NORTH FALLS

Offshore Wind Farm

ENVIRONMENTAL STATEMENT

Chapter 29 Seascape, Landscape and Visual Impact Assessment

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Glossary of Acronyms

AONB	Area of Outstanding Natural Beauty
CAA	Civil Aviation Authority
CSLVIA	Cumulative Seascape, Landscape and Visual Impact Assessment
DCO	Development Consent Order
DESNZ	Department for Energy Security and Net Zero
EEA	European Economic Area
EEZ	Exclusive Economic Zone
EIA	Environmental Impact Assessment
ES	Environmental Statement
ETG	Expert Topic Group
HVAC	High Voltage Alternating Current
HVDC	High Voltage Direct Current
IALA	International Association of Lighthouse Authorities
LAT	Lowest Astronomical Tide
LCT	Landscape Character Type
LUC	Land Use Consultants Limited
MCA	Marine Character Area
MHWS	Mean High Water Springs
MMO	Marine Management Organisation
NFOW	North Falls Offshore Wind Farm Limited
NPS	National Policy Statement
NSIP	Nationally Significant Infrastructure Project
OCP	Offshore Converter Platform
OSP	Offshore Substation Platform
PEIR	Preliminary Environmental Information Report
SAR	Search-and-Rescue
SECHNL	Suffolk & Essex Coast & Heaths National Landscape
ACT	Seascape Character Type
SCZ	Seascape Character Zone
SLVIA	Seascape, Landscape and Visual Impact Assessment
WCS	Worst Case Scenario
WTG	Wind Turbine Generators
ZTV	Zone of Theoretical Visibility

Glossary of Terminology

Array area	The offshore wind farm area, within which the wind turbine generators, array cables, platform interconnector cable, offshore substation platform(s) and/or offshore converter platform will be located.
Array cables	Cables which link the wind turbine generators with each other, the offshore substation platform(s) and/or the offshore converter platform.
Offshore Above-sea Development	Visible (above sea level) offshore project components. This includes the proposed wind turbines generators and offshore substation platforms.
Offshore cable corridor	The corridor of seabed from the array area to the landfall within which the offshore export cables will be located.
Offshore converter platform	Should an offshore connection to a third party HVDC cable be selected, an offshore converter platform would be required. This is a fixed structure located within the array area, containing HVAC and HVDC electrical equipment to aggregate the power from the wind turbine generators, increase the voltage to a more suitable level for export and convert the HVAC power generated by the wind turbine generators into HVDC power for export to shore via a third party HVDC interconnector cable.
Offshore export cables	The cables which bring electricity from the offshore substation platform(s) to the landfall, as well as auxiliary cables.
Offshore platform(s)	Fixed structure(s) located within the array area, which may be an offshore converter platform or an offshore substation platform.
Offshore project area	The overall area of the array area and the offshore cable corridor.
Offshore substation platform(s)	Fixed structure(s) located within the array area, containing HVAC electrical equipment to aggregate the power from the wind turbine generators and increase the voltage to a more suitable level for export to shore via offshore export cables.
Platform interconnector cable	Cable connecting the offshore substation platforms (OSP); or the OSP and offshore converter platform (OCP).
The Applicant	North Falls Offshore Wind Farm Limited (NFOW).
The Project or 'North Falls'	North Falls Offshore Wind Farm, including all onshore and offshore infrastructure.
Wind turbine generator (WTG)	Power generating device that is driven by the kinetic energy of the wind.

29 Seascape, Landscape and Visual Impact Assessment

29.1 Introduction

1. This chapter of the Environmental Statement (ES) evaluates the effects of the offshore project components of the proposed North Falls Offshore Wind Farm (hereafter 'North Falls' or 'the Project') on the seascape, landscape and visual resource. For the purposes of this Seascape, Landscape and Visual Impact Assessment (SLVIA) this chapter focuses on effects associated with the visible (above sea level) offshore project components. This includes the proposed wind turbines generators (WTG) and offshore platforms in the array area (hereafter referred to as the Offshore Above-sea Development).
2. The SLVIA considers works seaward of mean high water springs (MHWS). There will be no above sea level infrastructure in the offshore cable corridor, or above ground infrastructure in the intertidal zone. Therefore, operational effects of offshore cables are not discussed further in this chapter. Landfall works above MHWS (onshore works) are covered in ES Chapter 30 Landscape and Visual Impact Assessment (LVIA) (Document Reference: 3.1.32).
3. This assessment was undertaken by chartered landscape architects at Land Use Consultants Limited (LUC).
4. This chapter of the ES is supported by ES Appendix 29.1 Seascape, Landscape and Visual Impact Assessment and Visualisation Methodology (Document Reference: 3.3.69).
5. Volume 3.2 of the ES contains the ES Figures.

29.2 Consultation

6. Stakeholder feedback was gathered through the Scoping process, responses to the Preliminary Environmental Information Report (PEIR), and through meetings with an Expert Topic Group (ETG).
7. Table 29.1 collates this feedback and provides a summary of how the consultation responses have influenced the approach that has been taken.
8. The SLVIA Chapter has been updated following the consultation on the PEIR to produce the final assessment. Full details of the consultation process are presented in the Consultation Report (Document Reference: 4.1), provided as part of the DCO application.

