corridor (km)	Confidence in Data	Included in CEA	Rationale
Five Estuaries offshore wind farm	~~Undergoing~~Waiting for DCO ~~Examination~~decision	2028-2030	To array: 0 To cable corridor: 0.6	To array: 12.9 To cable corridor: 0	High	Yes	Potential for some interaction between the dredging plumes from the cable/foundation installation from Five Estuaries with North Falls. Following construction, cumulative effects on water quality are unlikely due to the highly localised and intermittent nature, and subsequent suspended sediment plumes, of any operational maintenance activities.
Thames D aggregates production agreement area 524	Production agreement secured 2022	2022-2036	0	10.3	Medium	Yes	There is potential for some interaction between the dredging plumes from the aggregate exploration and option areas and plumes from cable/foundation installation. Following construction, cumulative effects on water quality are unlikely due to the highly localised and intermittent nature, and subsequent suspended sediment plumes, of any operational maintenance

Project	Status	Construction Period	Closest Distance from the ~~Array~~array area (km)	Closest Distance from the Offshore Cable Corridor (km)	Confidence in Data	Included in CEA	Rationale
							and decommissioning activities.
Chapter 10 Benthic and Intertidal Ecology							
NeuConnect Interconnector	Construction	2023-2028	2.5	0	High	Yes	The NeuConnect Interconnector bisects the North Falls offshore cable corridor and there is potential for temporal overlap of cable installation activities.
South & East Anglia (SEA) Link	~~Pre-application~~Undergoing DCO Examination	2026-2030	5.4	0	Medium	Yes	The emerging preferred and alternative routes for Sea Link intersect with the North Falls offshore cable corridor. Therefore, there is potential for cumulative effects, subject to the final location and programme for the interconnector.
Greater Gabbard offshore wind farm	Operational since 2012	N/A	To Array: 0 To cable corridor: 0	To array: 3.9 To cable corridor: 5.4	Medium	Yes	Both GGOW and GWF are operational therefore there is potential cumulative effect on benthic ecology from their ongoing maintenance activities with construction and maintenance of the Project.
Galloper offshore wind farm	Operational since 2018	N/A	To Array: 0 To cable corridor: 5.4	To Array: 6.4 To cable corridor: 11.4	Medium	Yes	

Project	Status	Construction Period	Closest Distance from the ~~Array~~array area (km)	Closest Distance from the Offshore Cable Corridor (km)	Confidence in Data	Included in CEA	Rationale
Five Estuaries offshore wind farm	~~Undergoing~~Waiting for DCO ~~Examination~~decision	2028-2030	To array: 0 To cable corridor: 0.6	To array: 12.9 To cable corridor: 0	High	Yes	Potential for cumulative effect due to the proximity of the projects.
Thames D aggregates production agreement area 524	Production agreement secured 2022	2022-2036	0	10.3	Low	Yes	There is potential for some interaction between dredging and aggregate exploration on benthic ecology. Removal of sediment and sediment plumes have the potential to have a cumulative effect.
Chapter 11 Fish and Shellfish Ecology							
Offshore wind farms							
Greater Gabbard offshore wind farm	Operational since 2012	N/A	To Array: 0 To cable corridor: 0	To array: 3.9 To cable corridor: 5.4	High	Yes	Both GGOW and GWF are operational therefore there is potential cumulative effect on fish and shellfish receptors from ongoing maintenance activities.
Galloper Offshore Wind Farm (OWF)	Operational since 2018	N/A	To Array: 0 To cable corridor: 5.4	To Array: 6.4 To cable corridor: 11.4	High	Yes	
Five Estuaries offshore wind farm	~~Undergoing~~Waiting for DCO ~~Examination~~decision	2028-2030	To array: 0	To array: 12.9	High	Yes	Potential for cumulative effect during construction and operational phases. Fish

Project	Status	Construction Period	Closest Distance from the ~~Array~~array area (km)	Closest Distance from the Offshore Cable Corridor (km)	Confidence in Data	Included in CEA	Rationale
			To cable corridor: 0.6	To cable corridor: 0			and shellfish receptors could be affected if construction of North Falls occurs at a similar time to Five Estuaries OWF due to the close proximity of the Project.
East Anglia TWO offshore wind farm	Consent granted	Construction planned mid 2020s	To Array: 31.5 To cable corridor: 31.5	~~37.6~~To Array :36.7 To cable corridor: 32.4	High	Yes	Potential for cumulative effect during construction and operational phase.
East Anglia ONE North offshore wind farm	Consent Authorised	2023-2026	~~63.4~~To array: 65 To cable corridor: 45.1	~~67.5~~To array: 69.7 To cable corridor: 32.5	High	Yes	Potential for cumulative effect during construction and operational phase.
Subsea cables and pipelines							
NeuConnect Interconnector	Pre-construction	2023-2028	2.5	0	High	Yes	The NeuConnect Interconnector bisects the North Falls offshore cable corridor and interconnector cable corridor and there is potential for temporal overlap of cable installation activities.
Nautilus Interconnector	Pre-application~~Preapplication~~	2025-2028	Cable route unknown		Low	Yes	The offshore study area for Nautilus intersects with the North Falls offshore project area, Therefore, there is potential for cumulative

Project	Status	Construction Period	Closest Distance from the ~~Array~~array area (km)	Closest Distance from the Offshore Cable Corridor (km)	Confidence in Data	Included in CEA	Rationale
							effects, subject to the final location and programme for the interconnector.
South & East Anglia (SEA) Link	~~Pre-application~~Undergoing DCO Examination	2026-2030	5.4	0	Medium	Yes	The emerging preferred and alternative routes for Sea Link intersect with the North Falls offshore cable corridor. Therefore, there is potential for cumulative effects, subject to the final location and programme for the interconnector.
Tarchon Energy Interconnector	Pre-application	2027 - 2030	Cable route unknown		Low	Yes	Interconnector between UK and Germany with potential to be in proximity to the North Falls offshore project area.
Aggregate areas							
Thames D aggregates production agreement area 524	Production agreement secured 2022	2022-2036	0	10.3	Low	Yes	There is potential for some interaction between dredging and aggregate exploration on fish and shellfish ecology. Removal of sediment and sediment plumes have the potential to have a cumulative effect.

Project	Status	Construction Period	Closest Distance from the ~~Array~~array area (km)	Closest Distance from the Offshore Cable Corridor (km)	Confidence in Data	Included in CEA	Rationale
Chapter 12 Marine Mammals							
Offshore wind farms							
Bowdun	Concept and early planning	2029-2033	608	606	Low - Project specific assessment unavailable, generic approach used to inform the assessment.	Yes	Potential for overlapping piling dates.
Buchan	Concept and early planning	2028-2032	745	743		Yes	
Caledonia	Application submitted	2028-2030	750	748	Medium – cumulative assessment based on submitted assessments.	Yes	
Dogger Bank D	Concept & Early Planning	2029-2030	355	353	Low - Project specific assessment unavailable, generic approach used to inform the assessment.	Yes	
Dogger Bank South (East and West)	Application submitted	2026 - 2033	285	278	Medium – cumulative assessment based on submitted assessments.	Yes	

Project	Status	Construction Period	Closest Distance from the ~~Array~~array area (km)	Closest Distance from the Offshore Cable Corridor (km)	Confidence in Data	Included in CEA	Rationale
Dudgeon Extension	Consented	2027-2033	156	152	Medium – cumulative assessment based on submitted assessments.	Yes	
Five Estuaries offshore wind farm	~~Undergoing~~Waiting for DCO ~~Examination~~decision	2028-2030	0	~~13.3~~ 12.9	Medium – cumulative assessment based on submitted assessments.	Yes	
Outer Dowsing	Concept & Early Planning	2026-2030	196	200	Medium – cumulative assessment based on submitted assessments.	Yes	
Sheringham Shoal Extension	Consented	2027-2033	161.5	153	Medium – cumulative assessment based on submitted assessments.	Yes	
Rampion 2	Application submitted	2026-2030	201	215	Medium – cumulative assessment based on submitted assessments.	Yes	
Aspen	Concept and early planning	2025-2028	665	663		Yes	

Project	Status	Construction Period	Closest Distance from the ~~Array~~array area (km)	Closest Distance from the Offshore Cable Corridor (km)	Confidence in Data	Included in CEA	Rationale
Ayre	Concept and early planning	2029-2033	816	813	Low - Project specific assessment unavailable, generic approach used to inform the assessment.	Yes	Potential for overlapping construction phases.
Beech	Concept and early planning	2024-2028	662	660		Yes	
Bellrock	Concept and early planning	Unknown	568	566		Yes	
Cedar	Concept and early planning	2024-2028	558	556		Yes	
Dunkerque	Application submitted	2026-2028	60	72		Yes	
Dylan	Concept and early planning	Unknown	774	785		Yes	
Hornsea Project Four	Consented	2026-2028	230	227	Medium – cumulative assessment based on submitted assessments.	Yes	Potential for overlapping construction phases.
Hornsea Project Three	Consented	2024-2027	218	217		Yes	
MaramWind	Concept and early planning	2026-2030	708	706	Low - Project specific assessment unavailable, generic approach used to inform the assessment.	Yes	
Morven	Concept and early planning	2027-2030	545	543		Yes	
Muir Mhor	Concept and early planning	2027-2030	638	636		Yes	
Dunkerque	Concept & Early Planning	N/A	62.7	74.9		Yes	Potential for overlapping construction phases.
Nordsee Cluster A – N-3.7	Concept & Early Planning	N/A	448	554		Yes	
Nordsee Cluster A – N-3.8	Concept & Early Planning	N/A	448	554		Yes	
Nordsee Cluster B – N-3.5	Concept & Early Planning	2028-2029	416	410		Yes	Potential for overlapping construction phases.

Project	Status	Construction Period	Closest Distance from the ~~Array~~array area (km)	Closest Distance from the Offshore Cable Corridor (km)	Confidence in Data	Included in CEA	Rationale
Nordsee Cluster B – N-3.6	Concept & Early Planning	2028-2029	410	404		Yes	
Norfolk Vanguard	Consented	N/A	120.5	125.4	Medium – cumulative assessment based on submitted assessments.	Yes	
Ossian	Application submitted	2024-2028	545	543	Medium – cumulative assessment based on submitted assessments.	Yes	
Rømø	Concept & Early Planning	2027	560	554	Low - Project specific assessment unavailable, generic approach used to inform the assessment.	Yes	
Salamander (floating)	Concept & Early Planning	2026-2028	6754	673			
Seagreen 1A	Consent authorised	2026-2027	580	578	Medium – cumulative assessment based on submitted assessments.		
West Of Orkney	Concept & Early Planning	N/A	885	891		Yes	

Project	Status	Construction Period	Closest Distance from the ~~Array~~array area (km)	Closest Distance from the Offshore Cable Corridor (km)	Confidence in Data	Included in CEA	Rationale
Aggregate extraction and dredging projects							
Greenwich Light East (473/2; Hanson Aggregates Marine Ltd)	Production Agreement Area	N/A	163	177	Low - Project specific assessment unavailable, generic approach used to inform the assessment.	Yes	Potential for overlapping activities.
Greenwich Light East (473/1; Hanson Aggregates Marine Ltd)	Production Agreement Area	N/A	171	184			
Inner Dowsing 481/1-2	Production Agreement Area	N/A	199	194			
Inner Owers North 488	Production Agreement Area	N/A	231	243			
Thames D 524	Production Agreement Area	N/A	0	12			
West Bassurelle 458	Production Agreement Area	N/A	153	166			
West Bassurelle 464	Production Agreement Area	N/A	155	168			
Subsea cables and pipelines							
~~Sea~~South & East Anglia (SEA) Link	~~Concept & Early Planning~~Undergoing DCO Examination	N/A	5.~~26~~4	0	Medium – cumulative assessment based on submitted assessments.	Yes	Potential for overlapping construction phases

Project	Status	Construction Period	Closest Distance from the ~~Array~~array area (km)	Closest Distance from the Offshore Cable Corridor (km)	Confidence in Data	Included in CEA	Rationale
Chapter 13 Offshore Ornithology							
Beatrice (demonstrator)	Built and operational, fully commissioned July 2007	N/A	774.46	753.88	Complete but limited quantitative species assessment.	Yes	Included as an operational project. Due to be decommissioned between 2024 and 2027.
Beatrice	Built and operational, fully commissioned May 2019	N/A	774.46	753.88	Complete for the ornithology receptors being assessed.	Yes	Included as an operational project.
Blyth Demonstration	Built and operational, fully commissioned Oct 2017	N/A	429.39	405.74	Complete but limited quantitative species assessment.	Yes	Included as an operational project.
Dudgeon	Built and operational, fully commissioned November 2017	N/A	160.92	147.07	Complete but limited quantitative species assessment.	Yes	Included as an operational project.
East Anglia ONE	Built and operational, fully commissioned July 2020	N/A	53.08	59.24	Complete for the ornithology receptors being assessed.	Yes	Included as an operational project.
EOWDC (Aberdeen OWF)	Built and operational, fully commissioned Sep 2018	N/A	653.11	632.86	Complete for the ornithology receptors being assessed.	Yes	Included as an operational project.

Project	Status	Construction Period	Closest Distance from the ~~Array~~array area (km)	Closest Distance from the Offshore Cable Corridor (km)	Confidence in Data	Included in CEA	Rationale
Greater Gabbard Offshore Windfarm	Built and operational, fully commissioned August 2013	N/A	0.00	3.91	Complete for the ornithology receptors being assessed.	Yes	Included as an operational project.
Gunfleet Sands	Built and operational, fully commissioned Jun 2010	N/A	39.00	6.00	Complete for the ornithology receptors being assessed.	Yes	Included as an operational project.
Galloper Wind Farm	Built and operational, fully commissioned March 2018	N/A	0.00	6.35	Complete for the ornithology receptors being assessed.	Yes	Included as an operational project.
Hornsea Project One	Built and operational, fully commissioned 2020	N/A	225.84	216.80	Complete for the ornithology receptors being assessed.	Yes	Included as an operational project.
Hornsea Project Two	Built and operational, fully commissioned August 2022	N/A	227.55	216.59	Complete for the ornithology receptors being assessed.	Yes	Included as an operational project.
Humber Gateway	Built and operational, fully commissioned May 2015	N/A	229.65	207.31	Complete but limited quantitative species assessment.	Yes	Included as an operational project.

Project	Status	Construction Period	Closest Distance from the ~~Array~~array area (km)	Closest Distance from the Offshore Cable Corridor (km)	Confidence in Data	Included in CEA	Rationale
Hywind	Built and operational, fully commissioned Oct 2017	N/A	665.57	647.09	Complete but limited quantitative species assessment.	Yes	Included as an operational project.
Kentish Flats	Built and operational, fully commissioned Dec 2005	N/A	54.59	38.08	Complete but limited quantitative species assessment.	Yes	Included as an operational project.
Kentish Flats Extension	Built and operational, fully commissioned Oct 2015	N/A	54.59	39.70	Complete but limited quantitative species assessment.	Yes	Included as an operational project.
Kincardine	Built and operational, fully commissioned Oct 2021	N/A	626.20	605.83	Complete but limited quantitative species assessment.	Yes	Included as an operational project.
Lincs	Built and operational, fully commissioned Sep 2013	N/A	176.80	153.31	Complete but limited quantitative species assessment.	Yes	Included as an operational project.
London Array	Built and operational, fully commissioned Apr 2013	N/A	20.59	15.52	Complete but limited quantitative species assessment.	Yes	Included as an operational project.

Project	Status	Construction Period	Closest Distance from the ~~Array~~array area (km)	Closest Distance from the Offshore Cable Corridor (km)	Confidence in Data	Included in CEA	Rationale
Lynn and Inner Dowsing	Built and operational, fully commissioned Mar 2009	N/A	177.34	153.75	Complete but limited quantitative species assessment.	Yes	Included as an operational project.
Moray East	Built and operational, fully commissioned April 2022	N/A	761.98	742.04	Complete for the ornithology receptors being assessed.	Yes	Included as an operational project.
Race Bank	Built and operational, fully commissioned February 2018	N/A	173.38	153.52	Complete but limited quantitative species assessment.	Yes	Included as an operational project.
Rampion	Built and operational, fully commissioned November 2018	N/A	177.82	158.76	Complete for the ornithology receptors being assessed.	Yes	Included as an operational project.
Scroby Sands	Built and operational, fully commissioned Dec 2004	N/A	92.78	84.41	Complete but limited quantitative species assessment.	Yes	Included as an operational project.
Sheringham Shoal	Built and operational, fully commissioned Sep 2012	N/A	152.60	135.65	Complete but limited quantitative species assessment.	Yes	Included as an operational project.

Project	Status	Construction Period	Closest Distance from the ~~Array~~array area (km)	Closest Distance from the Offshore Cable Corridor (km)	Confidence in Data	Included in CEA	Rationale
Teesside	Built and operational, fully commissioned Aug 2013	N/A	373.71	349.33	Complete but limited quantitative species assessment.	Yes	Included as an operational project.
Thanet	Built and operational, fully commissioned Sep 2010	N/A	24.92	36.16	Complete for the ornithology receptors being assessed.	Yes	Included as an operational project.
Triton Knoll	Built and operational, fully commissioned Oct 2021	N/A	190.27	172.38	Complete for the ornithology receptors being assessed.	Yes	Included as an operational project.
Westermost Rough	Built and operational, fully commissioned May 2015	N/A	250.38	228.07	Complete for the ornithology receptors being assessed.	Yes	Included as an operational project.
Dogger Bank A and B (formerly Creyke Beck A and B)	Offshore construction began April 2022, Doggerbank A partially generation from October 2023	N/A	318.50	309.98	Complete for the ornithology receptors being assessed.	Yes	Included as a consented project.
Dogger bank C and Sofia (formerly Dogger bank Teeside A and B)	Sofia onshore works began mid-2021, converter station and export cable route 2022, offshore works due 2023, completion due 2026.	N/A	339.14	332.23	Complete for the ornithology receptors being assessed.	Yes	Included as a consented project.

Project	Status	Construction Period	Closest Distance from the ~~Array~~array area (km)	Closest Distance from the Offshore Cable Corridor (km)	Confidence in Data	Included in CEA	Rationale
Moray West	Offshore construction began Feb 2023. Due to be fully operational by 2025	N/A	763.65	742.98	Complete for the ornithology receptors being assessed.	Yes	Included as a consented project.
Neart na Gaoithe	Offshore construction began 2020, completion due 2024	N/A	559.53	536.96	Complete for the ornithology receptors being assessed.	Yes	Included as a consented project.
Seagreen (Alpha and Bravo)	114 turbines fully operational October 2023. S36 consent variation for 36 additional turbines	N/A	572.35	552.01	Complete for the ornithology receptors being assessed.	Yes	Included as a consented project.
East Anglia ONE North	Consented March 2022. Onshore construction due to start 2025, offshore construction due to start 2027	N/A	~~63.07~~ 65.01	~~67.43~~ 69.73	Complete for the ornithology receptors being assessed.	Yes	Included as a consented project.
East Anglia THREE	Consented August 2017. No construction start date	N/A	98.77	104.22	Complete for the ornithology receptors being assessed.	Yes	Included as a consented project.
East Anglia TWO	Consented March 2022. No construction start date	N/A	31.49	36.67	Complete for the ornithology receptors being assessed.	Yes	Included as a consented project.