Table 29.1 Consultation responses

Consultee	Date/ Document	Comment	Response/ where addressed in the ES
SLVIA Expert Topic Group (ETG); Suffolk County Council; East Suffolk Council	ETG Meeting July 2021 and subsequent feedback	Overall approach Proposed methodology is broadly acceptable, subject to further comment and discussion as the project progresses. Additional baseline material noted for inclusion. Illustrative and specific viewpoints may be required as well as representative viewpoints. Additional viewpoints were suggested, as well as points about timing of photography; sequential impacts; effects of lighting and turbine visibility. The assessment should include analysis of effects on Natural Beauty and Special Qualities of the AONB, and the purpose of the designation. Cumulative effects including 'curtaining' of the horizon, when viewed from the AONB coast.	All comments were considered and addressed in this Chapter, in Sections 29.5 (baseline), Section 29.5.4 (viewpoints), Section 29.6.3.2.2 (effects on designated landscapes) and Section 29.7 (cumulative effects). These matters were also fed through to the Scoping Opinion and are noted below.
Planning Inspectorate	Scoping Opinion (August 2021)	5.11.1 Construction Impacts "The Scoping Report states that the impacts during the temporary construction phase of the offshore infrastructure will never be greater than the operational effects of the completed wind farm and as such, proposes that offshore construction effects are scoped out of the seascape, landscape and visual impact assessment (SLVIA). Based on the lack of information to support this assertion and given that the construction period is expected to last at least 5 years during which time there is potential for impacts arising from presence of construction activity and partially complete WTGs that could detract from the character of the landscape, the Inspectorate does not agree that construction phase impacts of offshore infrastructure can be scoped out of the assessment."	Construction phase impacts of offshore infrastructure have been considered in the assessment. Refer to Section 29.6.2.
Planning Inspectorate	Scoping Opinion (August 2021)	5.11.2 Non-coastal landscapes "The Scoping Report states that the presence of the offshore wind farm is unlikely to significantly impact the key characteristics of non-coastal landscapes, therefore changes to landscape character in relation to the offshore wind farm will be scoped out of the SLVIA. The Inspectorate considers that the offshore components have potential to impact onshore landscape character, for example features of the Greater Thames Estuary and Northern Thames Basin, which include low-lying coastal landscape where extensive open spaces are dominated by the sky. The Inspectorate	Impacts of offshore infrastructure during operation have been considered for non-coastal landscape, where significant effects on landscape character are considered likely. Refer to Section 29.5.2 and Section 29.6.3.

Consultee	Date/ Document	Comment	Response/ where addressed in the ES
		does not agree that potential impacts of offshore infrastructure during operation can be scoped out of the assessment."	
Planning Inspectorate	Scoping Opinion (August 2021)	5.11.4 Decommissioning Impacts "The Scoping Report states that the presence of activity and partially dismantled structures during the temporary decommissioning phase has the potential to impact seascape, coastal and landscape character, designated landscapes and visual receptors but impacts will never be greater than during construction or operation phases considered in the SLVIA, and proposes to scope these out. The Inspectorate does not agree that these impacts during decommissioning can be scoped out of the assessment as insufficient evidence has been provided to support the assertion that no significant effects are likely to occur."	Decommissioning phase impacts of offshore infrastructure have been considered in the assessment. Refer to Section 29.6.4.
Planning Inspectorate	Scoping Opinion (August 2021)	5.11.6 Cumulative Impacts "The Scoping Report suggests at Table 4.2 that cumulative impacts from offshore construction and decommissioning of the Proposed Development are proposed to be scoped out. No information is presented as a basis for this proposal. On a similar basis as that set out at ID 5.11.1 and 5.11.4 of this Scoping Opinion, the Inspectorate has insufficient evidence to conclude that this matter would not give to significant effects. In addition, the Inspectorate is aware that there are a number of other projects, including NSIPs such as East Anglia ONE North and TWO Wind Farms, Five Estuaries Offshore Wind Farm and Sizewell C, located within the likely study area for the Proposed Development, which have the potential for overlapping construction programmes and possible combined effects. The Inspectorate therefore does not agree to scope this matter out of the ES."	Cumulative impacts have been considered in Section 29.7. A worst case scenario in which all operational, consented, and proposed schemes are present, has been considered.
Planning Inspectorate	Scoping Opinion (August 2021)	5.11.7 Study Area "The Inspectorate considers that due to the potential maximum height of the WTGs, their proximity to designated seascapes, landscapes (including Suffolk Coast and Heaths, Dedham Vale and Kent Downs AONBs) and other highly graded cultural heritage assets (e.g. Dengie Peninsula), the low-lying nature of the coastline, and the presence of existing and proposed offshore wind farms, there is potential for the offshore components of the Proposed Development to give rise to likely significant effects, including cumulative effects, to landscape and visual receptors beyond the proposed study area of 50km radius around the array areas. On that basis, the Inspectorate considers that the study area for impacts from the array areas should be	The study area for the SLVIA has been increased to 60km. This was agreed through follow on consultation (SLVIA Topic Group Meeting – 7th December 2022) and adopted at PEIR. The Kent Downs National Landscape (an Area of Outstanding Natural Beauty (AONB)) and Dengie Peninsula, noted in the Scoping Opinion, are over 60 km from the array area. A small coastal part of the Kent Downs National Landscape is 62km from the array area,