Project	Status	Construction Period	Closest Distance from the ~~Array~~array area (km)	Closest Distance from the Offshore Cable Corridor (km)	Confidence in Data	Included in CEA	Rationale
Green Volt	Consented 19 April 2024	N/A	691.50	675.24	Complete for the ornithology receptors being assessed.	Yes	Outputs from the ES have been included.
Hornsea Project Three	Consented Dec 2020. Construction due to start 2024	N/A	218.40	217.21	Complete for the ornithology receptors being assessed.	Yes	Included as a consented project.
Hornsea Project Four	Consented July 2023. No construction start date	N/A	229.15	216.62	Complete for the ornithology receptors being assessed.	Yes	Included as a consented project.
Inch Cape	Consented Sep 2014, revised June 2019. No construction start date.	N/A	579.15	557.03	Complete for the ornithology receptors being assessed.	Yes	Included as a consented project.
Methil (Forthwind Demonstration)	Consented December 2016. New consent authorised March 2023.	N/A	584.74	559.18	Complete for the ornithology receptors being assessed.	Yes	Included as a consented project.
Norfolk Boreas	Consented Dec 2021. Work paused until further notice	N/A	132.04	134.56	Complete for the ornithology receptors being assessed.	Yes	Included as a consented project.

Project	Status	Construction Period	Closest Distance from the ~~Array~~array area (km)	Closest Distance from the Offshore Cable Corridor (km)	Confidence in Data	Included in CEA	Rationale
Norfolk Vanguard	Consented Feb 2022. Construction was due to begin Sep 2023	N/A	95.76	117.16	Complete for the ornithology receptors being assessed.	Yes	Included as a consented project.
Sheringham and Dudgeon Extension Projects	Consented 18 April 2024	N/A	150.51	134.07	Complete for the ornithology receptors being assessed.	Yes	Outputs from the ES / DCO examination have been included.
Berwick Bank	Application submitted August 2023	N/A	522.45	501.36	Complete for the ornithology receptors being assessed.	Yes	Outputs from the ES have been included.
Dogger Bank South	DCO Application submitted 12 June 2024, accepted 10 July	N/A	285.19	276.33	Complete for the ornithology receptors being assessed.	Yes	Outputs from the PEIR have been included.
Five Estuaries offshore wind farm	~~Undergoing~~Waiting for DCO ~~Examination~~decision	N/A	0.00	12.93	Complete for the ornithology receptors being assessed.	Yes	Outputs from the PEIR have been included.
Outer Dowsing	DCO application accepted 16 April 2024	N/A	193.46	177.64	Complete for the ornithology receptors being assessed.	Yes	Outputs from the PEIR have been included.

Project	Status	Construction Period	Closest Distance from the ~~Array~~array area (km)	Closest Distance from the Offshore Cable Corridor (km)	Confidence in Data	Included in CEA	Rationale
Rampion 2	Application submitted. Project in examination	N/A	171.11	155.25	Complete for the ornithology receptors being assessed.	Yes	Outputs from the ES have been included.
West of Orkney	Application submitted Sept 2023	N/A	869.58	847.96	Complete for the ornithology receptors being assessed.	Yes	Outputs from the ES have been included.
South & East Anglia (SEA) Link	~~Pre-application~~Undergoing DCO Examination	N/A	5.4	0	Medium	Yes (Red-throated diver only)	Outputs from the PEIR have been included.
Chapter 14 Commercial Fisheries							
Offshore wind farms							
Five Estuaries offshore wind farm	~~Undergoing~~Waiting for DCO ~~Examination~~decision	2028-2030	To array: 0 To cable corridor: 0.6	To array: 12.9 To cable corridor: 0	High	Yes	Potential for cumulative effects due to the proximity of the project.
East Anglia TWO	Consented	Mid 2020s	To array: 31.5 To cable corridor: 31.5	~~37.6~~ To array :36.7 To cable corridor: 32.4	High	Yes	Potential for cumulative effects due to the proximity of the project.
East Anglia One North	Consented	Late 2020s	~~63.4~~ To array: 65 To cable corridor: 45	~~67.5~~ To array: 69.7 To cable corridor: 32.5	High	Yes	Potential for cumulative effects due to the proximity of the project.

Project	Status	Construction Period	Closest Distance from the ~~Array~~array area (km)	Closest Distance from the Offshore Cable Corridor (km)	Confidence in Data	Included in CEA	Rationale
Belgian Princess Elizabeth Zone	Development Zone	Unknown	32.9	47.5	High	Yes	Potential for cumulative effects due to the proximity of the project.
Aggregate Site Agreements							
Thames D aggregates production agreement area 524	Production agreement secured 2022	2022-2036	0	10.3	Incomplete	Yes	Potential for cumulative effects due to the proximity of the project.
Southwold East aggregates production agreement area 430	Operational since 2012	N/A	50.1	48.4	High	Yes	Potential for cumulative effects due to the proximity of the project.
North Inner Gabbard aggregate production area 498	Operational since 2015	N/A	24.7	24	High	Yes	Potential for cumulative effects due to the proximity of the project.
Shipwash aggregate exploration and option area 507	Operational since 2016	N/A	19.6	9.8	High	Yes	Potential for cumulative effects due to the proximity of the project.
Longsand aggregate exploration and option area 508	Operational since 2014	N/A	13.9	5.8	High	Yes	Potential for cumulative effects due to the proximity of the project.

Project	Status	Construction Period	Closest Distance from the ~~Array~~array area (km)	Closest Distance from the Offshore Cable Corridor (km)	Confidence in Data	Included in CEA	Rationale
Longsand aggregate exploration and option area 509	Operational since 2015	N/A	13.8	2.1	High	Yes	Potential for cumulative effects due to the proximity of the project.
Longsand aggregate exploration and option area 510	Operational since 2015	N/A	9.5	3.5	High	Yes	Potential for cumulative effects due to the proximity of the project.
North Falls East aggregate exploration and option area 501	Operational since 2017	N/A	13.2	27.5	High	Yes	Potential for cumulative effects due to the proximity of the project.
Marine Protected Areas							
Dogger Bank SAC	Designated in 2022	N/A	274.5	269.0	High	Yes	Associated byelaws prohibiting bottom-towed fishing gear.
Inner Dowsing, Race Bank and North Ridge SAC	Designated in 2022	N/A	159.7	142.1	High	Yes	Associated byelaws prohibiting bottom-towed fishing.
Cables							
South & East Anglia (SEA) Link	~~Preapplication~~Undergoing DCO Examination	2026-2030	5.4	0	Medium	Yes	The emerging preferred and alternative routes for Sea Link intersect with the North Falls offshore cable corridor. Therefore, there is

Project	Status	Construction Period	Closest Distance from the ~~Array~~array area (km)	Closest Distance from the Offshore Cable Corridor (km)	Confidence in Data	Included in CEA	Rationale
							potential for cumulative effects, subject to the final location and programme for the interconnector.
Cronos	Early Planning	Unknown	30.7	46.1	Low	Insufficient available information	There is potential for cumulative effects due to proximity, however the project is in the early planning phase and therefore there is insufficient information available to assess.
NeuConnect Interconnector	Pre-construction	2023-2028	2.5	0	High	Yes	The NeuConnect Interconnector bisects the North Falls offshore cable corridor and there is potential for temporal overlap of cable installation activities.
Gridlink	Consent Application Submitted	N/A	34.9	40.3	High	Yes	There is potential for cumulative effects due to proximity.
Nautilus Interconnector	Pre-application	2025-2028	Cable route unknown		Low	Yes	The offshore study area for Nautilus intersects with the North Falls offshore project area. Therefore, there is potential for cumulative effects, subject to the final location and programme for the interconnector.

Project	Status	Construction Period	Closest Distance from the ~~Array~~array area (km)	Closest Distance from the Offshore Cable Corridor (km)	Confidence in Data	Included in CEA	Rationale
EuroLink	Early Planning	N/A	28.7	33.4	Low	Yes	There is potential for cumulative effects due to proximity.
Chapter 15 Shipping and Navigation							
Five Estuaries offshore wind farm	~~Undergoing~~Waiting for DCO ~~Examination~~decision	2028-2030	To array: 0 To cable corridor: 0.6	~~0.7~~ To array: 12.9 To cable corridor: 0	Medium High	Yes	OWF project within 50nm, potential for cumulative impacts in relation to allision, displacement, collision and emergency response.
East Anglia ONE North	Consented	2023-2026	~~34~~ To array: 65 To cable corridor: 45	~~36~~ To array: 69.7 To cable corridor: 32.5	High	Yes	OWF within 50nm, no interaction with main routes impacted by North Falls.
East Anglia TWO	Consented	2023-2026	~~16.9~~ To array: 31.5 To cable corridor: 31.5	~~20.3~~ To array :36.7 To cable corridor: 32.4	High	Yes	OWF within 50nm, no interaction with main routes impacted by North Falls.
Dunkerque	In Planning	2026-2029	31.8	39	Medium	Yes	OWF within 50nm, no interaction with main routes impacted by North Falls.
NeuConnect Interconnector	In construction	2023-2028	1.3	0	High	Yes	Subsea cables within 2nm.
Nautilus Interconnector	Pre-application	2025-2028	Cable route unknown		Low	Yes	The offshore study area for Nautilus intersects with the North Falls. Therefore, there is potential for cumulative

Project	Status	Construction Period	Closest Distance from the ~~Array~~array area (km)	Closest Distance from the Offshore Cable Corridor (km)	Confidence in Data	Included in CEA	Rationale
							effects, subject to the final location and programme for the interconnector.
South & East Anglia (SEA) Link	~~Pre-application~~Undergoing DCO Examination	2026-2030	2.9	0	Medium	Yes	The emerging preferred and alternative routes for Sea Link intersect with the offshore cable corridor.
Tarchon Energy Interconnector	Pre-Planning	2027-2030	Cable route unknown		Low	Yes	Interconnector between UK and Germany with potential to be in proximity to the North Falls.
Chapter 16 Offshore and Intertidal Archaeology and Cultural Heritage							
Interconnectors							
NeuConnect Interconnector	Pre-consent	2023-2028	2.5	0	High	Yes	Projects have a footprint which may overlap with North Falls resulting in potential cumulative direct (physical) impact to potential heritage assets. For indirect impact to heritage assets from changes to physical processes (ES Chapter 8 Marine Geology, Oceanography and Physical Processes Table 8.48 **[APP-022]**),
BritNed Interconnector	Operational since 2009	N/A	0	9.3	High	Yes	
Nautilus Interconnector	Pre-application	2025-2028	Cable route currently unknown (although the offshore study area for Nautilus intersects with the North Falls offshore project area)		Low	Yes	
South & East Anglia (SEA) Link	~~Pre-application~~Undergoing DCO Examination	2026-2030	5.4	0	Medium	Yes	
Lion Link	Pre-application	2027-2030	Cable route unknown		Low	Yes	

Project	Status	Construction Period	Closest Distance from the ~~Array~~array area (km)	Closest Distance from the Offshore Cable Corridor (km)	Confidence in Data	Included in CEA	Rationale
Tarchon Energy Ltd – EA Green Interconnector	Pre-planning	2027-2030	Cable route currently unknown (although with potential to be in proximity to the North Falls offshore project area)		Low	Yes	there is potential for temporal overlap of cable installation activities with NeuConnect. Nautilus Interconnector, SEA Link and Tarchon Interconnector.
Offshore wind farms							
Greater Gabbard OWF	Operational since 2012	N/A	To array: 0 To cable corridor: 0	To array: 3.9 To cable corridor: 5.4	High	Yes	The results of surveys and evaluations, and the distribution of reported discoveries cumulatively form part of a collective body of information regarding the marine historic environment within the Thames region. These offshore renewables projects should be considered to have the potential to result in multiple direct (physical) impact to potential heritage assets which traverse the boundaries of the OWFs such as palaeolandscapes, and maritime and aviation networks relating to conflicts, migration and trade routes, for example
Galloper OWF	Operational since 2018	N/A	To array: 0 To cable corridor: 5.4	To array: 6.4 To cable corridor: 11.4	High	Yes	
Five Estuaries ~~OWF~~offshore wind farm	~~Undergoing~~Waiting for DCO ~~Examination~~decision	2028-2030	To array: 0 To cable corridor: 0.6	To array: 12.~~94~~9 To cable corridor: 0	High	Yes	
East Anglia TWO OWF	Consent granted	Construction planned mid 2020s	To array: 31.5 To cable corridor: 31.5	To array: 36.7 To cable corridor: 32.4	High	Yes	
Thanet OWF	Operational since 2010	N/A	24.9	36.2	High	Yes	
London Array OWF	Operational since 2013	N/A	20.6	15.5	High	Yes	

Project	Status	Construction Period	Closest Distance from the ~~Array~~array area (km)	Closest Distance from the Offshore Cable Corridor (km)	Confidence in Data	Included in CEA	Rationale
Gunfleet Sands OWF	Operational since 2010	N/A	39	6	High	Yes	For indirect impact to heritage assets from changes to physical processes, there is a potential cumulative effect on wave and tidal regime, and from ongoing maintenance activities with Greater Gabbard OWF, Galloper OWF and potential for interaction between the dredging plumes from the cable / foundation installation for Five Estuaries. East Anglia TWO, Thanet, Gunfleet and London Array are screened out for CEA in ES Chapter 8 Marine Geology, Oceanography and Physical Processes **[APP-022]** (Table 8.48). As such there is no pathway for indirect impacts to heritage assets from these wind farms
Aggregates							
Outer OTE aggregate exploration and	Unknown	2016-2024	9.4	14	Low	Yes	The results of surveys and evaluations, and the distribution of reported

Project	Status	Construction Period	Closest Distance from the ~~Array~~array area (km)	Closest Distance from the Offshore Cable Corridor (km)	Confidence in Data	Included in CEA	Rationale
option area 528/2							discoveries form part of a collective body of information regarding the marine historic environment within the Thames region. These marine aggregate license areas should be considered to have the potential to result in multiple direct (physical) impact to potential heritage assets which traverse the boundaries of the OWFs such as palaeolandscapes, and maritime and aviation networks relating to conflicts, migration and trade routes, for example. For indirect impact to heritage assets from changes to physical processes (ES Chapter 8 Marine Geology, Oceanography and Physical Processes Table 8.48 **[APP-022]**), there is potential for some interaction between the dredging plumes from the aggregate exploration
Thames D aggregates production agreement area 524	Unknown	2022-2036	0	10.3	Incomplete	Yes	
Southwold East aggregates production agreement area 430	Operational since 2012	2012-2025	50.1	48.4	High	Yes	
North Inner Gabbard aggregate production agreement area 498	Operational since 2015	2012-2030	24.7	24	High	Yes	
Shipwash aggregate production agreement area 507	Operational since 2016	2012-2031	19.6	9.8	High	Yes	
Longsand production agreement area 508	Operational since 2014	2014-2029	13.9	5.8	High	Yes	
Longsand aggregate production	Operational since 2015	2015-2030	13.8	2.1	High	Yes	

Project	Status	Construction Period	Closest Distance from the ~~Array~~array area (km)	Closest Distance from the Offshore Cable Corridor (km)	Confidence in Data	Included in CEA	Rationale
agreement area 509							and option areas and plumes from cable / foundation installation / decommissioning and operation and maintenance activities with the Thames D aggregates production agreement area 524. All other aggregates sites were operational at the time of the North Falls characterisation surveys and are a component of the baseline environment.
Longsand aggregate production agreement area 510	Operational since 2015	2015-2030	9.5	3.5	High	Yes	
North Falls East aggregate production agreement area 501	Operational since 2017	2017-2032	13.2	25.3	High	Yes	
Chapter 17 Aviation and Radar							
Galloper Offshore Wind Farm	Operational	N/A	0	N/A	High	Yes	Proximity to North Falls.
Greater Gabbard Offshore Wind Farm	Operational	N/A	0	N/A	High	Yes	Proximity to North Falls.
London Array Offshore Wind Farm	Operational	N/A	21	N/A	High	Yes	Proximity to North Falls.
Thanet Offshore Wind Farm	Operational	N/A	25	N/A	High	Yes	Proximity to North Falls.

Project	Status	Construction Period	Closest Distance from the ~~Array~~array area (km)	Closest Distance from the Offshore Cable Corridor (km)	Confidence in Data	Included in CEA	Rationale
Gunfleet Sands Offshore Wind Farm	Operational	N/A	39	N/A	High	Yes	Proximity to North Falls.
East Anglia ONE Offshore Wind Farm	Operational	N/A	53	N/A	High	Yes	Proximity to North Falls.
East Anglia TWO Offshore Wind Farm	Operational	N/A	31	N/A	High	Yes	Proximity to North Falls.
East Anglia ONE NORTH Offshore Wind Farm	Operational	N/A	63	N/A	High	Yes	Proximity to North Falls.
Five Estuaries Offshore Wind Farm	~~Undergoing~~Waiting for DCO ~~Examination~~decision	N/A	0	N/A	High	Yes	Proximity to North Falls.
Chapter 18 Infrastructure and Other Users							
Five Estuaries Offshore Wind Farm	~~Undergoing~~Waiting for DCO ~~Examination~~decision	2028-2030	To array: 0	~~12.9 from the Five Estuaries array areas (0km from the Five Estuaries offshore cable corridor).~~To array: 12.9	Medium	Yes	Potential for cumulative effect during construction and operational phases due to the proximity of the projects.
			To cable corridor: 0.6	To cable corridor: 0			
	Consent granted		To array: 31.5	To array :36.7	High	Yes	

Project	Status	Construction Period	Closest Distance from the ~~Array~~array area (km)	Closest Distance from the Offshore Cable Corridor (km)	Confidence in Data	Included in CEA	Rationale
East Anglia TWO OWF		Construction planned mid 2020s	To cable corridor: 31.5	To cable corridor: 32.4			
NeuConnect Interconnector	Construction	2022-2028	2.5	0	High	Yes	The NeuConnect Interconnector bisects the North Falls offshore cable corridor and there is potential for temporal overlap of cable installation activities.
South & East Anglia (SEA) Link	~~Pre-planning~~Undergoing DCO Examination	2026-2030	5.4	0	Medium	Yes	The SeaLink Interconnector bisects the North Falls offshore cable corridor and there is potential for temporal overlap of cable installation activities.
Outer OTE aggregate exploration and option area 528/2	Unknown	2016-2024	9.4	14	Low	Yes	There is potential for some interaction between dredging and aggregate exploration on navigational safety. Presence of multiple vessels have the potential to have a cumulative effect.
Thames D aggregates production agreement area 524	Production agreement secured 2022	2022-2036	0	10.3	Low	Yes	
Southwold East aggregates production	Operational since 2012	2012-2025	50.1	48.4	Medium	Yes	

Project	Status	Construction Period	Closest Distance from the ~~Array~~array area (km)	Closest Distance from the Offshore Cable Corridor (km)	Confidence in Data	Included in CEA	Rationale
agreement area 430							
North Inner Gabbard aggregate production area 498	Operational since 2015	2012-2030	24.7	24	Medium	Yes	
Shipwash aggregate production area 507	Operational since 2016	2012-2031	19.6	9.8	High	Yes	
Longsand aggregate production area 508	Operational since 2014	2014-2029	13.9	5.8	Medium	Yes	
Longsand aggregate production area 509	Operational since 2015	2015-2030	13.8	2.1	Medium	Yes	
Longsand aggregate production area 510	Operational since 2015	2015-2030	9.5	3.5	Medium	Yes	
North Falls East aggregate production area 501	Operational since 2017	2017-2032	13.2	25.3	Medium	Yes	

Table 1.2 Projects included in the CEA for onshore technical assessments

Project	Status	Construction Period	Closest Distance from the Onshore Project Area (km)	Confidence in Data	Included in CEA	Rationale
Chapter 19 Ground Conditions and Contamination						
National Infrastructure Planning						
Five Estuaries Offshore Wind Farm EN010115	~~Undergoing~~Waiting for DCO ~~Examination~~decision	2028-2030	Five Estuaries project area directly overlaps with North Falls onshore project area.	High	Yes	There is a spatial overlap between the onshore project area for North Falls and Five Estuaries. There is also the potential for there to be a temporal overlap during construction and operational phases of both Five Estuaries and North Falls. Therefore, cumulative effects may occur.
Norwich to Tilbury EN020027	Pre-application	2027-2031	Project area directly overlaps with North Falls onshore project area.	High	Yes	The proposed Norwich to Tilbury project seeks to reinforce the high voltage power network in East Anglia between existing substations (Norwich Main, Bramford in Suffolk and Tilbury in Essex) as well as connect the Five Estuaries and North Fall Offshore Wind Farm developments to the network. There is a spatial overlap between the proposed location of the Norwich to Tilbury substation and the North Falls substation compound, the cables which will connect North Falls into the Norwich to Tilbury substation and any additional works required to facilitate the connection, therefore there is the potential for cumulative effects to occur.