Consultee	Date/ Document	Comment	Response/ where addressed in the ES
		determined relevant to the extent of the impacts and the potential for significant effects. This may result in a study area beyond the 50km specified and the Applicant should make effort to agree this with relevant consultation bodies. The selection of the study area should be informed by the Zone of Theoretical Visibility (ZTV)."	although the majority is much more distant. The Dengie Peninsula is 65km from the array area. The potential for significant effects to occur within these areas was considered but judged to be unlikely. The increased 60km study area, excluding Kent Downs National Landscape and Dengie Peninsula, was agreed with relevant stakeholders in line with the Scoping Opinion.
Planning Inspectorate	Scoping Opinion (August 2021)	5.11.8 Seascape Character Zones The 'seascape character zones' (SCZ) identified as being of relevance to the Proposed Development's wind farm and surrounding area should be clearly justified and explained in the ES.	The regional scale Marine Character Areas (MCA) have been used as the baseline reporting units for the seascape assessment. See Section 29.5.1. Seascape Character Zones (SCZ) are referenced in discussion of seascape sensitivity, see Section 29.5.1.
Planning Inspectorate	Scoping Opinion (August 2021)	5.11.9 Data Sources "The ES should demonstrate how the consultation with the MMO, the Suffolk Coast and Heaths AONB Board and other relevant consultation bodies has informed the approach taken in researching the data needed for the assessment of seascape, landscape and visual aspects. In addition to the data sources listed at paragraph 722, the Inspectorate considers that the following data sources should be used to inform the description of baseline conditions: Natural Beauty and Special Qualities of the Suffolk Coast and Heaths AONB (2016), Development in the setting of the Suffolk Coast and Heaths AONB (2015), The Designation History of the Suffolk Coast and Heaths AONB and the Landscape Character of the Essex Coast (2002)."	Details on post scoping consultation are provided in this table. The documents noted have been referred to as appropriate in drafting the SLVIA.
Planning Inspectorate	Scoping Opinion (August 2021)	5.11.10 SLVIA Viewpoints "The Applicant should make effort to consult and agree with consultation bodies over the proposed SLVIA assessment viewpoints including Natural England and the relevant local authorities. In addition to those listed in Table 4.1, the Inspectorate considers that the following locations should also be selected for viewpoints as places that contribute towards the character of the coastal landscape and which attract visual receptors: the end of Southwold pier, Gun Hill in Southwold, Dunwich Coastguard cottages, Sizewell Beach, the cliffs above Thorpeness, Felixstowe seafront gardens, Walton pier and	Details on post scoping consultation is provided in this table. Suggested viewpoints were reviewed and where appropriate, the locations suggested have been included in the viewpoint list. In some cases, the precise locations suggested in the Scoping Opinion were replaced with alternative nearby locations, but all are represented. The finalised list of viewpoints,

Consultee	Date/ Document	Comment	Response/ where addressed in the ES
		Naze tower. A viewpoint further north at Covehithe should be included to enable an assessment of potential cumulative effects to Suffolk Coast and Heaths AONB from the existing and proposed offshore wind farms. In addition, the Inspectorate considers that there is potential for sequential visual effects to users of the Suffolk / England Coast Path, including in combination with other projects, and these effects should be assessed."	as agreed with stakeholders, is presented in Table 29.6. Sequential effects from the Suffolk Coast Path and England Coast Path have been considered in the assessment. See Section 29.5.4.4.
Planning Inspectorate	Scoping Opinion (August 2021)	5.11.11 Cumulative Impacts "The Scoping Report states that potential landscape and visual effects due to interactions with consented and proposed (as yet unbuilt wind farms) will be considered in the cumulative assessment and is likely to include the proposed East Anglia TWO Offshore Wind Farm, approximately 30km to the north of NFOW, and the planned Five Estuaries Offshore Wind Farm to the east. The Inspectorate considers that East Anglia ONE North Wind Farm should also be scoped into the assessment on the basis that the turbine array is likely to be viewed in combination with the Proposed Development from the Suffolk Coast and Heaths AONB. The ES should explain how the cumulative assessment has included all relevant developments that may have cumulative effects on seascape, landscape and visual effects and how these have been assessed."	The cumulative assessment considers all operational, consented and proposed offshore wind farms that are present across the 60km LVIA study area (see Section 29.5.5). East Anglia ONE North Wind Farm is outside this area but is referred to when discussing views from more northerly viewpoints where it could be visible, and is included in visualisations. Cumulative impacts are set out in Section 29.7.
Planning Inspectorate	Scoping Opinion (August 2021)	5.11.12 Visual Baseline and Photography "The Scoping Report states that the visual baseline will be recorded in terms of the different groups of people who may experience views of the offshore wind farm and onshore components, the places where they will be affected and the nature of their views and visual amenity. The ES should explain in detail how the visual baseline has been established including how the Applicant consulted on this with relevant consultation bodies. The Applicant should give careful consideration to the timing of baseline photography, in terms of the time of day and season, in order to ensure that the ES presents an accurate representation of the likely effects, eg the WTGs are likely to be most visible in the late afternoon/ evening and high visibility days occur in certain periods of the year that coincide with peak visitor period."	The visual baseline is described in Section 29.5.4. Representative assessment viewpoints have been agreed through post scoping consultation, further detail is provided below. Baseline photography has been carried out at suitable times of day in relation to the sun's path (generally in the afternoon/ evening) and in conditions of good visibility.
Planning Inspectorate	Scoping Opinion (August 2021)	5.11.13 Viewpoint Types "The Inspectorate considers that, in addition to representative viewpoints, illustrative and specific viewpoints will be required to understand the impacts of the Proposed Development and fully assess its effects."	Assessment viewpoints (including representative, illustrative and specific locations) have been agreed with stakeholders, and the list is presented in Table 29.11.

Consultee	Date/ Document	Comment	Response/ where addressed in the ES
Planning Inspectorate	Scoping Opinion (August 2021)	5.11.14 Effects on AONB "The Inspectorate considers that in addition to the assessment of landscape and visual effects, the SLVIA will need to consider impacts to the Natural Beauty and Special Qualities of the Suffolk Coast and Heaths AONB, as these form part of the purposes of the designation."	Impacts to the Natural Beauty and Special Qualities of the Suffolk Coast and Heaths AONB (now the Suffolk and Essex Coast and Heaths National Landscape (SECHNL)) are considered in Section 29.6.
Planning Inspectorate	Scoping Opinion (August 2021)	5.11.15 Mitigation "If mitigation is proposed for any likely significant effects this should be set out in detail in the ES and it should clearly set out how this mitigation will be secured."	Mitigation measures are described in Section 29.3.3.
Planning Inspectorate	Scoping Opinion (August 2021)	5.11.16 Further Guidance "The Technical Guidance Note (TGN) 02-21 'Assessing the Value of Landscapes outside National Designations' has recently been published and should be used within the assessment."	This guidance has been referred to in the assessment.
SLVIA ETG	ETG Meeting 7 December 2021	Study Area and Viewpoints 60km study area agreed by stakeholders. Suggested viewpoints were discussed: • Martello tower viewpoint is similar location to Clacton-on-Sea viewpoint. Clacton will give a more open viewpoint as it is closer and has more sensitive receptors, therefore Clacton-on-Sea has been selected over Martello tower. Dusk photography will be included at Clacton-on-Sea; • Frinton-on-Sea has been added as this was identified through other consultation by NFOW; • The Naze was proposed in the Scoping Report; Naze Tower and Walton Pier were requested in the Scoping Opinion. These are tightly clustered and so it is proposed that Naze Tower is selected; • Felixstowe and Landguard Fort are very close and so it is proposed that Landguard Fort is selected; • Felixstowe Seafront Garden - included following Scoping Opinion. Will include dusk photography; • Pulhamite Cliffs and Bawdsey are very close and so it is proposed that Pulhamite Cliffs is selected; • Shingle Street included as requested by Natural England; • Aldeburgh will include dusk photography; • Cliffs above Thorpeness - included following Scoping Opinion;	All suggested viewpoint locations were considered, and the final list, agreed with stakeholders, is included at Table 29.11.

Consultee	Date/ Document	Comment	Response/ where addressed in the ES
		• Coastal Path between Thorpeness and Sizewell - sequential wireframe view from coastline to be included as requested by Natural England; • Sizewell Beach - included following Scoping Opinion; • Dunwich Coastguard Cottages - included following Scoping Opinion; • Southwold included in Scoping Report; Gunhill and Southwold Pier were requested in the scoping opinion – propose to use Southwold Pier as this is most frequented and closest to the array areas; • Covehithe - included following Scoping Opinion.	
Natural England	PEIR Consultation Response 14 July 2023	Mitigation through design "We advise that the North Falls OWF has the potential to cause significant adverse impacts on the special qualities of the Suffolk Coast and Heaths Area of Outstanding Natural Beauty (SCHAONB) and Suffolk Heritage Coast (SHC). We advise that these are significant for the purposes of EIA and, as a result of these significant adverse impacts, further harm may occur to the natural beauty of the SCHAONB and special character of the SHC. We also have outstanding concerns regarding the evidence used to assess (a) potential harm to the SCHAONB and SHC due to the presence of North Falls OWF (particularly the North Array) area, and (b) the worst-case maximum turbine height scenario. Both of which introduce uncertainty to the assessment of impacts to SCHAONB and SHC. We also disagree that the Project will not have significant cumulative impacts on the SCHAONB and SHC. Therefore, to help achieve good design, Natural England advises that to move the design towards a more acceptable project in terms of SLVIA impacts, the Applicant should consider principles to exclude development in the northern array area and commit to using the smaller 310m turbines in the southern array."	The array area for the DCO application has taken on board design comments received in response to PEIR, through the removal of the northern array of turbines, the refinement of the former southern array, and the reduction in turbine tip height. A number of turbine options are under consideration, with maximum tip heights between 280.39m and 381.39m above Lowest Astronomical Tide (LAT). Further information on changes in the array area between PEIR and DCO application is provided in Section 29.3.1 and ES Chapter 4 Site Selection and Assessment of Alternatives (Document Reference: 3.1.6). Further commentary, with regard to cumulative effects is provided below.
Natural England	PEIR Consultation Response 14 July 2023	Worst case scenario "There is insufficient evidence to be certain that the maximum height scenario is the Worst-Case Scenario (WCS) to be able to fully assess the potential impacts to the SCHAONB and SHC."	The worst case scenario, in terms of seascape, landscape and visual effects, is judged to be the smaller number of larger turbines (rather than larger number of smaller turbines). The largest turbine size under consideration will create the largest viewshed and will be more prominent in views from the coast. Further information on the approach to