Project	Status	Construction Period	Closest Distance from the Onshore Project Area (km)	Confidence in Data	Included in CEA	Rationale
Chapter 20 Onshore Air Quality						
National Infrastructure Planning						
Five Estuaries Offshore Wind Farm EN010115	~~Undergoing~~Waiting for DCO ~~Examination~~decision	2028-2030	Five Estuaries project area directly overlaps with North Falls onshore project area.	High	Yes	The onshore project area for Five Estuaries covers largely the same area as North Falls. There is also a possibility that both projects could be constructed at around the same time, therefore, cumulative effects may occur.
Norwich to Tilbury EN020027	Pre-application	2027-2031	Project area directly overlaps with North Falls onshore project area.	High	Yes	The proposed substation area for Norwich to Tilbury is in close proximity to North Falls proposed onshore substation works area; and the proposed new substation operational access road overlaps with the Bentley Road improvement works. Therefore, cumulative effects could occur.
Tendring District Council						
Bathside Bay Stour Road Harwich Essex CO12 3HF	Awaiting decision	2026-2028 (For Green Energy Hub)	18	High	Yes	The project is beyond 500m from the North Falls onshore project area. As detailed in ES Chapter 27 Traffic and Transport **[APP-041]**, a Transport Assessment and ES traffic and transport chapter is provided in support of this scheme. A review of these documents identifies a potential temporal overlap and spatial overlap between this scheme's and North Falls' traffic and transport study areas. Therefore, it is assessed that there is

Project	Status	Construction Period	Closest Distance from the Onshore Project Area (km)	Confidence in Data	Included in CEA	Rationale
						the potential for cumulative effects to occur.
Chapter 21 Water Resources and Flood Risk						
National Infrastructure Planning						
Five Estuaries Offshore Wind Farm EN010115	~~Undergoing~~Waiting for DCO ~~Examination~~decision	2028-2030	Five Estuaries project area directly overlaps with North Falls onshore project area.	High	Yes	The onshore project area for Five Estuaries covers largely the same area as North Falls. There is also a possibility that both projects could be constructed at around the same time, therefore, cumulative effects may occur.
Norwich to Tilbury EN020027	Pre-application	2027-2031	Project area directly overlaps with North Falls onshore project area.	High	Yes	The proposed substation area for Norwich to Tilbury is in close proximity to the North Falls proposed substation zone. Therefore, cumulative effects could occur.
Chapter 22 Land Use and Agriculture						
National Infrastructure Planning						
Five Estuaries Offshore Wind Farm EN010115	~~Undergoing~~Waiting for DCO ~~Examination~~decision	2028-2030	Five Estuaries project area directly overlaps with North Falls onshore project area.	High	Yes	There is a spatial overlap between the onshore project area for North Falls and Five Estuaries. There is also the potential for there to be a temporal overlap during construction and operational phases of both Five Estuaries and North Falls. Therefore, cumulative effects may occur.
Norwich to Tilbury EN020027	Pre-application	2027-2031	Project area directly overlaps with North Falls onshore project area.	Low	Yes	The proposed Norwich to Tilbury project seeks to reinforce the high voltage power network in East Anglia between existing substations (Norwich

Project	Status	Construction Period	Closest Distance from the Onshore Project Area (km)	Confidence in Data	Included in CEA	Rationale
						Main, Bramford in Suffolk and Tilbury in Essex) as well as connect the Five Estuaries and North Fall Offshore Wind Farm developments to the network. There is a spatial overlap between the proposed location of the Norwich to Tilbury substation and the North Falls substation compound, the cables which will connect North Falls into the Norwich to Tilbury substation and any additional works required to facilitate the connection, therefore there is the potential for cumulative effects to occur. At the time of assessment, the information available regarding Norwich to Tilbury was limited by the maturity of the scheme at the point of assessment (i.e. the publication of the Norwich to Tilbury PEIR). However, the information available at this time was used to undertake a reasonable assessment of the potential cumulative effects of North Falls and Norwich to Tilbury.

Project	Status	Construction Period	Closest Distance from the Onshore Project Area (km)	Confidence in Data	Included in CEA	Rationale
Chapter 23 Onshore Ecology						
National Infrastructure Planning						
Five Estuaries Offshore Wind Farm EN010115	~~Undergoing~~Waiting for DCO ~~Examination~~decision	2028-2030	Five Estuaries project area directly overlaps with North Falls onshore project area.	High	Yes	The onshore project area for Five Estuaries covers largely the same area as North Falls. There is also a possibility that both projects could be constructed at around the same time, therefore, cumulative effects may occur.
Norwich to Tilbury EN020027	Pre-application	2027-2031	Project area directly overlaps with North Falls onshore project area.	Low	Yes	The proposed substation area for Norwich to Tilbury overlaps with the North Falls onshore project area, to the west on the onshore substation works area and the proposed new substation operational access road overlaps and Bentley Road improvement works. Therefore, cumulative effects could occur. At the time of assessment, the information available regarding Norwich to Tilbury was limited by the maturity of the scheme at the point of assessment (i.e. the publication of the Norwich to Tilbury PEIR). However, the information available at this time was used to undertake a reasonable assessment of the potential cumulative effects of North Falls and Norwich to Tilbury.

Project	Status	Construction Period	Closest Distance from the Onshore Project Area (km)	Confidence in Data	Included in CEA	Rationale
Chapter 24 Onshore Ornithology						
National Infrastructure Planning						
Five Estuaries Offshore Wind Farm EN010115	~~Undergoing~~Waiting for DCO ~~Examination~~decision	2028-2030	Five Estuaries project area directly overlaps with North Falls onshore project area.	High	Yes	The onshore project area for Five Estuaries covers largely the same area as North Falls. There is also a possibility that both projects could be constructed at around the same time, therefore, cumulative effects may occur.
Norwich to Tilbury EN020027	Pre-application	2027-2031	Project area directly overlaps with North Falls onshore project area.	Low	Yes	The proposed substation area for Norwich to Tilbury is in close proximity to North Falls proposed onshore substation works area; and the proposed new substation operational access road overlaps with the Bentley Road improvement works. Therefore, cumulative effects could occur. At the time of assessment, the information available regarding Norwich to Tilbury was limited by the maturity of the scheme at the point of assessment (i.e. the publication of the Norwich to Tilbury PEIR). However, the information available at this time was used to undertake a reasonable assessment of the potential cumulative effects of North Falls and Norwich to Tilbury.
Bradwell B new nuclear power station EN010111	Pre-application	Predicted in 9-12 years	21	Low	Yes	The Stage One consultation document briefly describes likely breeding and non-breeding bird assemblages in the local area which include Important

Project	Status	Construction Period	Closest Distance from the Onshore Project Area (km)	Confidence in Data	Included in CEA	Rationale
						Ornithological Features (IOFs) associated with North Falls. As this project is also located in Essex, cumulative effects may occur.
Chapter 25 Onshore Archaeology and Cultural Heritage[1]						
National Infrastructure Planning						
Five Estuaries Offshore Wind Farm EN010115	~~Undergoing~~Waiting for DCO ~~Examination~~decision	2028-2030	Five Estuaries project area directly overlaps with North Falls onshore project area.	High	Yes	The onshore project area for Five Estuaries covers largely the same area as North Falls. There is also a possibility that both projects could be constructed at around the same time, therefore, cumulative effects may occur, and may result in impacts of a direct and / or indirect nature upon non-designated heritage assets. There is also the possibility of cumulative effects on heritage setting should the construction periods overlap.
Norwich to Tilbury EN020027	Pre-application	2027-2031	Project area directly overlaps with North Falls onshore project area.	High	Yes	The proposed substation area for Norwich to Tilbury is in close proximity to North Falls proposed onshore substation works area. Therefore, cumulative effects could occur, and may result in impacts of a direct and / or indirect nature upon non-designated heritage assets. There is also the possibility of cumulative effects on heritage setting should the construction periods overlap.

[1] Please refer to Table 1.4 for a summary of offshore projects considered in the CEA in relation to impacts to the setting of onshore heritage assets.

Project	Status	Construction Period	Closest Distance from the Onshore Project Area (km)	Confidence in Data	Included in CEA	Rationale
Tendring District Council						
Land adjacent to Lawford Grid Substation Ardleigh Road Little Bromley Essex CO11 2QB	Approved	Information unavailable	0.3	Low	Yes	The proposed battery energy storage scheme is located in close proximity to the onshore substation works area for North Falls. If the project construction overlaps with the construction of the North Falls substation, cumulative effects on heritage setting could occur depending on the eventual North Falls onshore substation location and is therefore considered within the CEA. The potential for direct and indirect physical cumulative effects on heritage assets is unlikely and are scoped out of further assessment. At the time of assessment, the information available regarding Norwich to Tilbury was limited by the maturity of the scheme at the point of assessment (i.e. the publication of the Norwich to Tilbury PEIR). However, the information available at this time was used to undertake a reasonable assessment of the potential cumulative effects of North Falls and Norwich to Tilbury.
Chapter 26 Noise and Vibration						
National Infrastructure Planning						
Five Estuaries Offshore Wind Farm EN010115	~~Undergoing~~Waiting for DCO ~~Examination~~decision	2028-2030	Five Estuaries project area directly overlaps with North Falls onshore project area.	High	Yes	The onshore project area for Five Estuaries covers largely the same area as North Falls. There is also a possibility that both projects could be constructed at around the same time,

Project	Status	Construction Period	Closest Distance from the Onshore Project Area (km)	Confidence in Data	Included in CEA	Rationale
						therefore, cumulative effects may occur.
Norwich to Tilbury EN020027	Pre-application	2027-2031	Project area directly overlaps with North Falls onshore project area.	Low	Yes	The proposed substation area for Norwich to Tilbury is in close proximity to North Falls proposed onshore substation works area; and the proposed new substation operational access road overlaps with the Bentley Road improvement works. Therefore, cumulative effects could occur. At the time of assessment, the information available regarding Norwich to Tilbury was limited by the maturity of the scheme at the point of assessment (i.e. the publication of the Norwich to Tilbury PEIR). However, the information available at this time was used to undertake a reasonable assessment of the potential cumulative effects of North Falls and Norwich to Tilbury.
Tendring District Council						
Land adjacent to Lawford Grid Substation Ardleigh Road Little Bromley Essex CO11 2QB 21/02070/FUL	Approved	Information unavailable	0.3	High	Yes	As detailed in ES Chapter 27 Traffic and Transport **[APP-041]**, no cumulative construction traffic effects are anticipated for this project. The proposed battery energy storage scheme (BESS) is located in close proximity to the onshore substation works area for North Falls. If the project construction overlaps with the construction of the North Falls substation, cumulative noise effects

Project	Status	Construction Period	Closest Distance from the Onshore Project Area (km)	Confidence in Data	Included in CEA	Rationale
						could occur, depending on the eventual North Falls onshore substation location. Depending on the eventual North Falls onshore substation location, cumulative operational noise effects could also occur.
Chapter 27 Traffic and Transport						
National Infrastructure Planning						
Five Estuaries Offshore Wind Farm EN010115	~~Undergoing~~Waiting for DCO ~~Examination~~decision	2028-2030	Five Estuaries project area directly overlaps with North Falls onshore project area.	High	Yes	The onshore project area for Five Estuaries covers largely the same area as North Falls. There is also a possibility that both projects could be constructed at the same time, therefore, cumulative effects could occur.
Norwich to Tilbury EN020027	Pre-application	2027-2031	Project area directly overlaps with North Falls onshore project area.	Medium	Yes	The proposed substation area for Norwich to Tilbury is in close proximity to North Falls proposed onshore substation works area; and discussions with the scheme's promoters (National Grid) have identified that construction would share the same access route as North Falls from the A120 along Bentley Road and the temporary haul road to the new substation. Therefore, cumulative effects could occur.
Tendring District Council						
Land to The South of Thorpe	Approved	Information unavailable	10	High	Yes	A Transport Assessment (TA) is provided in support of this scheme. A review of these documents identifies a

Project	Status	Construction Period	Closest Distance from the Onshore Project Area (km)	Confidence in Data	Included in CEA	Rationale
Road Weeley Essex CO16 9AJ 19/00524/OUT						potential temporal overlap and spatial and overlap between the scheme's and North Falls' traffic and transport study areas. Therefore, it is assessed that there is the potential for cumulative effects to occur.
Bathside Bay Stour Road Harwich Essex CO12 3HF23/01594/FUL	Awaiting decision	2026-2028 (For Green Energy Hub)	18	High	Yes	A TA and ES traffic and transport chapter is provided in support of this scheme. A review of these documents identifies a potential temporal overlap and spatial overlap between the scheme's and North Falls; traffic and Transport study areas. Therefore, it is assessed that there is the potential for cumulative effects to occur.
Land South West of Horsley Cross Roundabout Clacton Road Horsley Cross Essex CO11 2NZ 13/00745/OUT	Operational	Information unavailable	5	High	Yes	The project was scoped into the cumulative assessment for traffic and transport noting that there is a spatial overlap of the respective study areas and that the application for the scheme is supported by a Transport Assessment (suggesting a thorough assessments of the transport implications of development were required) and therefore the potential for cumulative effects were noted.

Table 1.3 Projects included in the CEA for project-wide chapters assessments

Project	Status	Construction period	Closest distance from the array area (km)	Closest distance from the offshore cable corridor (km)	Closest distance from the onshore project area (km)	Confidence in data	Included in CEA	Rationale
Chapter 28 Human Health								
National Infrastructure Planning								
Five Estuaries Offshore Wind Farm EN010115	Waiting for DCO decision	2028-2030	0 (array area)	0 (offshore cable corridor)	Five Estuaries project area directly overlaps with North Falls onshore project area.	High	Yes	There may be spatial and temporal overlaps during construction, therefore some cumulative effects on determinants of health (i.e. noise, air quality, ground/water contamination, physical activity, journey times/reduced access and employment) may occur.
Norwich to Tilbury EN020027	Pre-application	2027-2031	N/A	N/A	Project area directly overlaps with North Falls onshore project area.	Low	Yes	The proposed substation area for Norwich to Tilbury is in close proximity to North Falls proposed onshore substation works area; and the proposed new substation operational access road overlaps with the Bentley Road

Project	Status	Construction period	Closest distance from the array area (km)	Closest distance from the offshore cable corridor (km)	Closest distance from the onshore project area (km)	Confidence in data	Included in CEA	Rationale
								improvement works. Therefore, cumulative effects could occur. At the time of assessment, the information available regarding Norwich to Tilbury was limited by the maturity of the scheme at the point of assessment (i.e. the publication of the Norwich to Tilbury PEIR). However, the information available at this time was used to undertake a reasonable assessment of the potential cumulative effects of North Falls and Norwich to Tilbury.
Longfield Solar Farm EN010118	Approved (Undergoing pre-commencement surveys and landscaping works)	2024-2026	N/A	N/A	35.3	High	Yes (for regional populations; operational phase only)	These projects could have temporal overlap during operation and could potentially affect the same regional population, therefore some cumulative
Thurrock Flexible	Approved (DCO issued in 2022)	2 year period – assumed to be 2021 -2023 in the	N/A	N/A	65.2	High	Yes (for regional populations;	

Project	Status	Construction period	Closest distance from the array area (km)	Closest distance from the offshore cable corridor (km)	Closest distance from the onshore project area (km)	Confidence in data	Included in CEA	Rationale
Generation Plant EN010092		planning submission but this has been delayed.					operational phase only	effects on determinants of health (i.e. employment) may occur at the regional population level.
Tendring District Council								
Battery energy storage scheme (BESS) on land adjacent to Lawford Grid Substation, Ardleigh Road, Little Bromley, Essex, CO11 2QB 21/02070/FUL	Approved (full)	Information unavailable	N/A	N/A	0.3	N/A	Yes	The proposed BESS would be located in close proximity to the proposed onshore substation for North Falls, therefore some cumulative effects on determinants of health (i.e. operational noise) may occur.
Land to The South of Thorpe Road Weeley Essex CO16 9AJ 19/00524/OUT	Approved	Information unavailable	N/A	N/A	10	High	Yes	A Transport Assessment is provided in support of this scheme. A review of these documents identifies a potential temporal overlap and spatial and overlap between the scheme's and North Falls' traffic and transport study areas. Therefore, it

Project	Status	Construction period	Closest distance from the array area (km)	Closest distance from the offshore cable corridor (km)	Closest distance from the onshore project area (km)	Confidence in data	Included in CEA	Rationale
								is assessed that there is the potential for cumulative effects to occur.
Bathside Bay Stour Road Harwich Essex CO12 3HF 23/01594/FUL	Awaiting decision	2026-2028 (For Green Energy Hub)	N/A	N/A	18	High	Yes	A Transport Assessment and ES traffic and transport chapter is provided in support of this scheme. A review of these documents identifies a potential temporal overlap and spatial and overlap between the scheme's and North Falls' traffic and transport study areas. Therefore, it is assessed that there is the potential for cumulative effects to occur.
Land South West of Horsley Cross Roundabout Clacton Road Horsley Cross Essex CO11 2NZ	Operational	Information unavailable	N/A	N/A	5	High	Yes	The project was scoped into the cumulative assessment for traffic and transport noting that there is a spatial overlap of the respective study areas and that the