Consultee	Date/ Document	Comment	Response/ where addressed in the ES
			worst case for the SLVIA is set out in Section 29.3.2. Wirelines from selected viewpoints have been provided to show both scenarios, see ES Figures 29.3.3 to 29.3.17 (Document Reference: 3.2.25).
Natural England	PEIR Consultation Response 14 July 2023	Cumulative Assessment "We disagree that the North Falls OWF will have no significant cumulative impacts on the SCHAONB and SHC."	The cumulative assessment presented in this assessment has been re-structured, to avoid any potential confusion in terms of reporting of cumulative effects. Further detail on the approach to the cumulative assessment is provided in Section 29.4.3.
Natural England	PEIR Consultation Response 14 July 2023	Sequential effects from England Coastal Path "The assessment of the sequential nature of possible visual effects associated with users of the Suffolk Coastal Path / King Charles III English Coastal Path is unclear."	Sequential effects from the Suffolk Coast Path and King Charles III England Coast Path have been considered. See Section 29.5.4.4 and Table 29.37 and Table 29.38.
Colchester City Council	PEIR Consultation Response 25 May 2023	Additional Viewpoint Request "Given the potential landscape and visual impact of the proposed development, it is recommended a Landscape & Visual impact Assessment be submitted as part of any formal submission (a requirement of the EIA). This in order to guide the design proposals enough to help ensure the development does not have an adverse impact on the administration area of CCC. Any such Appraisal should fully comply with the relevant Landscape Institute's Guidelines for Landscape & Visual Impact Assessment (3rd edition) and any relevant Technical Guidance Notes (including TIN 06/19). Initial assessment of the proposal @ Development - North Falls Offshore Wind Farm would indicate that an additional viewpoint should be considered from West Mersea foreshore on Mersea Island, where the southern tip of the development may be visible."	The ZTV (refer to ES Figure 29.1.2, Document Reference: 3.2.25) indicates some theoretical visibility from Mersea Island. However, this area is on the edge of the 60km study area and significant visual effects at this viewing distance are unlikely. The assessment includes an assessment viewpoint from Clacton on Sea (VP15) which provides a similar viewing angle (and is closer). Refer to Table 29.36 in Section 29.6.3.
Suffolk and Essex Coast and Heaths National Landscape Team	PEIR Consultation Response 6 July 2023	National Landscape Special Qualities "An assessment of the offshore element of the proposals be undertaken against the defined natural beauty and special qualities of the Suffolk Coast & Heaths AONB and not the summary landscape character assessment as referenced in 29.6.2.2.2, Offshore Seascape, Landscape and Visual Impact Assessment."	The assessment of effects on the SECHNL (an AONB) has been updated, with consideration given to the 'special qualities' as listed in the Natural Beauty and Special Qualities Indicators document (November 2016). See Section 29.6.3.2.2.

Consultee	Date/ Document	Comment	Response/ where addressed in the ES
Essex County Council	PEIR Consultation Response 14 July 2023	Effects on Landscape Character Types "Offshore Seascape, Landscape and Visual Impact Assessment - PEIR Chapter 29: Suffolk Landscape Character Assessment - Table 29.4: - The table states, 'Estate sandlands': There are no key characteristics for this LCT in which the relationship/ influence of the sea is recognised. This LCT is not carried forward for further assessment'. There are points where the estate sandlands adjoin the coast so they should be scoped in as there will likely be a visual relationship at points with the proposed development. I note there is assessment as part of that on the AONB, but this needs to be clarified in relationship to the standalone statement above. - Regarding the Tendring Landscape Character Assessment, specifically open estuarine/ coastal marsh; this adjoins the coast so should be scoped in as there may be likely effects. Demonstration that these are not 'significant' will be needed. - Regarding drained estuarine/ coastal marsh – e.g., Holland Haven, it is stated that there are 'long views over the landscape from the coastal sea wall and from Great Holland.' It is considered therefore that this visual relationship therefore should be scoped in. - Regarding coastal slopes 3D – e.g., Holland Coastal Slopes it is stated that 'there are no key characteristics for this LCT in which the relationship/ influence of the sea is recognised.' This character area has a visual relationship with the sea and potential impacts from the proposed development. - These (above) character areas should be scoped back in, their characteristics summarised - including visibility with the coast, and an assessment carried out."	The detailed assessment in the SLVIA has sought to focus on seascape/ landscape and visual receptors likely to be subject to significant effects. Potential for significant effects on Landscape Character Types (LCT) have been reviewed in light of these comments. It has also taken account of the revised DCO application design which increases the distance between the coastal edge and the array area. Additional LCTs have only been scoped in where there is a reasonable likelihood of significant effects on landscape character. Those coastal LCTs carried forward for detailed assessment are listed in Table 29.10, and the assessment is presented in Section 29.6.3.2.1.
SLVIA ETG	ETG Meeting 9 September 2023	Approach and Methodology Welcomed update on changes to Project design (extent of array area and maximum turbine height). Queried what can be done to reduce visual impact of offshore substation platforms.	The SLVIA is based on worst case parameters for the wind turbines and the offshore substation platforms, see Section 29.3.2.

29.3 Scope

9. Following PEIR consultation feedback, the array area has been reduced from 149.5km^2 down to 95km^2. This has involved the removal of the northern array and a reduction in the size of the southern array (now referred to as the 'array area').

29.3.1 Study area

10. The SLVIA study area is defined as a 60km radius around the array area. This is the same approach that was taken at PEIR, and which was agreed with stakeholders. As a result of the refinement of the array area, the resulting SLVIA study area is smaller than at PEIR. The SLVIA study area includes part of the outer Thames estuary, and parts of Suffolk, Essex and Kent. The location of the study area is shown on ES Figure 29.1.1 (Document Reference: 3.2.25).

11. Published guidance suggests a study area of 45km radius for wind turbines over 150m in overall height (SNH, 2017). A 'Ready Reckoner' of potential visual effects related to offshore turbine size (White et al., 2019) suggests a very approximate ratio of 1:133 between turbine height and the distance at which a low magnitude of impact might be detected. For a proposed maximum blade tip height of 377m, this would indicate a SLVIA study area radius of 50.1km. For recent offshore wind proposals, a SLVIA study area of 60km has been advised by stakeholders, and adopted by applicants, in recognition of the increasing heights of wind turbines. For example, this study area has been adopted for the Five Estuaries Offshore Wind Farm ('Five Estuaries') (Five Estuaries Wind Farm Ltd, 2024).