Project	Status	Construction period	Closest distance from the array area (km)	Closest distance from the offshore cable corridor (km)	Closest distance from the onshore project area (km)	Confidence in data	Included in CEA	Rationale
13/00745/OUT								application for the scheme is supported by a Transport Assessment (suggesting a thorough assessments of the transport implications of development were required) and therefore the potential for cumulative effects were noted.
Other locations								
Bramford to Twinstead Overhead Line	Consented	2024-2028	N/A	N/A	14	High	Yes	The Bramford to Twinstead Overhead Line may overlap with the study area used in the assessment of human health as set out in Section 28.3.1 of Chapter 28 Human Health **[APP-042]**.
Sizewell C Project	Approved (DCO issued in 2022)	2022-2034	N/A	N/A	49	High	Yes	The Sizewell C Nuclear Power Station will be located in East

Project	Status	Construction period	Closest distance from the array area (km)	Closest distance from the offshore cable corridor (km)	Closest distance from the onshore project area (km)	Confidence in data	Included in CEA	Rationale
								Suffolk, and some cumulative effects on determinants of health (i.e. construction and development employment effects) may occur.
Chapter 29 Seascape Landscape and Visual Impact Assessment								
East Anglia Two	Consented	Mid 2020s	31.5 (array area and offshore cable corridor)	37.6 (array area)	45.6 (offshore cable corridor)	N/A	Yes	For the Offshore Above-sea Development, the cumulative assessment focuses on offshore wind farms within the SLVIA study area (see Section 29.4.4 of Chapter 29 Seascape Landscape and Visual Impact Assessment **[APP-043]**). Consented offshore wind farms, and offshore wind farms currently in the NSIP planning system, are considered as part of the assessment of
East Anglia One North	Consented	Mid 2020s	45.1 (offshore cable corridor)	32.5 (offshore cable corridor)	45.6 (offshore cable corridor)	N/A	Yes	
Five Estuaries Offshore Wind Farm	Waiting for DCO decision	2028-2030	0 (array area)	0 (offshore cable corridor)	Five Estuaries project area directly overlaps with North Falls onshore project area.	N/A	Yes	

Project	Status	Construction period	Closest distance from the array area (km)	Closest distance from the offshore cable corridor (km)	Closest distance from the onshore project area (km)	Confidence in data	Included in CEA	Rationale
								potential future cumulative effects.
Chapter 30 Landscape and Visual Impact Assessment								
National Infrastructure Planning								
Five Estuaries Offshore Wind Farm EN010115	Waiting for DCO decision	2028-2030	N/A	N/A	Five Estuaries project area directly overlaps with North Falls onshore project area.	High	Yes	The onshore project area for Five Estuaries Offshore Wind Farm covers largely the same area as North Falls. There is also a possibility that both projects could be constructed at around the same time, therefore, likely significant cumulative effects may occur.
Norwich to Tilbury EN020027	Pre-application	2027-2031	N/A	N/A	Scoping area directly overlaps with North Falls onshore project area.	Medium	Yes	The proposed substation area for Norwich to Tilbury is in close proximity to North Falls onshore substation. Therefore, likely significant cumulative effects may occur.
Tendring District Council								

Project	Status	Construction period	Closest distance from the array area (km)	Closest distance from the offshore cable corridor (km)	Closest distance from the onshore project area (km)	Confidence in data	Included in CEA	Rationale
Land adjacent to Lawford Grid Substation Ardleigh Road Little Bromley Essex CO11 2QB	Approved	Information unavailable	N/A	N/A	0.3	Medium	Yes	Included. Within 2km LVIA study area, and likely significant cumulative effects may occur.
Chapter 31 Socio-economics								
Offshore wind farms								
East Anglia TWO Offshore Wind Farm EN010078	Approved (DCO issued in 2022)	Mid 2020s	31.5 (array area and offshore cable corridor)	36.7 (array area)	45.6 (offshore cable corridor)	High	Yes	The East Anglia TWO Offshore Wind Farm's impact area is likely to overlap with the assessment's Suffolk study area on a number of receptors, and construction periods could overlap.
East Anglia ONE North Offshore Wind Farm EN010077	Approved (DCO issued in 2022)	Mid 2020s	45.1 (offshore cable corridor)	32.5 (offshore cable corridor)	45.6 (offshore cable corridor)	High	Yes	The East Anglia ONE North Offshore Wind Farm's impact area is likely to overlap with the assessment's Suffolk study area on a number of receptors.

Project	Status	Construction period	Closest distance from the array area (km)	Closest distance from the offshore cable corridor (km)	Closest distance from the onshore project area (km)	Confidence in data	Included in CEA	Rationale
East Anglia THREE Offshore Wind Farm EN010056	Construction phase	Construction commenced in 2022	31.8 (offshore cable corridor)	8 (offshore cable corridor)	21 (offshore cable corridor)	High	Yes	Whilst construction is assumed to be completed before installation and commissioning of North Falls has begun, the East Anglia THREE Offshore Wind Farm is likely to interact with some of the receptors identified during the operational phase.
Five Estuaries Offshore Wind Farm EN010115	Waiting for DCO decision	2028-2030	0 (array area)	0 (offshore cable corridor)	Five Estuaries project area directly overlaps with North Falls onshore project area.	High	Yes	The onshore project area for Five Estuaries covers largely the same area as North Falls. There is also a possibility that both projects are constructed at the same time.
Proposed interconnectors and other energy transmission infrastructure								
Norwich to Tilbury EN020027	Pre-application	2027-2031	N/A	N/A	Project area directly overlaps with North Falls onshore	Low	Yes	The latest proposals include building a new 400,000 volts (400 kV) electricity overhead transmission line,

Project	Status	Construction period	Closest distance from the array area (km)	Closest distance from the offshore cable corridor (km)	Closest distance from the onshore project area (km)	Confidence in data	Included in CEA	Rationale
					project area.			work at existing substations and building a new substation to connect new proposed offshore wind farms to the electricity transmission network. The proposed substation area for Norwich to Tilbury is in close proximity to North Falls' proposed onshore substation works area. Therefore, cumulative effects on socio-economics could occur. At the time of assessment, the information available regarding Norwich to Tilbury was limited by the maturity of the scheme at the point of assessment (i.e. the publication of the Norwich to Tilbury PEIR). However, the

Project	Status	Construction period	Closest distance from the array area (km)	Closest distance from the offshore cable corridor (km)	Closest distance from the onshore project area (km)	Confidence in data	Included in CEA	Rationale
								information available at this time was used to undertake a reasonable assessment of the potential cumulative effects of North Falls and Norwich to Tilbury.
Other onshore developments								
Sizewell C Project	Approved (DCO issued in 2022)	2022-2034	N/A	N/A	49	High	Yes	Sizewell C Nuclear Power Station will be located in Suffolk. Therefore, it may interact with some receptors, particularly effects on employment, GVA and demographic change.
Bramford to Twinstead Overhead Line	Consented	2024-2028	N/A	N/A	14	High	Yes	The Bramford to Twinstead Overhead Line may overlap with the study area used in the assessment of the potential effects of North Falls on socio-economic receptors.

Project	Status	Construction period	Closest distance from the array area (km)	Closest distance from the offshore cable corridor (km)	Closest distance from the onshore project area (km)	Confidence in data	Included in CEA	Rationale
Longfield Solar Farm	Approved (Undergoing pre-commencement surveys and landscaping works)	2024-2026	N/A	N/A	35	High	Yes (operational phase only)	The Longfield Solar Farm is located in Chelmsford, Essex and therefore the impact area is likely to overlap with the Essex study area for the assessment of the potential effects of North Falls on socio-economic receptors. However, the construction phase is unlikely to overlap with the installation and commissioning activity of North Falls and therefore only effects during the operational phase are scoped in.
Progress Power Station	Approved (DCO issued 2015)	Construction is expected to last approximately 24 months and the power station is due to the enter commercial operation by October 2024.	N/A	N/A	46	Medium	Yes (operational phase only)	The Power progress station is situated at Eye Airfield Industrial Estate, Mid Suffolk. Commercial operation is expected to begin within October 2024 and as such it may

Project	Status	Construction period	Closest distance from the array area (km)	Closest distance from the offshore cable corridor (km)	Closest distance from the onshore project area (km)	Confidence in data	Included in CEA	Rationale
								interact with some receptors identified during the operational phase.
Sunnica Energy Farm	Approved (DCO issued July 2024)	Original timeline was for construction to take place between 2023-2025. However this has been delayed. It is assumed that the Project is still likely to have a 2 year construction period if approved and built out	N/A	N/A	55	High	Yes (operational phase only)	Sunnica Energy Farm's construction phase is not expected to coincide with the construction phase of North Falls. However, as the Energy farm is located in Suffolk its operational phase will overlap with North Falls and likely effect a number of receptors.
Thurrock Flexible Generation Plant	Approved (DCO issued in 2022)	2-year period – assumed to be 2021 -2023 in the planning submission but this has been delayed.	N/A	N/A	66	High	Yes (operational phase only)	The Thurrock Flexible Generation Plant is located in Thurrock, Essex. Therefore, the impact area is likely to overlap with the Essex study area for the assessment of the potential effects of North Falls on socio-economic receptors. However, the construction of

Project	Status	Construction period	Closest distance from the array area (km)	Closest distance from the offshore cable corridor (km)	Closest distance from the onshore project area (km)	Confidence in data	Included in CEA	Rationale
								this project is likely to be completed before the installation and commissioning activity of North Falls begins and therefore the Project is scoped out of the construction phase effects.
Chapter 32 Tourism and Recreation								
National Infrastructure Planning – OWF								
Five Estuaries Offshore Wind Farm EN010115	Waiting for DCO decision	2028-2030	0 (array area)	0 (offshore cable corridor)	Five Estuaries project area directly overlaps with North Falls onshore project area.	High	Yes	The onshore project area for Five Estuaries covers largely the same area as North Falls, and both array areas may be visible from shore. There is also a possibility that both projects could be constructed at around the same time. Therefore, cumulative effects on marine, coastal, and onshore tourism and recreational assets could occur.

Project	Status	Construction period	Closest distance from the array area (km)	Closest distance from the offshore cable corridor (km)	Closest distance from the onshore project area (km)	Confidence in data	Included in CEA	Rationale
East Anglia TWO Offshore Wind Farm EN010078	Approved (DCO issued in 2022)	Mid 2020s	31.5 (array area and offshore cable corridor)	36.7 (array area)	45.6 (offshore cable corridor)	High	Yes, for long term visual effects from offshore infrastructure and impact on reduction in availability of accommodation only.	The onshore infrastructure for this project is not in close proximity to North Falls' onshore project area. However, cumulative visual effects on coastal and marine tourism and recreational assets could occur.
East Anglia ONE North Offshore Wind Farm EN010077	Approved (DCO issued in 2022)	Mid 2020s	45.1 (offshore cable corridor)	32.5 (offshore cable corridor)	45.6 (offshore cable corridor)	High	Yes, for long term visual effects from offshore infrastructure and impact on reduction in availability of accommodation only.	The onshore infrastructure for this project is not in close proximity to North Falls' onshore project area. However, cumulative visual effects on coastal and marine tourism and recreational assets could occur.
National Infrastructure Planning – Other energy infrastructure								
Bramford to Twinstead Overhead Line	Consented	2024-2028	N/A	N/A	14	High	Yes	There are potential impacts on the tourism and recreation assets, visitor economy and visitor

Project	Status	Construction period	Closest distance from the array area (km)	Closest distance from the offshore cable corridor (km)	Closest distance from the onshore project area (km)	Confidence in data	Included in CEA	Rationale
								accommodation which could overlap.
Sizewell C Project	Approved (DCO issued in 2022)	2023-2034	N/A	N/A	49	High	Yes	Sizewell C Nuclear Power Station will be located in East Suffolk. Therefore, it has potential to interact with some receptors, particularly effects the visitor economy and on reduction in visitor accommodation due to the overlapping construction period.
Norwich to Tilbury (electric lines project) EN020027	Pre-application	2027-2031	N/A	N/A	Scoping area directly overlaps with North Falls onshore project area.	Low	Yes	The proposed substation area for Norwich to Tilbury is in close proximity to North Falls' proposed onshore substation works area. Therefore, cumulative effects on onshore tourism and recreational assets could occur. At the time of assessment, the information available regarding Norwich to Tilbury

Project	Status	Construction period	Closest distance from the array area (km)	Closest distance from the offshore cable corridor (km)	Closest distance from the onshore project area (km)	Confidence in data	Included in CEA	Rationale
								was limited by the maturity of the scheme at the point of assessment (i.e. the publication of the Norwich to Tilbury PEIR). However, the information available at this time was used to undertake a reasonable assessment of the potential cumulative effects of North Falls and Norwich to Tilbury.
NeuConnect Interconnector	Pre-construction	2022-2028	1	N/A	0	High	Yes, for offshore construction effects only.	The NeuConnect Interconnector bisects the North Falls export cable corridor and interconnector cable corridor and there is potential for temporal overlap of cable installation activities. Therefore, as a result of vessel presence, cumulative effects on marine tourism and recreational assets

Project	Status	Construction period	Closest distance from the array area (km)	Closest distance from the offshore cable corridor (km)	Closest distance from the onshore project area (km)	Confidence in data	Included in CEA	Rationale
								may occur during the construction phase. As the project is a submarine power cable, there is no potential for cumulative visual effects during the operation phase. NeuConnect makes landfall in Kent and Germany. Thus, there is no potential for cumulative effects on coastal and onshore tourism and recreational assets.
South & East Anglia (SEA) Link EN020026	Undergoing DCO Examination	2026-2030	3	N/A	20	Medium	Yes, for offshore construction effects only.	The emerging preferred and alternative routes for Sea Link intersects with North Falls' offshore cable corridor and there is potential for temporal overlap of cable installation activities. Therefore, cumulative effects on marine tourism and recreational assets,

Project	Status	Construction period	Closest distance from the array area (km)	Closest distance from the offshore cable corridor (km)	Closest distance from the onshore project area (km)	Confidence in data	Included in CEA	Rationale
								due to the presence of vessels, may occur during the construction phase. As the project is a submarine power cable, there is no potential for cumulative visual effects during the operation phase.
EuroLink Interconnector	Pre-application	N/A	Cable route unknown	N/A	N/A	N/A	Yes, for offshore construction effects only.	Interconnector between UK and Netherlands. Consultation materials show the interconnector making landfall between Aldeburgh and Thorpeness. Thus, there is no potential for cumulative effects on coastal and onshore tourism and recreational assets. The potential for offshore cumulative effects will be subject to the interconnector cable

Project	Status	Construction period	Closest distance from the array area (km)	Closest distance from the offshore cable corridor (km)	Closest distance from the onshore project area (km)	Confidence in data	Included in CEA	Rationale
								route and installation programme.
Chapter 33 Climate Change[2]								
National Infrastructure Planning								
Five Estuaries Offshore Wind Farm EN010115	Waiting for DCO decision	2028-2030	0 (array area)	0 (offshore cable corridor)	Five Estuaries project area directly overlaps with North Falls onshore project area.	High	Yes	The onshore project area for Five Estuaries covers largely the same area as North Falls. There is also a possibility that both projects would be in construction and/or operation for the same time period, therefore, cumulative effects to surface water flooding may occur.
Norwich to Tilbury EN020027	Pre-application	2027-2031	N/A	N/A	Project area directly overlaps with North Falls onshore	Low	Yes	The proposed substation area for Norwich to Tilbury is in close proximity to North Falls proposed onshore substation works area; and the

[2] Chapter 33 Climate Change **[APP-047]** does not require a CEA; the projects scoped into the CEA relate to the Climate Change Risk Assessment. Please see Section 33.8 in Chapter 33 Climate Change **[APP-047]** for further detail.

Project	Status	Construction period	Closest distance from the array area (km)	Closest distance from the offshore cable corridor (km)	Closest distance from the onshore project area (km)	Confidence in data	Included in CEA	Rationale
					project area.			proposed new substation operational access road overlaps with the Bentley Road improvement works. Therefore, cumulative effects to surface water flooding may occur. At the time of assessment, the information available regarding Norwich to Tilbury was limited by the maturity of the scheme at the point of assessment (i.e. the publication of the Norwich to Tilbury PEIR). However, the information available at this time was used to undertake a reasonable assessment of the potential cumulative effects of North Falls and Norwich to Tilbury.

Table 1.4 Offshore Projects included in the CEA for Onshore Archaeology and Cultural Heritage

Project	Status	Distance From Array	Number Of Wind Turbine Generator (WTG)	Blad Tip Height (m)	Included In CEA	Rationale
Greater Gabbard	Operational	0 to 20 km	140	131	Yes	This project has been identified in SLVIA visualisations from onshore heritage assets in which the assessment in Section 25.6.2 of ES Chapter 25 Onshore Archaeology and Cultural Heritage has identified will be subject to operational impacts to setting and therefore there is potential for cumulative effects to occur.
Galloper	Operational	0 to 25 km	56	180.5	Yes	This project has been identified in SLVIA visualisations from onshore heritage assets in which the assessment in Section 25.6.2 of ES Chapter 25 Onshore Archaeology and Cultural Heritage has identified will be subject to operational impacts to setting and therefore there is potential for cumulative effects to occur.
London Array – Phase 1	Operational	20 to 32 km	175	147	Yes	This project has been identified in SLVIA visualisations from onshore heritage assets in which the assessment in Section 25.6.2 of ES Chapter 25 Onshore Archaeology and Cultural Heritage has identified will be subject to operational impacts to setting and therefore there is potential for cumulative effects to occur.
East Anglia Two	Consented	35 to 55 km	60	283	Yes	This project has been identified in SLVIA visualisations from onshore heritage assets in which the assessment in Section 25.6.2 of ES Chapter 25 Onshore Archaeology and Cultural Heritage has identified will be subject to operational impacts to setting

Project	Status	Distance From Array	Number Of Wind Turbine Generator (WTG)	Blad Tip Height (m)	Included In CEA	Rationale
						and therefore there is potential for cumulative effects to occur.
Gunfleet Sands – Phase 1 and 2	Operational	39 to 46 km	48	129	Yes	This project has been identified in SLVIA visualisations from onshore heritage assets in which the assessment in Section 25.6.2 of ES Chapter 25 Onshore Archaeology and Cultural Heritage has identified will be subject to operational impacts to setting and therefore there is potential for cumulative effects to occur.
Gunfleet Sands – Phase 3 Demonstration Project	Operational	46 km	2	144	Yes	This project has been identified in SLVIA visualisations from onshore heritage assets in which the assessment in Section 25.6.2 of ES Chapter 25 Onshore Archaeology and Cultural Heritage has identified will be subject to operational impacts to setting and therefore there is potential for cumulative effects to occur

1.4 Cumulative Effect Assessment Summary

~~29.~~30. The following sections detail the cumulative impacts which were considered for each technical ES chapter, and their associated significance. Further detail on the impact assessments undertaken and any associated mitigation required can be found within each technical ES Chapter.

1.4.1 Chapter 8 Marine Geology Oceanography and Physical Processes **[APP-022]**

~~30.~~31. Table 1.5 provides a summary of the CEA outcomes for marine geology oceanography and physical processes. All projects with the potential for cumulative impacts identified for marine geology oceanography and physical processes are presented in Table 1.1.

.

Table 1.5 Potential cumulative impacts identified for Marine Geology Oceanography and Physical Processes

IMPACT	Receptor	RATIONALE	CUMULATIVE EFFECT	ADDITIONAL MITIGATION*
Construction and Operation				
Cumulative changes in seabed level	Essex coast	There is a potential temporal overlap in installation activities with the Projects screened in which could cause a cumulative effect with regards to changes in seabed level. There is a potential temporal overlap in decommissioning activities with other projects screened in.	Negligible	N/A
	Suffolk coast		Negligible	N/A
	Margate and Long Sands Special Area of Conservation (SAC)		Negligible	N/A
	Annex I sandbanks		Negligible	N/A
	Kentish Knock East (KKE) Marine Conservation Zone (MCZ)		Negligible	N/A
Cumulative changes in operational tidal currents	Annex I sandbanks	Impacts could occur and potentially coalesce with those arising from other wind farms which could cause a cumulative effect with regards to tidal currents, wave and sediment transport.	Negligible	N/A
	KKE MCZ		Negligible	N/A
Cumulative changes in operational waves	Annex I sandbanks		Negligible	N/A
	KKE MCZ		Negligible	N/A
Cumulative changes in	Essex coast		Negligible	N/A
	Suffolk coast		Negligible	N/A

IMPACT	Receptor	RATIONALE	CUMULATIVE EFFECT	ADDITIONAL MITIGATION*
operational sediment transport	Margate and Long Sands SAC		Negligible	N/A
	Annex I sandbanks		Negligible	N/A
	KKE MCZ		Negligible	N/A

** A summary of the embedded mitigation commitments can be found in Document 2.6 Schedule of Mitigation **[REP5-006]**.*

1.4.2 Chapter 9 Marine Water and Sediment Quality **[APP-023]**

~~31.~~32. Table 1.6 provides a summary of the CEA outcomes for marine water and sediment quality. All projects with the potential for cumulative impacts identified for marine water and sediment quality are presented in Table 1.1.

Table 1.6 Potential cumulative impacts identified for Marine Water and Sediment Quality

IMPACT	RATIONALE	CUMULATIVE EFFECT	ADDITIONAL MITIGATION*
Construction			
Impact 1: Increases in suspended sediment associated with seabed preparation for the installation of foundations, and array cables	Effects will occur at isolated locations for a time-limited duration and are local in nature, however, due to nearby projects, cumulative effects must be assessed.	Not Significant (Negligible)	N/A
Impact 2: Increases in suspended sediment due to drill arisings for installation of piled foundations for wind turbines and OSPs/OCP		Not Significant (Negligible)	N/A
Impact 3: Increases in suspended sediment associated with installation of offshore export cables		Not Significant (Minor)	N/A
Operation			
Impacts will be highly localised around the maintenance activities, short-term and intermittent, therefore there is no potential for cumulative effects.			
Decommissioning			
Impact 4: Increases in suspended sediment associated with removal of foundations and array cables	Effects will occur at isolated locations for a time-limited duration and are local in nature, however, due to nearby projects, cumulative effects must be assessed.	Not Significant (Negligible)	N/A
Impact 5: Increases in suspended sediment associated with removal of the export cables		Not Significant (Minor)	N/A

** A summary of the embedded mitigation commitments can be found in Document 2.6 Schedule of Mitigation **[REP5-006]**.*

1.4.3 Chapter 10 Benthic and Intertidal Ecology **[APP-024]**

~~32.~~33. Table 1.7 provides a summary of the CEA outcomes for benthic and intertidal ecology. All projects with the potential for cumulative impacts identified for benthic and intertidal ecology are presented in Table 1.1.

Table 1.7 Potential cumulative impacts identified for Benthic and Intertidal Ecology

IMPACT	RATIONALE	CUMULATIVE EFFECT	ADDITIONAL MITIGATION*
CONSTRUCTION, OPERATION AND DECOMMISSIONING			
Impact 1: Temporary physical disturbance and increased suspended sediment concentrations	Increases in SSC are expected to be localised at the point of discharge and short-term. The small quantities of fine sediment may be transported further; however, it will be widely and rapidly dispersed and not increase the volume of sediment already present in the benthos. The elevation of SSC is expected to be lower than concentrations that would develop in the water column during storm conditions. However, due to nearby offshore wind farms, cumulative effects are likely.	Minor	N/A
Impact 2: Loss of habitat during construction, operation and decommissioning	Additive habitat loss across the region. Other developments in the region have the potential to have cumulative habitat loss impacts	Minor	N/A
Impact 3: Colonisation of introduced substrate, including non-native species	It is likely that benthic organisms will successfully colonise introduced infrastructure. Biosecurity measures will be used to prevent the introduction of INNS. The risk of introduction to the southern North Sea is not considered to be significantly increased as a result of the Project. However, due to the potential for larvae to disperse over distances greater than	Minor	N/A

IMPACT	RATIONALE	CUMULATIVE EFFECT	ADDITIONAL MITIGATION*
CONSTRUCTION, OPERATION AND DECOMMISSIONING			
	one hundred kilometres (Álvarez-Noriega et al., 2020), this impact Is likely.		
Impact 4: Interaction of (electromagnetic fields) EMF	EMF will be highly localised around the offshore cable corridor and array cables. However, due to proximity with Five Estuaries export cables and interconnector cables, cumulative effects are likely.	Negligible	N/A

** A summary of the embedded mitigation commitments can be found in Document 2.6 Schedule of Mitigation **[REP5-006]**.*

1.4.4 Chapter 11 Fish and Shellfish Ecology **[APP-025]**

~~33.~~34. Table 1.8 provides a summary of the CEA outcomes for fish and shellfish ecology. All projects with the potential for cumulative impacts identified for fish and shellfish ecology are presented in Table 1.1.

Table 1.8 Potential cumulative impacts identified for Fish and Shellfish Ecology

IMPACT	RECEPTOR	RATIONALE	CUMULATIVE EFFECT	ADDITIONAL MITIGATION*
Construction				
Cumulative impact 1: Physical disturbance and temporary habitat loss during construction	Fish in general	Effects will occur at isolated locations for a time-limited duration and are local in nature. Given the presence of nearby offshore wind farms, however, cumulative effects must be assessed.	Negligible	N/A
	Sandeels		Minor	N/A
	Herring (Downs and Blackwater)		Minor	N/A
	Thornback ray		Minor	N/A
	Oysters / cockles		Minor	N/A
	Shellfish in general		Minor	N/A
Cumulative impact 2: Increased SSCs and sediment re-deposition during construction	Fish and shellfish in general	Increases in SSC are expected to be localised at the point of discharge and short-term. The small quantities of fine sediment may be transported further; however, it will be widely and rapidly dispersed and not increase the volume of sediment already present in the benthos. The elevation of SSC is expected to be lower than concentrations that would develop in the water column during storm conditions. However, due to nearby offshore wind farms, cumulative effects must be assessed.	Negligible	N/A
	Sandeels		Minor	N/A
	Herring (Downs and Blackwater)		Minor	N/A
	Other species with spawning grounds in the offshore project area		Negligible	N/A
	Oysters / cockles		Minor	N/A

IMPACT	RECEPTOR	RATIONALE	CUMULATIVE EFFECT	ADDITIONAL MITIGATION*
	Shellfish in general		Negligible	N/A
Cumulative impact 3: Underwater noise from piling for foundation installation during construction	Dover sole, plaice, lemon sole and mackerel	There is potential for cumulative effects from underwater noise associated with offshore wind farm activities.	Negligible	N/A
	Sandeels		Minor	N/A
	Bass		Negligible	N/A
	Cod and sprat		Minor	N/A
	Downs herring		Minor	N/A
	Blackwater herring		Minor	N/A
	Elasmobranchs		Negligible	N/A
	Diadromous species (Salmon and sea trout)		Negligible	N/A
	Diadromous species (Allis and Twaite shad and European eel)		Minor	N/A
Cumulative impact 4: Underwater noise from other construction activities during construction	As previously identified Cumulative impact 3		Negligible to Minor	N/A
Cumulative impact 5: Underwater noise from UXO clearance during construction	As previously identified Cumulative impact 3		Negligible to Minor	N/A
Operation				
Cumulative impact 6: Temporary habitat loss/ physical disturbance during operation	As previously identified Cumulative impact 1	Effects will occur at isolated locations for a time-limited duration and are local in nature with a negligible impact magnitude. Given the presence of nearby offshore	Negligible to Minor	N/A

IMPACT	RECEPTOR	RATIONALE	CUMULATIVE EFFECT	ADDITIONAL MITIGATION*
		wind farms, however, cumulative effects must be assessed.		
Cumulative impact 7: Long term habitat loss during operation	As previously identified Cumulative impact 1	Additive habitat loss across the region. Other developments in the region have the potential to have cumulative habitat loss impacts.	Negligible to Minor	N/A
Cumulative impact 8: Increased SSCs and re-deposition during operation	As previously identified Cumulative impact 2	Effects will occur at isolated locations for a time-limited duration and are local in nature with a negligible impact magnitude. However, due to nearby offshore wind farms, cumulative effects must be assessed	Negligible to Minor	N/A
Cumulative impact 9: Electromagnetic Fields (EMFs) during operation	Fish species in general	EMF will be highly localised around the offshore cable corridor, array cables and platform interconnector cables. However, due to nearby offshore wind farms, cumulative effects must be assessed.	Negligible	N/A
	Elasmobranchs		Minor	N/A
	Lamprey		Minor	N/A
	European eel		Negligible	N/A
	Salmon and sea trout		Negligible	N/A
	Shellfish		Negligible	N/A
Decommissioning				
Cumulative impact 10: Temporary habitat loss / physical disturbance during decommissioning	As previously identified Cumulative impact 1	Effects will occur at isolated locations for a time-limited duration. Given the presence of nearby offshore wind farms, however, cumulative effects must be assessed.	Negligible to Minor	N/A
Cumulative impact 11: Underwater noise	As previously identified	There is potential for interactive effects from	Negligible to Minor	N/A

IMPACT	RECEPTOR	RATIONALE	CUMULATIVE EFFECT	ADDITIONAL MITIGATION*
and vibration during decommissioning	Cumulative impact 3	underwater noise associated with offshore wind farm decommissioning activities and projects within a representative 100km buffer of the North Falls array area are considered.		

** A summary of the embedded mitigation commitments can be found in Document 2.6 Schedule of Mitigation **[REP5-006]**.*

1.4.5 Chapter 12 Marine Mammals **[APP-026]**

~~34.~~35. Table 1.9 provides a summary of the CEA outcomes for marine mammals. All projects with the potential for cumulative impacts identified for marine mammals are presented in Table 1.1.

Table 1.9 Potential cumulative impacts identified for Marine Mammals

IMPACT	RECEPTOR	RATIONALE	CUMULATIVE EFFECT	ADDITIONAL MITIGATION*
Impact 1a: Cumulative disturbance due to other offshore wind farm (OWF) piling at the same time as North Falls	Harbour porpoise and minke whale	Increased underwater associated with North Falls could affect the level of disturbance for marine mammals	Minor adverse	None required
	Grey seal and harbour seal		Minor adverse	
Impact 1b: Cumulative disturbance due to other OWFs constructing at the same time as North Falls	Harbour porpoise and minke whale		Minor adverse	None required
	Grey seal and harbour seal		Minor adverse	
Impact 1c: Cumulative disturbance due to noisy activities (other than OWF)	Harbour porpoise		Minor adverse	None required
	Minke whale		Minor adverse	
	Grey seal and harbour seal		Minor adverse	
Impact 1: Cumulative disturbance effect due to all other noisy projects and activities	Harbour porpoise and minke whale		Minor adverse	None required
	Grey seal and harbour seal		Minor adverse	
Impact 2: Cumulative barrier effect with other projects due to underwater noise	Harbour porpoise and minke whale	Increased underwater noise associated with North Falls could increase the potential risk of barrier effects for marine mammals	Minor adverse	None required
	Grey seal and harbour seal		Minor adverse	
Impact 3a: Disturbance due to vessels associated with operational OWFs	Harbour porpoise and minke whale	Increased vessel traffic associated with North Falls could affect the level of disturbance for marine mammals.	Minor adverse	None required
	Grey seal and harbour seal		Minor adverse	

IMPACT	RECEPTOR	RATIONALE	CUMULATIVE EFFECT	ADDITIONAL MITIGATION*
Impact 3b: Increase in cumulative collision risk	Harbour porpoise and grey seal	Increased vessel traffic associated with North Falls could affect the level of collision risk for marine mammals	Negligible	Vessel good practice measures to manage collision risk
	Minke whale		Minor adverse	
	Harbour seal		Minor adverse	
Impact 4: Cumulative disturbance at seal haul-out sites	Grey seal and harbour seal	Increased vessel traffic associated with North Falls could affect the level of disturbance for seals	Minor adverse	None required
Impact 5: Cumulative indirect effects to marine mammals through changes to prey resources	Harbour porpoise and minke whale	Potential effects on fish species could affect the prey resource for marine mammals	Negligible to minor adverse	None required
	Grey seal and harbour seal		Negligible	None required

** A summary of the embedded mitigation commitments can be found in Document 2.6 Schedule of Mitigation **[REP5-006]**.*

1.4.6 Chapter 13 Offshore Ornithology **[APP-027]**

~~35.~~36. Table 1.10 provides a summary of the CEA outcomes for offshore ornithology. All projects with the potential for cumulative impacts identified for offshore ornithology are presented in Table 1.1.

Table 1.10 Potential cumulative impacts identified for Offshore Ornithology

IMPACT	RECEPTOR	RATIONALE	CUMULATIVE EFFECT	Additional MITIGATION ~~Measures Proposed*~~
Construction				
Direct disturbance and displacement during construction of the export cable	Red-throated diver	On the advice of Natural England, the disturbance and displacement effects of the North Falls Array area during construction have been assessed as 50% of the predictions for operational displacement. Cumulative operational displacement effects for North Falls and other OWFs in the UK North Sea are assessed in Section 13.8.3.1 of Chapter 13 Offshore Ornithology **[APP-027]** for the offshore ornithology receptors screened in for displacement (gannet, guillemot, razorbill and red-throated diver). In each case the assessment has concluded no significant ecological effect of cumulative operational displacement. In the context of the conclusions of the operational displacement assessment, the same conclusion would apply if the construction effects of North Falls are estimated as 50% of operational displacement. Thus cumulative effects of disturbance and displacement in relation to the North Falls array area, and other OWFs, are screened out. However, as there is overlap between the offshore cable corridors for North Falls and Five Estuaries there is potential for cumulative disturbance to occur in this area during the construction phase, and	Minor adverse	None

IMPACT	RECEPTOR	RATIONALE	CUMULATIVE EFFECT	Additional MITIGATION ~~Measures Proposed~~*
		this impact has been screened in.		
Operation				
Displacement / barrier effect	Gannet	There is a sufficient likelihood of a cumulative impact to justify a detailed, quantitative cumulative impact assessment. The cumulative assessment considers cumulative displacement / barrier effects on the seabird species screened in for the Project alone assessment (gannet, guillemot, and red-throated diver). Cumulative operational barrier effect for non-seabird migratory species is also screened in (although barrier effect for non-migratory seabirds was not screened in for the Project Alone assessment), This is based on Natural England's comments on North Falls Scoping Report. Natural England agreed that 'species would be likely to encounter the turbine array only once during a given migration journey if North Falls is situated within their flight corridor, meaning they could potentially encounter the site and hence any barrier effect up to twice per year' and that 'the energetic costs of such one-off avoidance events can be considered to be negligible for the North Falls project alone. However, we recommend that the impact of cumulative barrier effects [of OWFs] on migratory species is not scoped out of	Minor adverse	None
	Guillemot		Minor adverse	None
	Razorbill		Minor adverse	None

IMPACT	RECEPTOR	RATIONALE	CUMULATIVE EFFECT	Additional MITIGATION ~~Measures Proposed~~*
	Red-throated diver	the assessment at this stage'.	Minor adverse	None
Collision risk	Gannet	There is a sufficient likelihood of a cumulative impact to justify a detailed, quantitative cumulative impact assessment.	Minor adverse	None
	Great black-backed gul		Moderate adverse	None
	Kittiwake		Moderate adverse	None
	Lesser black-backed gull		Moderate adverse	None
Collision and displacement	Gannet		Minor adverse	None
Barrier effect to migratory bird species	Migratory bird species		Minor adverse to negligible	None

** A summary of the embedded mitigation commitments can be found in Document 2.6 Schedule of Mitigation **[REP5-006]**.*

1.4.7 Chapter 14 Commercial Fisheries **[APP-028]**

~~36.~~37. Table 1.11 provides a summary of the CEA outcomes for commercial fisheries. All projects with the potential for cumulative impacts identified for commercial fisheries are presented in Table 1.1.

Table 1.11 Potential cumulative impacts identified for Commercial Fisheries

IMPACT	RECEPTOR	RATIONALE	CUMULATIVE EFFECT	ADDITIONAL MITIGATION*
Cumulative effect 1: Long-term loss or restricted access to traditional fishing ground	UK local inshore vessels	If the fishing grounds of a category of fishing vessels overlap the boundaries of more than one development measure there is potential for likely significant cumulative effects.	Minor (restricted to nearshore areas; static fishers) Minor (extended operational ranges)	N/A
	UK mobile towed gear vessels		Minor	N/A
	Belgian beam trawlers		Minor	N/A
	Belgian demersal otter trawlers and seine netters		Minor	N/A
	Dutch beam trawlers		Minor	N/A
	Dutch demersal otter trawlers and seine netters		Minor	N/A
	French pelagic trawlers and seine netters		Minor	N/A
	French bottom trawlers		Negligible	N/A
Cumulative effect 2: Displacement of fishing activities into other areas	UK local inshore vessels	If the fishing grounds of a category of fishing vessels overlap the boundaries of more than one development measure there is potential for likely significant cumulative effects.	Minor (restricted to nearshore areas; static fishers) Minor (extended operational ranges)	N/A
	Mobile towed gear vessels		Minor	N/A
	Belgian beam trawlers		Minor	N/A
	Belgian demersal otter trawlers and seine netters		Minor	N/A
	Dutch beam trawlers		Minor	N/A
	Dutch demersal otter trawlers and seine netters		Negligible	N/A

IMPACT	RECEPTOR	RATIONALE	CUMULATIVE EFFECT	ADDITIONAL MITIGATION*
	French pelagic trawlers and seine netters		Minor	N/A
	French bottom trawlers		Negligible	N/A
Cumulative effect 3: Increased steaming times to fishing grounds	All other commercial fishing vessels	If the fishing grounds of a category of fishing vessels overlap the boundaries of more than one development measure there is potential for likely significant cumulative effects.	It is considered that the magnitude of impact, sensitivity of the receptor and resulting significance of effect in respect of displacement would, at worst, be as identified in relation to loss of grounds or restricted access to fishing grounds. As such it is considered that the findings of the assessment with regards to the loss or restricted access to fishing grounds also apply in relation to displacement of fishing activity.	
Cumulative effect 4: Snagging risk / safety issues for fishing vessels	All commercial fishing vessels	If the fishing grounds of a category of fishing vessels overlap the boundaries of more than one development measure there is potential for likely significant cumulative effects.	Minor significance and tolerable	N/A
Cumulative effect 5: Impacts on commercial fishing as a result of impacts on commercially exploited species	Pelagic herring fishery	Discussed in ES Chapter 11 Fish and Shellfish Ecology	Minor	N/A
	All commercial fisheries		Minor	N/A

** A summary of the embedded mitigation commitments can be found in Document 2.6 Schedule of Mitigation **[REP5-006]**.*

1.4.8 Chapter 15 Shipping and Navigation **[APP-029]**

~~37.~~38. Table 1.12 provides a summary of the CEA outcomes for shipping and navigation. All projects with the potential for cumulative impacts identified for shipping and navigation are presented in Table 1.1.