12. To consider cumulative effects of the Offshore Above-sea Development in relation to other schemes in the study area, other plans and projects within 60km of the array area have been included for the purposes of modelling and detailed assessment, as agreed with stakeholders. The cumulative assessment focuses on operational interactions between the Offshore Above-sea Development and other offshore wind farms (consented and proposed). Cumulative interactions with other offshore activity, such as additional vessels associated with certain industries, is unlikely to be significant during construction, operation or decommissioning, due to the transient nature of these activities. Cumulative interactions with onshore projects, including onshore wind farms and single wind turbines, are also unlikely to lead to significant effects. This is due to the different landscape context and distance of the array area from the shoreline. There are very few onshore wind developments in the onshore part of the study area, due in part to the National Landscape designations.

13. A Zone of Theoretical Visibility (ZTV) map was generated, illustrating areas from where the array area may be visible in the study area. The ZTV was based on bare earth topography and therefore does not take account of potential screening by vegetation or buildings. The ZTV is used as a tool for understanding where significant visual effects may occur. Receptors which are outside the ZTV will not have visibility of the Offshore Above-sea Development and are not considered further in this SLVIA.

14. The ZTV to maximum blade tip height is shown at A3 scale on ES Figure 29.1.2a and A1 scale on ES Figure 29.1.2b (Document Reference: 3.2.25). The ZTV to

maximum hub height is shown at A3 scale on ES Figure 29.1.3a and A1 scale on ES Figure 29.1.3b (Document Reference: 3.2.25).

29.3.2 Realistic worst case scenario

15. The SLVIA is based on the Rochdale Envelope, described in ES Chapter 5 Project Description (Document Reference: 3.1.7). In compliance with the Environmental Impact Assessment (EIA) regulations, the likely significant effects of a realistic 'worst case' scenario are assessed and illustrated in the SLVIA so that it can be safely assumed that all other scenarios within the design envelope will have less impact.

16. One area of optionality is in relation to the National Grid connection point (discussed further in ES Chapter 5, Project Description (Document Reference: 3.1.7)). The following grid connection options are included in the Project design envelope:

    - Option 1: Onshore electrical connection at a national grid substation connection point within the Tendring peninsula of Essex, with a Project alone onshore cable route and onshore substation infrastructure;
    - Option 2: Onshore electrical connection at a national grid connection point within the Tendring peninsula of Essex, sharing an onshore cable route and onshore duct installation (but with separate onshore export cables) and co-locating separate Project onshore substation infrastructure with Five Estuaries; or
    - Option 3: Offshore electrical connection, supplied by a third party.

17. For the offshore project area, options 1 and 2 would be the same. Within the array area, under options 1 and 2 there would be up to two offshore substation platforms; whereas for option 3 there would be one offshore converter platform and up to one offshore substation platform, i.e., under all scenarios there would be a maximum of two platforms. For option 3 there would be no project export cables to shore. The worst case for the SLVIA assumes one offshore substation platform (OSP) and one larger offshore converter platform (OCP) (referred to in this Chapter as 'offshore platforms'). Where they would be visible, these offshore platforms are shown in the visualisations of the Offshore Above-sea Development, which are contained in ES Figures 29.2.1 to 29.2.16 (Document Reference: 3.2.25).

29.3.2.1 Wind Turbine Generators (WTG)

18. For the purposes of the assessment and visualisations, the SLVIA is based on a scheme of 34 WTGs with maximum tip height of 377m above MHWS,[1] and with a maximum rotor diameter of 337m. For SLVIA purposes these larger turbines will result in longer distance visibility due to the larger size of the turbines and therefore this 'maximum height' scenario is judged to be the worst case for assessment.

[1] 381.39m above Lowest Astronomical Tide (LAT).

19. The proposed development could comprise a larger number of smaller turbines, up to a maximum number of 57 WTGs, with maximum tip height of 276m above MHWS and a rotor diameter of 236m. Although not considered worst case, additional wirelines are provided in ES Figures 29.3.3 to 29.3.17 to show this alternative 'maximum number' scenario of 57 smaller turbines.

20. Both the maximum height and maximum number scenarios are indicative layouts that have been developed to represent worst case, i.e., with WTGs at the outer edges of the array area. The layout will be confirmed through detailed engineering design studies that will be undertaken post-consent, based on the findings of pre-construction surveys. The arrangement of turbines may therefore vary from what is shown in the visualisations but will be within the level of assessed effect significance.

29.3.2.2 Offshore Platforms

21. As discussed above, there may be two offshore substation platforms or one offshore substation platform and one offshore converter platform. Indicative locations of these are shown in the visualisations (ES Figures 29.2.1 to 29.2.16, Document Reference: 3.2.25) and wirelines (labelled 'OSP Location A' and 'OSP Location B' on ES Figures 29.2.17; and 29.3.3 to 29.3.17, Document Reference: 3.2.25) at grid reference locations 669328, 210648 and 668171, 215352.

29.3.2.2.1 Offshore Substation Platforms

22. Offshore substation platforms are fixed structures, located within the array area, containing electrical equipment to aggregate the power from the WTGs and convert it into a more suitable voltage for export to shore via offshore export cables. Up to two offshore substation platforms will be required.

23. The dimensions of the offshore substation platform(s) are:

    - Topside dimensions of 60 x 40m; and
    - Height of 65m above LAT including crane & antennas.

29.3.2.2.2 Offshore Converter Platforms

24. Should an offshore connection to a third party HVDC cable be selected (Option 3), an offshore converter platform would be required, in addition to one offshore substation platform. This is a fixed structure located within the array area, containing HVAC and HVDC electrical equipment to aggregate the power from the wind turbine generators, increase the voltage to a more suitable level for export and convert the HVAC power generated by the wind turbine generators into HVDC power for export to shore via an HVDC interconnector cable.

25. The dimensions of the offshore converter platform are:

    - Topside dimensions of 130 x 80m; and
    - Height of 115m above LAT including crane & antennas.

WTG lighting

26. The WTGs and other permanent structures will be lit in accordance with the International Association of Lighthouse Authorities (IALA) standards and the Civil Aviation Authority (CAA) requirements. As such, there is potential for North Falls to be visible at night. The following worst case assumptions have been made with regard to lighting:

- Permanent aviation lighting on 23 No. perimeter WTGs. This will be mounted on the top of the nacelles (i.e., at hub height). The lighting will be off during hours of daylight. When on, during hours of darkness, the lighting will be red in colour and up to 2,000 candela (cd). The lighting will be dimmable to 200 cd when visibility is greater than 5km. The lighting will have a synchronised flashing morse "W" pattern. The lighting intensity will reduce when viewed from below the horizontal. There will be 360° visibility compatible with Night Vision Imaging Systems. For the purposes of the dusk visualisations, red lighting on all turbines has been shown at both 2000cd and 200cd.
- Low intensity green 200cd helihoist light on all turbines. Off, unless the turbine is being prepared for helicopter approach. For the purposes of the visualisations this lighting has not been modelled as it is low intensity and generally turned off, so that visibility, and therefore significant visual effects, are unlikely.
- All structures (including internal) will need a red 200cd search-and-rescue (SAR) light. These are only switched on at the request of the Marine Coastguard Agency during SAR operations so have not been modelled in the visuals.
- Selected peripheral structures will need marine lights with a 5 nautical mile (nm) range, other select peripheral structures may need 2nm lights. Trinity House will define where these need to go based on the final layout, and the general principles will be as per IALA requirements. 5nm equates to approximately 9.3km. As the Offshore Above-sea Development is located well beyond 9.3km from the coastal edge, these lights have not been modelled into the visuals.

27. Visual effects associated with lighting have been considered from a select number of viewpoints, including preparation of dusk visualisations, as detailed in Table 29.11 and Section 29.6.3.3.

29.3.3 Summary of embedded mitigation

28. This section outlines the embedded mitigation relevant to the SLVIA, which has been incorporated into the design of North Falls (Table 29.2).

Table 29.2 Embedded mitigation measures

Parameter	Mitigation measures embedded into North Falls design
Array area	Following PEIR, the array area has been reduced from 149.5km^2 down to 95km^2. This has involved the complete removal of the former northern array. This has increased the distance from the coast from 22km to approximately 40km at the closest point.
Reduced tip height	Following PEIR, the maximum tip height of the wind turbines has been reduced from 397m to 377m above MHWS.
Reduced turbine numbers	Following PEIR, the number of turbines (assuming the largest turbine model) has been reduced from 40 to 34, and the maximum number of turbines (assuming the smallest turbine model) has been reduced from 72 to 57.

29. To ensure the assessment is future proofed, it has been based on the maximum sized turbines predicted by the project engineering team to be available at the time of construction. This aims to permit flexibility to enable the Project to

maximise the energy generation capacity, in accordance with national targets to develop 50GW of offshore wind by 2030 (see ES Chapter 2 Need for the Project, Document Reference: 3.1.4). This approach is supported by the National Policy Statement (NPS) for Renewable Energy Infrastructure (EN-3) (Department for Energy Security and Net Zero (DESNZ), 2023) which states at paragraph 2.8.263-264:

> "Neither the design nor scale of individual wind turbines can be changed without significantly affecting the electricity generating output of the wind turbines. Therefore, the Secretary of State should expect it to be unlikely that mitigation in the form of reduction in scale will be feasible.
>
> "However, the layout of the turbines should be designed appropriately to minimise harm, taking into account other constraints such as ecological effects, safety reasons or engineering and design parameters."

30. The final design of North Falls will be confirmed through detailed engineering design studies that will be undertaken post-consent based on the findings of pre-construction surveys and will remain within the consented design envelope and the scope of the ES.

29.4 Assessment methodology

29.4.1 Legislation, guidance and policy

29.4.1.1 National Policy Statements

31. The assessment of likely significant effects upon seascape, landscape and visual amenity has been made with specific reference to the relevant NPS. These are the principal decision making documents for Nationally Significant Infrastructure Projects (NSIPs). Those relevant to the Project are:

- Overarching NPS for Energy (EN-1) (DESNZ, 2023a); and
- NPS for Renewable Energy Infrastructure (EN-3) (DESNZ, 2023b).

32. The specific assessment requirements for seascape, landscape and visual, as detailed in the NPS, are summarised in Table 29.3 together with an indication of the section of the ES chapter where each is addressed.

Table 29.3 NPS assessment requirements

NPS Requirement	NPS Reference	ES Reference
Overarching NPS for Energy (EN-1)		
Landscape effects arise not only from the sensitivity of the landscape but also the nature and magnitude of impact proposed by the development, whose specific siting and design make the assessment a case-by-case judgement. Virtually all nationally significant energy infrastructure projects will have adverse effects on the landscape, but there may also be beneficial landscape character impacts arising from mitigation. Projects need to be designed carefully, taking account of the potential impact on the landscape. Having regard to siting, operational and other relevant constraints the aim should be to minimise harm to the landscape, providing reasonable mitigation where possible and appropriate.	Paragraph 5.10.4 to 5.10.6	Refer to Section 29.3.3 for information on mitigation, including through siting and design.