Table 1.12 Potential cumulative impacts identified for Shipping and Navigation

IMPACT	RECEPTOR	RATIONALE	SIGNIFICANCE ~~of~~Of EFFECT	Additional MITIGATION ~~Measures Proposed~~*
Impact 1: Vessel to structure allision	Third party traffic	Additional surface piercing structures will increase allision risk.	Tolerable and as low as reasonably practicable (ALARP)	SEZ to maintain a distance of at least 1nm from all surface piercing infrastructure to the local IMO routeing measures unless otherwise agreed with the MCA.
Impact 2: Vessel displacement	Third party traffic	Additional surface piercing structures will increase cumulative displacement.	Broadly acceptable	None identified
Impact 3: Increased vessel to vessel collision risk (third party to third party)	Third party traffic	Additional surface piercing structures will increase displacement and reduce searoom which may lead to increased collision risk.	Tolerable and ALARP	SEZ to maintain a distance of at least 1nm from all surface piercing infrastructure to the local IMO routeing measures unless otherwise agreed with the MCA
Impact 4: Increased vessel to vessel collision risk (third party to project vessel)	Third party traffic	Additional vessels associated with other cumulative projects may lead to increased cumulative collision risk.	Tolerable and ALARP	None identified
Impact 5: Impact on vessels transiting to/from local ports in the area, including use of approach channels, port operations and pilotage	Ports and port users	Additional surface piercing structures, project activities and vessels may increase cumulative effect on port access.	Tolerable and ALARP	~~None identified~~The Outline Navigation and Installation Plan (oNIP) (Document Reference 7.24)

IMPACT	RECEPTOR	RATIONALE	SIGNIFICANCE ~~of~~Of EFFECT	Additional MITIGATION ~~Measures Proposed~~*
				includes measures to reduce disruption to vessels transiting to/from local ports in the area, including use of approach channels, port operations and pilotage. Construction works amongst concurrent projects will not take place across the two deep water routes (Sunk and Trinity) into the London ports at the same time. Thus, one access route into the ports will always be kept undisturbed by the construction works. The access routes are being discussed in ongoing meetings with the ports and the tables in the oNIP will be updated at Deadline 6.
Impact 6: Interaction with subsea cables including cable protection	Third party traffic	Additional cables in the area may lead to cumulative effect on under keel clearance	Tolerable and ALARP	None identified
Impact 7: Reduction of emergency response capability due to increased incident rates and/or reduced access for SAR responders	Emergency Response Resources	Additional surface piercing structures, project activities and vessels may lead to increased incident rates on a cumulative basis or impact	Tolerable and ALARP	None identified

IMPACT	RECEPTOR	RATIONALE	SIGNIFICANCE ~~of~~Of EFFECT	Additional MITIGATION ~~Measures Proposed~~*
		SAR access on a cumulative basis.		

** A summary of the embedded mitigation commitments can be found in Document 2.6 Schedule of Mitigation* ***[REP5-006].***

1.4.9 Chapter 16 Offshore and Intertidal Archaeology and Cultural Heritage **[APP-030]**

~~38.~~39. Table 1.13 provides a summary of the CEA outcomes for offshore and intertidal archaeology and cultural heritage. All projects with the potential for cumulative impacts identified for offshore and intertidal archaeology and cultural heritage are presented in Table 1.1.

Table 1.13 Potential cumulative impacts identified for Intertidal Archaeology and Cultural Heritage

IMPACT	RATIONALE	CUMULATIVE EFFECT	ADDITIONAL MITIGATION*
Construction			
Direct (physical) impact to potential heritage assets	Although the effect of unavoidable impacts will be mitigated by agreed measures as part of the consenting process for each of the constructed and planned projects, the impacts will still have occurred and permanent damage or destruction will have taken place. The assessment of cumulative impacts, therefore, needs to consider the effect of multiple unavoidable impacts from multiple projects upon the archaeological resource.	Minor adverse	Further assessment of geophysical and geotechnical data
Indirect impact to heritage assets from changes to physical processes	As set out in ES Chapter 8: Marine Geology, Oceanography and Physical Processes **[APP-022]**, although there is not a sufficient level of information known at this stage, there is a potential temporal overlap in installation activities for the NeuConnect Interconnector, which bisects the North Falls offshore cable corridor, and the construction of cables and foundations for North Falls. Depending on their construction programmes there is also a potential temporal overlap in construction of Five	No impact	N/A

IMPACT	RATIONALE	CUMULATIVE EFFECT	ADDITIONAL MITIGATION*
	Estuaries and East Anglia TWO OWFs.		
Operation			
Direct (physical) impact to potential heritage assets	There is potential for multiple unavoidable impacts associated with operations and maintenance activities (e.g. cable repairs and vessel anchors / jack up legs) during the operation phases of multiple projects.	Minor adverse	Further assessment of geophysical and geotechnical data
Indirect impact to heritage assets from changes to physical processes	As set out in ES Chapter 8 Marine Geology, Oceanography and Physical Processes **[APP-022]**, impacts could potentially coalesce with those arising from other wind farms.	No impact	N/A
Decommissioning			
Direct (physical) impact to potential heritage assets	There is potential for multiple unavoidable impacts associated with decommissioning considered cumulatively with activities associated with other projects.	Minor adverse	Further assessment of geophysical and geotechnical data

** A summary of the embedded mitigation commitments can be found in Document 2.6 Schedule of Mitigation **[REP5-006]**.*

1.4.10 Chapter 17 Aviation and Radar **[APP-031]**

~~39.~~40. Table 1.14 provides a summary of the CEA outcomes for aviation and radar. All projects with the potential for cumulative impacts identified for aviation and radar are presented in Table 1.1.

Table 1.14 Potential cumulative impacts identified for Aviation and Radar

IMPACT	RATIONALE	CUMULATIVE EFFECT	MITIGATION MEASURES
Impact 1: WTGs causing permanent interference on civil and military radars.	Other wind farm developments could impact radars over a larger area.	Major (Significant)	Technical mitigation solution applied to impacted radars where significant effects are identified to be agreed with operators. The residual effect after mitigation is not significant.
Impact 2: Creation of an aviation obstacle environment.	WTGs associated with other developments create aviation obstacles, restricting the available airspace.	Not Significant	As outlined in Section 17.3.3 in Chapter 17 Aviation and Radar **[APP-031]**: • Information, notifications and charting • Marking and lighting • Regulatory requirements
Impact 3: Increased air traffic in the area related to wind farm activities.	Air traffic activities associated with other developments have the potential to cumulatively increase the risk of aircraft collision	Not Significant	Managed by existing Air Traffic Service (ATS) infrastructure Pilot compliance with regulatory requirements

1.4.11 Chapter 18 Infrastructure and Other Users **[APP-032]**

~~40.~~41. Table 1.15 provides a summary of the CEA outcomes for infrastructure and other users. All projects with the potential for cumulative impacts identified for infrastructure and other users are presented in Table 1.1.

Table 1.15 Potential cumulative impacts identified for Infrastructure and Other Users

IMPACT	RATIONALE	CUMULATIVE EFFECT	ADDITIONAL MITIGATION*
Construction, Operation and Decommissioning			
Potential interference with other OWFs	Plans and projects currently in planning have potential to have cumulative effects on existing OWFs	Minor	N/A
Physical impacts on subsea cables	Plans and projects currently in planning have potential to have cumulative effects on existing subsea cables.	Minor	N/A
Potential impacts on dredging	Plans and projects currently in planning have potential to have cumulative effects on dredging	Minor	N/A
Impacts on Ministry of Defence (MoD) activities	Plans and projects currently in planning have potential to have cumulative effects on MOD activities	Minor	N/A

** A summary of the embedded mitigation commitments can be found in Document 2.6 Schedule of Mitigation **[REP5-006]**.*

1.4.12 Chapter 19 Ground Conditions and Contamination **[APP-033]**

~~41.~~42. Table 1.16 provides a summary of the CEA outcomes for ground conditions and contamination. All projects with the potential for cumulative impacts identified for ground conditions and contamination are presented in Table 1.2.

Table 1.16 Potential cumulative impacts identified for Ground Conditions and Contamination

IMPACT	RATIONALE	CUMULATIVE EFFECT	ADDITIONAL MITIGATION*
Construction			
Impact 1: Exposure of workforce, landowners, land users and neighbouring land users to contaminated soils and groundwater and associated health impacts	The residual effects to construction workers would be confined to the onshore project area. Effects on landowners, land users and neighbouring land users may be exacerbated by other projects.	Minor adverse, therefore not significant in EIA terms	No additional mitigation measures necessary.
Impact 2: Direct impacts on groundwater quality and groundwater resources	Residual effects on Secondary Aquifers may be exacerbated by other projects which are located within the same aquifer and / or SPZ.	Minor adverse, therefore not significant in EIA terms	No additional mitigation measures necessary.
Impact 3: Impacts on surface water quality and the ecological habitats they support from contamination	Residual effects on surface water and the ecological habitats they support may be exacerbated by other projects that are located within the same river catchment.	Minor adverse, therefore not significant in EIA terms	No additional mitigation measures necessary.
Impact 4: Sterilisation of future mineral resources	Residual effects on MSAs and MCAs may be exacerbated by other projects if located within the same safeguarding area.	Minor adverse, therefore not significant in EIA terms	No additional mitigation measures necessary.
Impact 5: Built environment	Residual effects on the built environment may be exacerbated by other projects if located near to the same structures.	Minor adverse, therefore not significant in EIA terms	No additional mitigation measures necessary.
Impact 6: Impacts on agricultural land	Residual effects on agricultural land may be exacerbated by other projects.	Minor adverse, therefore not significant in EIA terms	No additional mitigation measures necessary.

IMPACT	RATIONALE	CUMULATIVE EFFECT	ADDITIONAL MITIGATION*
Operation			
Impact 1: Exposure of workforce, landowners, land users and neighbouring land users to contaminated soils and groundwater and associated health impacts	The residual effects to maintenance workers would be confined to the onshore project area. Residual effects on landowners, land users and neighbouring land users may be exacerbated by other projects.	Minor adverse, therefore not significant in EIA terms	No additional mitigation measures necessary.
Impact 2: Impact on controlled waters (groundwater and surface waters)	Residual effects on Secondary Aquifers may be exacerbated by other projects which are located within the same aquifer and / or SPZ.	Minor adverse, therefore not significant in EIA terms	No additional mitigation measures necessary.
Impact 3: Sterilisation of future mineral resources	Residual effects on MSAs and MCAs may be exacerbated by other projects if they are located within the same safeguarding area.	Minor adverse, therefore not significant in EIA terms	No additional mitigation measures necessary.
Impact 4: Built environment	Residual effects on the built environment may be exacerbated by other projects if located near the same buildings.	Minor adverse, therefore not significant in EIA terms	No additional mitigation measures necessary.
Impact 5: Impacts on agricultural land	Residual effects on agricultural land may be exacerbated by other projects if located near the same parcel of agricultural land.	Minor adverse, therefore not significant in EIA terms	No additional mitigation measures necessary.
Decommissioning			
Decommissioning strategies have not yet been finalised for North Falls, Five Estuaries or Norwich to Tilbury; however, the cumulative effects are expected to be the same as those of the initial construction phase			

** A summary of the embedded mitigation commitments can be found in Document 2.6 Schedule of Mitigation **[REP5-006]**.*

1.4.13 Chapter 20 Onshore Air Quality **[APP-034]**

~~42.~~43. Table 1.17 provides a summary of the CEA outcomes for onshore air quality. All projects with the potential for cumulative impacts identified for onshore air quality are presented in Table 1.2.

Table 1.17 Potential cumulative impacts identified for Air Quality

POTENTIAL IMPACT	RATIONALE	CUMULATIVE EFFECT	ADDITIONAL MITIGATION*
Construction			
Impact 1: Construction dust and fine PM	There is potential for cumulative construction dust impacts where projects occur within 700m of each other, as dust impacts are considered within a 350m buffer from each project, as detailed in Section 20.4.3.1 of Chapter 20 Onshore Air Quality **[APP-034]**. Therefore, two projects would need to be within 700m of each other for cumulative dust impacts to occur.	No significant cumulative effects are anticipated	No additional mitigation measures necessary.
Impact 2: NRMM emissions	There is potential for cumulative non-road mobile machinery (NRMM) emission impacts where projects overlap.	No significant cumulative effects are anticipated	No additional mitigation measures necessary.
Impact 3: Construction road vehicle emissions	Where the construction phase of North Falls overlaps with other projects, there is the potential for cumulative impacts associated with North Falls-generated traffic emissions on the local road network.	No significant cumulative effects are anticipated	No additional mitigation measures necessary.
Operation			
Operation impacts were scoped out of the assessment, therefore there would be no cumulative operational impacts.			
Decommissioning			
Decommissioning strategies have not yet been finalised for North Falls, Five Estuaries Offshore Wind Farm or Norwich to Tilbury; however, the cumulative effects are expected to be the same as those of the initial construction phase.			

** A summary of the embedded mitigation commitments can be found in Document 2.6 Schedule of Mitigation **[REP5-006]**.*

1.4.14 Chapter 21 Water Resources and Flood Risk **[APP-035]**

~~43.~~44. Table 1.18 provides a summary of the CEA outcomes for water resource and flood risk. All projects with the potential for cumulative impacts identified for water resource and flood risk are presented in Table 1.2.

Table 1.18 Potential cumulative impacts identified for Water Resources and Flood Risk

POTENTIAL IMPACT	RATIONALE	CUMULATIVE EFFECT	ADDITIONAL MITIGATION*
Construction			
Direct disturbance of surface water bodies	Impacts to surface water bodies could act cumulatively with other projects if these cause direct disturbance to the same water bodies, particularly if there is a temporal or spatial overlap.	Cumulative effects are not expected	N/A
Increased sediment supply	Other projects being constructed within the same catchments as the onshore project area may also cause an increase in sediment supply to the surface water drainage system, which could act cumulatively	Cumulative effects are not expected	N/A
Supply of contaminants to surface and groundwaters	Other projects being constructed within the same catchments as the onshore project area may act cumulatively to reduce surface and groundwater quality if they cause a supply of contaminants to be released into the surface water drainage system.	Cumulative effects are not expected	N/A
Changes to surface and groundwater flows and flood risk	Other projects being constructed within the same catchments as the onshore project area could also cause changes in surface flow patterns, compaction and an increase in impermeable area. This could act cumulatively to cause further changes to surface water runoff and flood risk.	Cumulative effects are not expected	N/A

POTENTIAL IMPACT	RATIONALE	CUMULATIVE EFFECT	ADDITIONAL MITIGATION*
Operation			
Supply of contaminants to surface and groundwaters	All new developments are likely to have operational or maintenance requirements which may require regular access by machinery. This will increase the likelihood of contaminants and fine sediment being released and acting cumulatively. However, operational activities associated with the Project will be largely confined to the onshore substation site (as routine cable maintenance will be non-intrusive) and as such could only result in cumulative impacts in the catchments which contain the onshore substation (Holland Brook and Tenpenny Brook).	Cumulative effects are not expected	N/A
Changes to surface and groundwater flows and flood risk	As a result of the limited spatial extent of permanent impermeable ground in the onshore project area, the effect is considered to be limited and highly localised and therefore unlikely to act cumulatively with other projects. However, the greater area of impermeable ground at the substation could result in cumulative impacts with other projects in the same catchments (Holland Brook, Tenpenny Brook).	Cumulative effects are not expected	N/A
Decommissioning			
Decommissioning strategies have not yet been finalised for North Falls, Five Estuaries or Norwich to Tilbury; however, the cumulative effects are expected to be the same as those of the initial construction phase			

** A summary of the embedded mitigation commitments can be found in Document 2.6 Schedule of Mitigation **[REP5-006]**.*

1.4.15 Chapter 22 Land Use and Agriculture **[APP-036]**

~~44.~~45. Table 1.19 provides a summary of the CEA outcomes for land use and agriculture. All projects with the potential for cumulative impacts identified for land use and agriculture are presented in Table 1.2.

Table 1.19 Potential cumulative impacts identified for Land Use and Agriculture

POTENTIAL IMPACT	RATIONALE	CUMULATIVE EFFECT	ADDITIONAL MITIGATION*
Construction			
Cumulative effect 1: Potential for earthworks associated with construction to impact natural and artificial field drainage systems	Cumulative direct impacts arising from two or more projects are possible given the level of uncertainty regarding the presence and location of drainage systems. Impacts may occur to individual field drains in any area of overlap or those with an extent which intersects two or more proposed development boundaries (where groundworks are anticipated).	Minor adverse, therefore, not significant in EIA terms (same as North Falls alone assessment).	N/A
Cumulative effect 2: Temporary loss of agricultural land during construction	Cumulative direct impacts arising from two or more projects are possible. Impacts may occur where project boundaries overlap spatially or temporally on the same landowner/occupier's land. Such impacts have the potential to affect local productivity (e.g. loss of earnings from more than one project taking the same parcels of land out of use).	Major adverse, therefore, significant in EIA terms (same as North Falls alone assessment).	No additional mitigation is proposed over and above that set out as embedded mitigation.
Cumulative effect 3: Potential for soils to become compacted and for soil structure to deteriorate during construction works	Cumulative direct impacts arising from two or more projects are possible. Impacts may occur where project boundaries overlap spatially or temporally on the same landowner/occupier's land. Such impacts have the potential to affect local productivity (e.g. loss of earnings from more than one project taking the same	Minor adverse, therefore, not significant in EIA terms (same as North Falls alone assessment).	N/A

POTENTIAL IMPACT	RATIONALE	CUMULATIVE EFFECT	ADDITIONAL MITIGATION*
	parcels of land out of use).		
Cumulative effect 4: Excavation, storage and reinstatement during construction exposes the soils and potentially leads to soil erosion	Cumulative direct impacts arising from two or more projects are possible. Impacts may occur where project boundaries overlap spatially or temporally on the same landowner/occupier's land. Such impacts have the potential to affect local productivity (e.g. loss of earnings from more than one project taking the same parcels of land out of use).	Negligible, therefore, not significant in EIA terms (same as North Falls alone assessment).	N/A
Cumulative effect 5: During construction there would be potential ecological and financial impacts on agri-environment schemes	Cumulative direct effects arising from two or more projects are possible. Impacts may occur where project boundaries overlap spatially or temporally on the same landowner/occupier's land. Such impacts have the potential to affect land under agri-environment schemes (e.g. loss of earnings from agri-environment schemes from more than one project taking the same parcels of land out of use).	Minor adverse, therefore, significant in EIA terms (same as North Falls alone assessment).	No additional mitigation is proposed over and above that set out as embedded mitigation.
Operation			
Cumulative effect 1: Permanent loss of agricultural land during operation	Cumulative effects may occur at a county scale where impacts to productivity affect the wider agriculture industry.	Major adverse, therefore, significant in EIA terms (same as North Falls alone assessment).	No additional mitigation is proposed over and above that set out as embedded mitigation.
Decommissioning			
Decommissioning strategies have not yet been finalised for North Falls, Five Estuaries or Norwich to Tilbury; however, the cumulative effects are expected to be the same as those of the initial construction phase			

** A summary of the embedded mitigation commitments can be found in Document 2.6 Schedule of Mitigation **[REP5-006]**.*

1.4.16 Chapter 23 Onshore Ecology **[APP-037]**

~~45.~~46. Table 1.20 provides a summary of the CEA outcomes for onshore ecology. All projects with the potential for cumulative impacts identified for onshore ecology are presented in Table 1.2.

Table 1.20 Potential cumulative impacts identified for Onshore Ecology

POTENTIAL IMPACT	RATIONALE	CUMULATIVE EFFECT	ADDITIONAL MITIGATION*
Construction			
Cumulative effect 1: Impacts on designated statutory and non-statutory sites	No cumulative effects are anticipated on designated sites. Direct impacts on Holland Haven Marshes SSSI/LNR are avoided through the use of HDD by both Five Estuaries and North Falls. Any potential indirect cumulative effects on other designated sites outside the onshore project areas are mitigated for via the use of good industry practice measures. These measures ensure noise, light and dust are temporally and spatially restricted. The eventuality of bentonite breakout is reduced by the use of micrositing and management plans by both Five Estuaries and North Falls	Minor adverse	N/A
Cumulative effect 2: Impacts on habitats	Short term moderate adverse cumulative effects are likely on hedgerows due to the period of time between North Falls and Five Estuaries' construction where habitat reinstatement won't be carried out. These will be reinstated post-construction of the second of the projects. No adverse cumulative effects on other habitats are expected as North Falls has committed to habitat reinstatement postconstruction. Potential moderate beneficial long term cumulative effects may occur on woodlands,	Moderate adverse for hedgerows in the short term. Moderate beneficial for woodlands, hedgerows and grasslands in the long term. Minor adverse for all other habitats	N/A

POTENTIAL IMPACT	RATIONALE	CUMULATIVE EFFECT	ADDITIONAL MITIGATION*
	grasslands and hedgerows, as a result of biodiversity enhancements as part of North Falls' landscaping and BNG targets		
Cumulative effect 3: impacts on protected and notable species	No cumulative effects are likely to impact badgers, roosting bats, water voles, otters and fish. Commuting/ foraging barbastelle and brown long-eared bats may all experience short term moderate adverse and hazel dormice may experience minor adverse cumulative effects due to hedgerow from losses resulting in habitat fragmentation. In the long term these cumulative effects are moderate beneficial, following hedgerow reinstatement and enhancement which would improve the quality and quantity of hedgerow in the local area. No cumulative effects are likely to impact other commuting/ foraging bat species. Great crested newts may experience short term minor adverse cumulative effects due to loss of terrestrial hedgerow habitats when not occupying their breeding ponds. Following reinstatement and enhancement of hedgerows post-construction, this cumulative effect will be minor beneficial.	Moderate adverse in the short term for commuting/ foraging barbastelle and brown-long eared bats. Minor adverse in the short term for hazel dormice. Moderate beneficial in the long term for commuting/ foraging barbastelle and brown-long eared bats, and hazel dormice. Minor adverse in the short term for great crested newts. Minor beneficial in the long term for great crested newts. Minor adverse for badgers, roosting bats, water voles, otters and fish	N/A
Operation			
Cumulative effect 1: Onshore substation operation	No cumulative effects are anticipated with Five Estuaries in relation to potential maintenance activities and onshore substation	Negligible	N/A

POTENTIAL IMPACT	RATIONALE	CUMULATIVE EFFECT	ADDITIONAL MITIGATION*
	operational noise and light. Moderate beneficial cumulative effects are likely as a result of biodiversity enhancements provided by both North Falls and Five Estuaries. Due to the potential close proximity of Norwich to Tilbury and North Falls' substations, there is potential for cumulative effects ecological receptors, particularly on notable species and their habitats from operational noise and light impacts. These were assessed to be negligible for North Falls, due to mitigation measures outlined above. Even though little information is available on the operation of Norwich to Tilbury, if similar light and noise emissions are produced (even with mitigation) displacement of species could occur. These cumulative effects are likely to be temporary and localised, as displacement of species to other surrounding habitats will be minimal. Cumulative effects therefore are not anticipated to significant in EIA terms.		
Decommissioning			
Decommissioning strategies have not yet been finalised for North Falls, Five Estuaries Farm or Norwich to Tilbury; however, the cumulative effects are expected to be the same as those of the initial construction phase.			

** A summary of the embedded mitigation commitments can be found in Document 2.6 Schedule of Mitigation **[REP5-006]**.*

1.4.17 Chapter 24 Onshore Ornithology **[APP-038]**

~~46.~~47. Table 1.21 provides a summary of the CEA outcomes for onshore ornithology. All projects with the potential for cumulative impacts identified for onshore ornithology are presented in Table 1.2.

Table 1.21 Potential cumulative impacts identified for Onshore Ornithology

POTENTIAL IMPACT	RATIONALE	CUMULATIVE EFFECT	ADDITIONAL MITIGATION*
Construction			
Impact 1: Habitat loss	Habitat loss associated with the onshore Project will mainly be short- or medium-term, temporary and reversible, with habitat reinstatement occurring as a priority in sensitive areas. Permanent loss of habitat associated with the onshore substation may affect a small number of corn bunting, grey partridge, yellow wagtail and skylark. There is potential for these IOFs to be affected by habitat loss associated with other projects.	Residual effects of no more than minor adverse for all IOFs when considering embedded and additional mitigation for all projects. Corn bunting residual effect would be minor to moderate adverse.	None
Impact 2: Construction disturbance	Construction disturbance will be temporary and localised within and surrounding a working width. Effects on birds may be short-term (the duration of a particular disturbance event) or medium-term (the duration of the construction phase). There is potential for breeding and non-breeding IOFs to be affected by disturbance from other projects in construction at the same time as North Falls.	Residual effects of no more than minor adverse for all IOFs when considering embedded and additional mitigation for all projects. Corn bunting residual effect would be minor to moderate adverse.	None
Operation			
No cumulative effects identified.			
Decommissioning			
Decommissioning strategies have not yet been finalised for North Falls, Five Estuaries or Norwich to Tilbury; however, the cumulative effects are expected to be the same as those of the initial construction phase.			

** A summary of the embedded mitigation commitments can be found in Document 2.6 Schedule of Mitigation **[REP5-006]**.*

1.4.18 Chapter 25 Onshore Archaeology and Cultural Heritage **[APP-039]**

~~47.~~48. Table 1.22 provides a summary of the CEA outcomes for onshore archaeology and cultural heritage. All projects with the potential for cumulative impacts identified for onshore archaeology and cultural heritage are presented in ~~Table 1.2~~Table 1.2 and Table 1.4.

Table 1.22 Potential cumulative impacts identified for Onshore Archaeology and Cultural Heritage

POTENTIAL IMPACT	RATIONALE	CUMULATIVE EFFECT	ADDITIONAL MITIGATION*
Construction			
Impact 2: direct physical impact on (permanent change to) non-designated heritage assets	Cumulative direct effects arising from two or more projects are possible given the level of uncertainty regarding the nature and extent of the potential archaeological resource. Impacts may occur to individual archaeological features (buried or above ground) in an area of overlap or those with an extent which intersects two or more proposed project boundaries (where groundworks are anticipated). Effects may occur which affect the nature of the archaeological resource on a wider scale. Such effects also have the potential to affect the Historic Landscape Character (HLC) of the study area (e.g., loss of earthworks as a result of one project could affect the HLC as summarised for the purposes of another project).	The overlapping nature of the project and others assessed in this chapter means that there is the potential for direct physical cumulative effects on buried archaeology, geoarchaeological and palaeoenvironmental deposits. As other projects will adopt a mitigation strategy, no likely significant direct physical cumulative effects during construction are predicted over and above the effects of North Falls. With these measures in place, direct physical cumulative effects during construction are anticipated to be non-significant in EIA terms.	N/A
Impact 4: indirect physical impact on (permanent change to) non-designated heritage assets	There are minor adverse impacts (as a worst case scenario) anticipated to occur to non-designated heritage assets from vibrational and hydrological impacts which may give rise to cumulative effect. Cumulative indirect effects arising from two or more projects are possible in an area of	The overlapping nature of the project and others assessed in this chapter means that there is the potential for indirect physical cumulative effects on buried archaeology, geoarchaeological and palaeoenvironmental deposits. As other projects will adopt a mitigation strategy, no likely significant indirect	N/A

POTENTIAL IMPACT	RATIONALE	CUMULATIVE EFFECT	ADDITIONAL MITIGATION*
	overlap or those with an extent which intersects two or more proposed project boundaries (where groundworks are anticipated).	physical cumulative effects during construction are predicted over and above the effects of North Falls. With these measures in place, indirect physical cumulative effects during construction are anticipated to be non-significant in EIA terms.	
Impact 5: temporary change in the setting of designated heritage assets which may affect their heritage significance	Cumulative changes in heritage setting arising from two or more projects are possible, particularly in the event that the construction of two or more projects is concurrent and within sight of an individual heritage asset, although additional factors affecting setting may also occur.	Any cumulative change to heritage setting would be temporary and reversible. No likely significant cumulative effects on heritage setting during construction are predicted over and above the effects of North Falls. In consideration of the temporary nature of the construction period, cumulative effects on heritage setting are anticipated to be non-significant in EIA terms.	N/A
Operation			
Impacts 7 and 8: permanent change in the setting of heritage assets (both designated and non-designated) which may affect their heritage significance	Cumulative changes in heritage setting arising from two or more projects are possible, particularly in the event that the infrastructure of two or more projects occurs within sight of an individual heritage asset, although additional factors affecting setting may also occur.	Cumulative impacts may arise where structures within the North Falls onshore substation works area would be partly visible alongside other projects' infrastructure from selected heritage assets. As this change in view is not considered to alter these assets' settings or impact their heritage significance it is not anticipated that these would contribute to any cumulative impact arising from the presence other projects' infrastructure.	N/A

POTENTIAL IMPACT	RATIONALE	CUMULATIVE EFFECT	ADDITIONAL MITIGATION*
Decommissioning			
Decommissioning strategies have not yet been finalised for North Falls, Five Estuaries or Norwich to Tilbury; however, the cumulative effects are expected to be the same as those of the initial construction phase.			

** A summary of the embedded mitigation commitments can be found in Document 2.6 Schedule of Mitigation **[REP5-006]**.*

1.4.19 Chapter 26 Noise and Vibration **[APP-040]**

~~48.~~49. Table 1.23 provides a summary of the CEA outcomes for noise and vibration. All projects with the potential for cumulative impacts identified for noise and vibration are presented in ~~Table 1.2.~~Table 1.2.

Table 1.23 Potential cumulative impacts identified for Noise and Vibration

POTENTIAL IMPACT	RATIONALE	CUMULATIVE EFFECT	ADDITIONAL MITIGATION*
Construction			
Impact 1: Noise of landfall and nearshore works	Construction works associated with other projects in similar locations to the North Falls construction activities have the potential to result in cumulative effects, where there is a temporal overlap.	No significant cumulative effects are anticipated.	None
Impact 2: Noise of onshore cable route construction works		No significant cumulative effects are anticipated.	None
Impact 3: Noise of onshore substation construction works		No significant cumulative effects are anticipated.	None
Impact 4: Noise of Bentley Road improvement works		No significant cumulative effects are anticipated.	None
Impact 5: Noise from off-site construction traffic	There is the potential for road traffic introduced by the construction of North Falls and traffic introduced by other nearby projects to result in cumulative road traffic noise impacts, where there is a temporal overlap.	Road traffic flows on Bentley Road have the potential to cause significant adverse cumulative effects.	Mitigation measures are proposed for inclusion in the Construction Traffic Management Plan and Code of Construction Practice, and noise level monitoring is proposed at the worst affected property. With this mitigation and monitoring in place, significant cumulative effects are not anticipated.
Impact 6: Construction vibration	There is the potential for cumulative construction vibration impacts with projects that are introducing nearby sources of vibration to the onshore cable route, where there is a temporal overlap.	No significant cumulative effects are anticipated.	None
Operation			
Impact 1: Onshore substation noise	There is the potential for cumulative operational noise impacts with projects	No significant cumulative effects are anticipated.	None

POTENTIAL IMPACT	RATIONALE	CUMULATIVE EFFECT	ADDITIONAL MITIGATION*
	that are introducing industrial / commercial noise sources nearby to the onshore substation		
Decommissioning			
Decommissioning strategies have not yet been finalised for North Falls or Norwich to Tilbury; however, the cumulative impacts are expected to be the same as those of the initial construction phase.			

** A summary of the embedded mitigation commitments can be found in Document 2.6 Schedule of Mitigation **[REP5-006].***

1.4.20 Chapter 27 Traffic and Transport **[APP-041]**

~~49.~~50. Table 1.24 provides a summary of the CEA outcomes for traffic and transport. All plans and projects with the potential for cumulative impacts identified for traffic and transport are presented in Table 1.2.

Table 1.24 Potential cumulative impacts identified for Traffic and Transport

POTENTIAL IMPACT	RATIONALE	CUMULATIVE EFFECT	ADDITIONAL MITIGATION*
Construction			
Impact 1: Severance	Cumulative effects are considered possible upon links 4, 24, 25 and 33.	Negligible to Minor adverse on Link 4	N/A
Impact 2: Amenity	Cumulative effects are considered possible upon links 4, 24, 25, 26, 33, 35 and 37.	Negligible to Minor adverse on Link 4	N/A
Impact 3: Highway Safety	Cumulative effects are considered possible at the following clusters: Cluster 1, located on Link 1; Cluster 2; located between links 1, 2 and 20; Cluster 3, located between links 20, 21b and 43; Cluster 4, located on Link 43; Cluster 5, located on Link 21b; Cluster 8, located between links 23, 24 and 48; Cluster 9, located on Link 24; and Cluster 11, located on Link 32. Cumulative effects are also considered possible at the following links which have collision rates higher than the national average (Links 3, 15, 16, 22, 23 and 45)	Minor adverse in Clusters 8 and 11 and on links 22 and 23.	Enhanced maintenance measures as well as enhanced driver inductions

POTENTIAL IMPACT	RATIONALE	CUMULATIVE EFFECT	ADDITIONAL MITIGATION*
Operation			
Operational effects were scoped out of the primary assessment and therefore there would be no cumulative operational effects.			
Decommissioning			
Decommissioning strategies have not yet been finalised for North Falls, Five Estuaries or Norwich to Tilbury; however, the cumulative effects are expected to be the same as those of the initial construction phase.			

** A summary of the embedded mitigation commitments can be found in Document 2.6 Schedule of Mitigation **[REP5-006]**.*

1.4.21 Chapter 28 Human Health **[APP-042]**

~~50.~~51. Table 1.25 provides a summary of the CEA outcomes for human health. All projects with the potential for cumulative impacts identified for human health are presented in Table 1.3.

Table 1.25 Potential cumulative impacts identified for Human Health

POTENTIAL IMPACT	RATIONALE	CUMULATIVE EFFECT	ADDITIONAL MITIGATION*
Construction and Operation			
Cumulative effect 1: Noise effects	There is the potential for construction works associated with other projects in similar locations to the North Falls construction activities to result in cumulative effects, where there is a temporal overlap.	No adverse significant effect for population near landfall, population along the onshore cable route and population near the onshore substation	No additional mitigation proposed.
Cumulative effect 2: Air quality effects		No adverse significant effect for population near landfall, population along the onshore cable route and population near the onshore substation	No additional mitigation proposed.
Cumulative effect 3: Ground and/or water contamination effects		No adverse significant effect for population near landfall, population along the onshore cable route and population near the onshore substation	No additional mitigation proposed.
Cumulative effect 4: Physical activity effects		No adverse significant effect for population near landfall, population along the onshore cable route and population near the onshore substation	Providing reopening signs and notices that advertise the reopening of the route and promote active travel connectivity to destinations; and liaison with Essex County Council about proposed construction works on Public Rights of Way.
Cumulative effect 5: Journey times and/or reduced access effects		No adverse significant effect for population near landfall, population along the onshore cable route and population near the onshore substation	No additional mitigation proposed.
Cumulative effect 6: Employment effects	There is the potential for cumulative construction and operational employment effects with projects that are also developing	No adverse significant effect for population near landfall, population along the onshore cable route and population	No additional mitigation proposed.

POTENTIAL IMPACT	RATIONALE	CUMULATIVE EFFECT	ADDITIONAL MITIGATION*
	within the socio-economic study area.	near the onshore substation Possibility for major beneficial significant effects on employment	
Cumulative effect 7: Wider societal benefits	There is the potential for cumulative wider societal benefits with projects that are delivering renewable sources of energy.	No adverse significant effect for population near landfall, population along the onshore cable route and population near the onshore substation	No additional mitigation proposed.
Decommissioning			
Decommissioning strategies have not yet been finalised for North Falls, Five Estuaries or Norwich to Tilbury; however, the cumulative effects are expected to be the same as those of the initial construction phase.			

** A summary of the embedded mitigation commitments can be found in Document 2.6 Schedule of Mitigation **[REP5-006]**.*

1.4.22 Chapter 29 Seascape, Landscape and Visual Impact Assessment **[APP-043]**

~~51.~~52. Table 1.26 provides a summary of the CEA outcomes for seascape, landscape and visual Impact Assessment (SLVIA). All projects with the potential for cumulative impacts identified for SLVIA are presented in Table 1.3.

Table 1.26 Potential cumulative impacts identified for Seascape, Landscape and Visual Impact Assessment

POTENTIAL IMPACT	RECEPTOR	CUMULATIVE EFFECTS
Operation		
Effects on Marine Character Areas	East Anglian Shipping Waters SCA04.	Moderate adverse (significant) within an area up to 10km around the array area. This is a result of interactions with the existing Galloper and Greater Gabbard offshore wind farms, and the proposed Five Estuaries.
	Suffolk Coastal Waters SCA10.	The effect is predicted to be moderate-minor, which is not significant in EIA terms.
Effects on Onshore Landscape Character	Suffolk Coastal Waters SCA10.	The effect is predicted to be moderate-minor, which is not significant in EIA terms.
	Coastal levels LCT6.	The effect is predicted to be moderate-minor, which is not significant in EIA terms.
	Rolling estate sandlands LCT16.	The effect is predicted to be moderate-minor, which is not significant in EIA terms.
	Saltmarsh and inter-tidal flats LCT20.	The effect is predicted to be moderate-minor, which is not significant in EIA terms
	Coastal ridges and peninsulas – The Naze Peninsula Landscape Character Area (LCA) 4B.	No significant cumulative effects are anticipated.
Effects on Landscape Designations	Suffolk and Essex Coast and Heaths National Landscape.	The effect is predicted to be moderate-minor, which is not significant in EIA terms.
Effects on Views	Viewpoint 1 – Covehithe.	Cumulative effects will be negligible, which is not significant in EIA terms.
	Viewpoint 2 - Southwold Pier.	Cumulative effects will be negligible, which is not significant in EIA terms.
	Viewpoint 3 - Dunwich Coastguard Cottages.	Cumulative effects will be negligible, which is not significant in EIA terms.

POTENTIAL IMPACT	RECEPTOR	CUMULATIVE EFFECTS
	Viewpoint 4 - Sizewell Beach.	Cumulative effects will be negligible, which is not significant in EIA terms.
	Viewpoint 5 - Cliffs above Thorpeness.	Cumulative effects will be minor, which is not significant in EIA terms.
	Viewpoint 6 – Aldeburgh.	Cumulative effects will be minor, which is not significant in EIA terms.
	Viewpoint 7 - Orford Castle.	No cumulative effects are predicted.
	Viewpoint 8 - Orford Ness.	Cumulative effects will be moderate, which is significant in EIA terms
	Viewpoint 9 – Shingle Street.	Cumulative effects will be moderate, which is significant in EIA terms
	Viewpoint 10 - Pulhamite Cliffs (Bawdsey Manor).	Cumulative effects will be moderate, which is significant in EIA terms
	Viewpoint 11 - Felixstowe Seafront Gardens.	Cumulative effects will be moderate, which is significant in EIA terms
	Viewpoint 12 - Landguard Fort.	Cumulative effects will be moderate, which is significant in EIA terms
	Viewpoint 13 - Naze Tower.	Cumulative effects will be moderate, which is significant in EIA terms
	Viewpoint 14 - Frinton on Sea.	Cumulative effects will be minor, which is not significant in EIA terms.
	Viewpoint 15 - Clacton on Sea.	No cumulative effects are predicted.
	Viewpoint 16 - North Foreland.	No cumulative effects are predicted.
Effects on Routes	Suffolk Coast Path.	Moderate adverse and significant, from a section of the path between the mouth of the Butley River and Landguard Point (19km).

POTENTIAL IMPACT	RECEPTOR	CUMULATIVE EFFECTS
Construction and Decommissioning		
Due to the similar nature of activities involved in both the construction and dismantling of an offshore wind farm, seascape, landscape and visual effects no greater than those assessed for the operational stage are expected to continue through the three-year decommissioning period. After the conclusion of decommissioning all seascape, landscape and visual effects will cease.		

1.4.23 Chapter 30 Landscape and Visual Impact Assessment **[APP-044]**

~~52.~~53. Table 1.27 provides a summary of the CEA outcomes for landscape and visual impact assessment (LVIA). All projects with the potential for cumulative impacts identified for LVIA are presented in Table 1.3.

Table 1.27 Potential cumulative impacts identified for Landscape and Visual Impact Assessment

POTENTIAL IMPACT	RECEPTOR	CUMULATIVE EFFECT at Year 1 (including embedded mitigation)	Significance of Effect at Year 15 (Including Mature Embedded Mitigation)	ADDITIONAL MITIGATION*
Construction				
Effects on Landscape Fabric	Landscape fabric of the onshore substation works area.	Moderate adverse	N/A	Mitigation measures during the construction phase are set out in Table 30.3 as embedded mitigation. No additional landscape and visual construction stage mitigation measures are proposed. Further details are provided in the Outline Landscape and Ecological Management Strategy (OLEMS) **[REP1-035]**.
Effects on Landscape Character	7A Bromley Heaths LCA.	Moderate adverse (locally) Minor adverse (for the wider LCA)	N/A	
Effects on Views	VP1 - Court Farm, Stutton Road.	Negligible	N/A	
	VP2 - Bridleway at Barn Lane.	Moderate adverse	N/A	
	VP3 - Norman's Farm.	Major adverse	N/A	
	VP4 - Little Bromley Road to west.	Minor adverse	N/A	
	VP5 – Public Rights of Way (PRoW) near Lilley's Farm.	Moderate adverse	N/A	
	VP6 - Grange Road to north.	Minor adverse	N/A	
	VP7 - PRoW near Little Bromley Hall.	Minor adverse	N/A	
	VP8 Essex Way, Dedham Road.	Negligible	N/A	
	Receptors along the landfall and onshore cable route.	Up to Moderate adverse	N/A	

POTENTIAL IMPACT	RECEPTOR	CUMULATIVE EFFECT at Year 1 (including embedded mitigation)	Significance of Effect at Year 15 (Including Mature Embedded Mitigation)	ADDITIONAL MITIGATION*
Operation				
Effects on Landscape Fabric	Landscape Impacts on the onshore substation works area.	Moderate adverse	Moderate Adverse	Landscape and visual mitigation is discussed in the Design Vision document **[APP-234]** and the OLEMS **(Document reference: 7.14)**.
Effects on Landscape Character	7A Bromley Heaths LCA.	Moderate adverse (locally) Minor adverse (for the wider LCA)	Minor Adverse	
	2C – Holland Haven LCA	Negligible	Negligible	
	3D – Holland Coastal Slopes LCA	Negligible	Negligible	
	8B – Clacton and the Sokens Clay Plateau LCA	Negligible	Negligible	
	3A – Hamford Coastal Slopes LCA	Negligible	Negligible	
	8A – Tendring and Wix Clay Plateau LCA	Negligible	Negligible	
	6D – Holland Valley System LCA	Negligible	Negligible	
Effects on Views	VP1 - Court Farm, Stutton Road.	Negligible	Negligible	
	VP2 - Bridleway at Barn Lane.	Moderate adverse	Minor Adverse	
	VP3 - Norman's Farm.	Major adverse	Moderate Adverse	
	VP4 - Little Bromley Road to west.	Minor adverse	Minor Adverse	
	VP5 - PRoW near Lilley's Farm.	Moderate adverse	Minor Adverse	

POTENTIAL IMPACT	RECEPTOR	CUMULATIVE EFFECT at Year 1 (including embedded mitigation)	Significance of Effect at Year 15 (Including Mature Embedded Mitigation)	ADDITIONAL MITIGATION*
	VP6 - Grange Road to north.	Minor adverse	Minor Adverse	
	VP7 - PRoW near Little Bromley Hall.	Minor adverse	Minor Adverse	
	VP8 – Essex Way, Dedham Road.	Negligible	Negligible	
	Receptors along the landfall and onshore cable route..	Negligible	Negligible	
Decommissioning				
No decision has been made regarding the final decommissioning policies for North Falls as it is recognised that industry best practice, rules and legislation change over time. The detail and scope of decommissioning works would be determined by the relevant legislation and guidance at the time of decommissioning and would be agreed with the regulator with a Decommissioning Programme provided. However, it is considered likely that the onshore substation would be removed and would be reused or recycled and that the onshore cables would be removed and recycled, with the landfall transition joint bays and cable ducts (where used) left in situ. For the purposes of a worst-case scenario, it is considered that the impacts associated with the decommissioning phase would be no greater than those identified for the construction phase.				

** A summary of the embedded mitigation commitments can be found in Document 2.6 Schedule of Mitigation **[REP5-006].***

1.4.24 Chapter 31 Socio-economics **[AS-010]**

~~53.~~54. Table 1.28 provides a summary of the CEA outcomes for socio-economics. All projects with the potential for cumulative impacts identified for socio-economics are presented in ~~Table 1.2.~~Table 1.3

Table 1.28 Potential cumulative impacts identified for Socio-economics

POTENTIAL IMPACT	RATIONALE	CUMULATIVE EFFECT	ADDITIONAL MITIGATION*
Construction			
Economic value	Multiple construction projects over a sustained period could increase investment and economic benefits for local, sub-regional and national economies. There is also scope to strengthen local supply chains.	Major beneficial (significant)	N/A
Employment	Multiple construction projects could increase the number of employment opportunities.	Major beneficial (significant)	N/A
Pressure on local onshore infrastructure and services (health, not housing)	Multiple construction projects could result in increased in-migration resulting in change to the demographic profile. Increased population at the local level may increase pressure on the provision of social, community, housing and health infrastructure.	Minor adverse (not significant)	N/A
Disturbance (noise, air, visual, and traffic) to onshore social and community infrastructure facilities	Where onshore projects are in close proximity to each other there may be potential for cumulative effects on noise, air quality, visual amenity and traffic, which causes disruption to social and community infrastructure.	Minor adverse (not significant)	N/A
Wider economic effects from disruption to shipping and navigation	Should the development of multiple offshore projects cause further disruption to shipping lanes there may be	Minor adverse (not significant)	~~N/A~~Potential socio-economic impacts on ports have been minimised by keeping at least one of the two deep water routes

POTENTIAL IMPACT	RATIONALE	CUMULATIVE EFFECT	ADDITIONAL MITIGATION*
	potential for greater levels of impact on the operations of the ports of Felixstowe ~~and~~, Harwich~~,~~ and the Port of London which in turn could impose economic costs on the local area.		(Sunk and Trinity) into the London ports, undisturbed at all times. This would be achieved by the Outline Navigation and Installation Plan (oNIP) (Document Reference 7.24) which prevents construction works amongst concurrent projects to take place across both of the access routes at the same time. Thus, one access route into the ports will be undisturbed by construction works. The access routes are being discussed in ongoing meetings with the ports and the tables in the oNIP will be updated at Deadline 6.
Wider economic effects from disruption to fishing	The development of multiple offshore projects could have a potential negative cumulative effect on the volume and value of fishing catches. This in turn could affect the incomes of communities that are dependent on fishing.	Minor adverse (not significant)	N/A
Wider economic effects related to minerals	Residual effects on Mineral Safeguarding Areas and Mineral Consultation Areas may be exacerbated by other projects if located within the same safeguarding area.	Minor adverse (not significant)	N/A
Operation			
Economic value	Substantial long-term and permanent employment and economic benefits (both direct and indirect) may be supported as a result of Operation &	Moderate beneficial (significant)	N/A

POTENTIAL IMPACT	RATIONALE	CUMULATIVE EFFECT	ADDITIONAL MITIGATION*
	Maintenance (O&M) supported by cumulative projects. A strategic approach to the delivery and O&M of cumulative projects could lead to increased investment and development of the local supply chain. In addition, increased employment opportunities may lead to opportunities for upskilling and re-skilling of the local labour market.		
Employment	Substantial long-term and permanent employment and economic benefits (both direct and indirect) may be supported as a result of O&M supported by cumulative projects. A strategic approach to the delivery and O&M of cumulative projects could lead to increased investment and development of the local supply chain. In addition, increased employment opportunities may lead to opportunities for upskilling and re-skilling of the local labour market.	Moderate beneficial (significant)	N/A
Pressure on local onshore infrastructure and services (accommodation and health)	Due to the long-term and permanent nature of the jobs, there may be potential for long-term changes to the local population due to ~~inwardmigration.~~inward migration. The operational phase typically supports fewer jobs, and therefore have a lower impact on demographics. Furthermore, the potential for re-skilling and up-skilling local workers could reduce the need for in-	Minor adverse (not significant)	N/A

POTENTIAL IMPACT	RATIONALE	CUMULATIVE EFFECT	ADDITIONAL MITIGATION*
	migration. Increased levels of in-migration due to the employment needs of cumulative projects may increase pressure on and/ or reduce access to social, community, housing and health infrastructure for existing residents.		
Disturbance (noise, air, visual, and traffic) to onshore social and community infrastructure facilities	Social and community infrastructure facilities (i.e., social, community and health infrastructures) within the Local Onshore Cable Area of Influence (LOCAI) may experience limited cumulative onshore disturbance in areas where projects overlap with the LOCAI and add to the levels of disruption	Negligible (not significant)	N/A
Wider economic effects from disruption to shipping and navigation	Should the O&M of multiple offshore projects cause further disruption to shipping lanes there may be potential for greater levels of impact on the operations of the ports of Felixstowe ~~and~~ Harwich and the Port of London, which in turn could impose costs on the local economy and supply chains	Negligible (not significant)	~~N/A~~Wider economic effects from disruption to shipping and navigation have been minimised through the Applicant's commitment to dredging of the seabed within the Sunk and Trinity DWRs to a depth of at least 22m below Chart Datum (CD) in order not to preclude future dredging of the DWR. Additionally, the Outline Navigation and Installation Plan (oNIP) (Document Reference 7.24) will manage maintenance or repair including cable repair and reburial to ensure that North Falls O&M activities will not preclude both deep water routes access into the London ports, at the same time.
Wider economic effects from disruption to fishing	The operation of multiple offshore projects could have a	Minor adverse (not significant)	N/A

POTENTIAL IMPACT	RATIONALE	CUMULATIVE EFFECT	ADDITIONAL MITIGATION*
	potential cumulative impact on the volume and value of fishing catches. This in turn could affect the incomes of communities that are dependent on fishing		
Wider economic effects related to minerals	Residual effects on Mineral Safeguarding Areas and Mineral Consultation Areas may be exacerbated by other projects if located within the same safeguarding area.	Minor adverse (not significant)	N/A
Decommissioning			
Decommissioning strategies have not yet been finalised for North Falls, Five Estuaries or Norwich to Tilbury; however, the cumulative effects are expected to be the same as those of the initial construction phase.			

** A summary of the embedded mitigation commitments can be found in Document 2.6 Schedule of Mitigation **[REP5-006]**.*

1.4.25 Chapter 32 Tourism and Recreation **[APP-046]**

~~54.~~55. Table 1.29 provides a summary of the CEA outcomes for tourism and recreation. All projects with the potential for cumulative impacts identified for tourism and recreation are presented in Table 1.3.

Table 1.29 Potential cumulative impacts identified for Tourism and Recreation

POTENTIAL IMPACT	RATIONALE	CUMULATIVE EFFECT	ADDITIONAL MITIGATION
Construction			
Impact 1: Impact on users' enjoyment of recreational and tourist assets due to the construction of onshore infrastructure	Cumulative direct effects associated with disruptions to onshore tourism and recreational assets are possible if onshore construction works associated with multiple developments occur concurrently and in proximity to North Falls' onshore project area.	Negligible (not significant) / Minor adverse (not significant) depending on the receptor	Not required as no significant effects have been identified.
Impact 2: Impact on enjoyment of marine and coastal recreational and tourism assets due to the construction of offshore infrastructure	Cumulative direct effects associated with disruptions to marine and coastal tourism and recreational activities are possible if marine construction traffic and offshore construction works associated with multiple developments occur concurrently and in proximity to North Falls' offshore project area.	Negligible (not significant)	Not required as no significant effects have been identified.
Impact 3: Reductions in tourist accommodation availability due to a non-resident workforce	Cumulative effects associated with reductions in tourist accommodation availability may occur at a regional scale if peak construction demand associated with multiple developments overlap temporally and spatially with North Falls' onshore construction programme and the high season months.	Minor adverse (not significant)	Not required as no significant effects have been identified.
Impact 4: Impact on the volume and value of tourism due to construction	Cumulative effects arising from multiple developments in close proximity to North Falls and with temporal overlap with North Falls have the potential to	Minor adverse (not significant)	Not required as no significant effects have been identified.

POTENTIAL IMPACT	RATIONALE	CUMULATIVE EFFECT	ADDITIONAL MITIGATION
	affect the volume and value of visitors to Essex and Suffolk.		
Operation			
Impact 1: Impact of operational activity on onshore infrastructure on the enjoyment of tourism and recreational assets	Multiple developments in proximity to North Fall's onshore substation may be visible to visitors using nearby PRoW and other non-motorised routes. Cumulative effects arising from multiple developments in proximity to North Falls have the potential impact to PRoW and other non-motorised routes	Negligible (usually), Negligible - minor adverse when / if repairs are needed (not significant)	Not required as no significant effects have been identified.
Impact 2: Impact of operational activity on offshore infrastructure on the enjoyment of tourism and recreational assets	Multiple developments in proximity to North Falls' array area may be visible to visitors from shore and those engaging in marine tourism and recreational activities. Cumulative direct effects associated with disruptions to marine tourism and recreational activities are possible if offshore O&M works associated with multiple developments occur concurrently and in proximity to North Falls' offshore project area.	Negligible (not significant)	Not required as no significant effects have been identified.
Impact 3: Reductions in tourist accommodation availability due to a non-resident workforce	Due to the minimal scale of demand for accommodation during the operational phase of projects the operation of multiple offshore and onshore projects would have a minimal potential cumulative impact on the availability of visitor accommodation.	Negligible (not significant)	Not required as no significant effects have been identified.
Impact 4: Impact on the volume and value of tourism during operations	The operation of multiple offshore and onshore projects could have a potential cumulative impact on the volume and value of	Minor adverse (not significant)	Not required as no significant effects have been identified.

POTENTIAL IMPACT	RATIONALE	CUMULATIVE EFFECT	ADDITIONAL MITIGATION
	tourism. For instance this may be through potential visual cumulative impacts of other offshore wind projects or cumulative impacts on visitor perceptions of the Essex and Suffolk coast.		
Decommissioning			
Decommissioning strategies have not yet been finalised for North Falls, Five Estuaries or Norwich to Tilbury; however, the cumulative effects are expected to be the no worse than those of the initial construction phase.			

1.4.26 Chapter 33 Climate Change **[APP-047]**

~~55.~~56. Table 1.30 provides a summary of the CEA outcomes for climate change. All projects with the potential for cumulative impacts identified for climate change are presented in ~~Table 1.2.~~Table 1.3.

Table 1.30 Potential cumulative impacts identified for Climate Change

POTENTIAL IMPACT	CUMULATIVE EFFECT	ADDITIONAL MITIGATION
Construction, Operation and Decommissioning		
Impact 1: Greenhouse Gas (GHG) assessment	Cumulative effects in relation to GHGs emissions do not require an assessment.	N/A
Impact 2: Cumulative impact of climate change on the Project	Cumulative effects are not expected.	N/A

1.5 References

Álvarez-Noriega, M., Burgess, S.C., Byers, J.E., Pringle, J.M., Wares, J.P. and Marshall, D.J., 2020. Global biogeography of marine dispersal potential. Nature Ecology & Evolution, 4(9), pp.1196-1203.
Planning Inspectorate (2018). Advice Note Nine: Rochdale Envelope.
Planning Inspectorate (2024). Nationally Significant Infrastructure Projects: Advice on Cumulative Effects Assessment.
RenewableUK (2013). Cumulative Impact Assessment Guidance. [Online]. Available at: https://tethys.pnnl.gov/sites/default/files/publications/Cumulative-Impact-Assessment-Guidelines.pdf

NORTH FALLS

Offshore Wind Farm

HARNESSING THE POWER OF NORTH SEA WIND

North Falls Offshore Wind Farm is being developed on a site more than 20 kilometres off the UK coast in the southern North Sea and covers a total area of 150 km². It is an extension project to the adjacent 504 megawatt Greater Gabbard Offshore Wind Farm, opened in 2013.

It is being developed by a joint venture company owned equally by SSE Renewables and RWE.

The project is in a very early phase so there are limited details, however if you would like to contact the project team please email contact@northfallsoffshore.com

North Falls Offshore Wind Farm Limited Registered Address: Windmill Hill Business Park, Whitehill Way, Swindon, Wiltshire, SN5 6PB, United Kingdom
Registered in England and Wales Company Number: 12435947