NPS Requirement	NPS Reference	ES Reference
The duty to seek to further the purposes of nationally designated landscapes also applies when considering applications for projects outside the boundaries of these areas which may have impacts within them. In these locations, projects should be sensitively given the various siting, operational, and other relevant constraints. The Secretary of State should be satisfied that measures which seek to further the purposes of the designation are sufficient, appropriate and proportionate to the type and scale of the development.	Paragraph 5.10.8	Refer to Section 29.6 for assessment of effects on the SECHNL, an AONB.
The applicant should carry out a landscape and visual impact assessment and report it in the ES, including cumulative effects. Several guides have been produced to assist in addressing landscape issues.	Paragraph 5.10.16	This document provides the landscape and visual impact assessment and has been carried out using the recommended guides.
The landscape and visual assessment should include reference to any landscape character assessment and associated studies as a means of assessing landscape impacts relevant to the proposed project. The applicant's assessment should also take account of any relevant policies based on these assessments in local development documents in England and local development plans in Wales.	Paragraph 5.10.17	Baseline landscape character and seascape assessments referenced in Section 29.5. Relevant local development documents, which have been considered in the assessment, are listed in Paragraph 33 below).
For seascapes, applicants should consult the Seascape Character Assessment and the Marine Plan Seascape Character Assessments, and any successors to them.	Paragraph 5.10.18	Baseline landscape character and seascape assessments referenced in Section 29.5.
The assessment should include the effects on landscape components and character during construction and operation. For projects which may affect a National Park, The Broads or an AONB the assessment should include effects on the natural beauty and special qualities of these areas.	Paragraph 5.10.20	Refer to Section 29.6.2 for construction landscape effects and Section 29.6.3 for operational landscape effects. Refer to Section 29.6.3.2.2 for effects on the special qualities of the SECHNL (an AONB).
The assessment should include the visibility and conspicuousness of the project during construction and of the presence and operation of the project and potential impacts on views and visual amenity. This should include light pollution effects, including on dark skies, local amenity, and nature conservation.	Paragraph 5.10.21	Refer to Section 29.6.2 for construction visual effects and Section 29.6.3 for operational visual effects, including lighting.
Overarching NPS for Renewable Energy Infrastructure (EN-3)		
Proposals for renewable energy infrastructure should demonstrate good design, particularly in respect of landscape and visual amenity, opportunities for co-existence/co-location with other marine and terrestrial uses, and in the design of the project to mitigate impacts such as noise and effects on ecology and heritage.	Paragraph 2.5.2	Refer to Section 29.3.3 for information on mitigation.

NPS Requirement	NPS Reference	ES Reference
Applicants should address impact on seascape in addition to the landscape and visual effects discussed in Section 5.10 of EN-1. Seascape is an additional issue for consideration given that it is an important environmental, cultural and economic asset. This is especially so where seascape provides the setting for a nationally designated landscape (National Park, The Broads or AONB) and as a defined special quality of the area supports the delivery of the designated area's statutory purpose. This is also an important consideration for stretches of coastline identified as Heritage Coasts, which are associated with a largely undeveloped coastal character.	Paragraphs 2.8.204 and 2.8.205	Effects on seascape, including the extent to which seascape contributes to the special qualities of the SECHNL (an AONB) are considered in Section 29.6.
Applicants should follow relevant guidance including, but not limited to seascape and landscape character assessments, landscape sensitivity assessments, and marine plan seascape character assessments (e.g., NRW Marine Character Areas (with associated guidance) England's marine plans).	Paragraph 2.8.207	Relevant guidance has been followed including landscape and seascape assessments and sensitivity assessments, as referenced in Section 29.5.
Where a proposed offshore wind farm will be visible from the shore and would be within the setting of a nationally designated landscape with potential effects on the area's statutory purpose, a seascape, landscape and visual impact assessment (SLVIA) should be undertaken in accordance with the relevant offshore wind farm EIA policy and the latest Offshore Energy SEA, including the White 2020 report. The SLVIA should be proportionate to the scale of the potential impacts. This will always be the case where a coastal National Park, the Broads or AONB, or a Heritage Coast or their setting is potentially affected.	Paragraph 2.8.208	This SLVIA has been undertaken with reference to the relevant guidance as noted in Section 29.4.1.
Where necessary, assessment of the seascape should include an assessment of four principal considerations on the likely effect of offshore wind farms on the coast: - the limit of visual perception from the coast under poor, good and best lighting conditions; - the effects of navigation and hazard prevention lighting on dark night skies; - individual landscape and visual characteristics of the coast and the special qualities of designated landscapes, such as World Heritage Sites and National Parks, which limits the coast's capacity to absorb a development; and - how people perceive and interact with the coast and natural seascape.	Paragraph 2.8.209	Limits of visibility are discussed at Section 29.6.1 and shown in ES Figure 29.1.7. Effects of lighting are discussed at Section 29.6.3.3. Effects on landscape character and on the special qualities of the SECHNL are discussed in Section 29.6.3.2.2. Effects on people's experience of coastal scenery are discussed in Section 29.6.3.3.
As part of the SLVIA, photomontages will be required. Viewpoints to be used for the SLVIA should be selected in consultation with the statutory consultees at the EIA Scoping stage.	Paragraph 2.8.210	Photomontages are shown in Document Reference: 3.2.25. Representative viewpoints were selected in consultation with statutory consultees as set out in Section 29.2, and in the Consultation Report

NPS Requirement	NPS Reference	ES Reference
		(Document Reference: 4.1).
Applicants should assess the magnitude and significance of change to both the identified seascape receptors (such as seascape and landscape units, visual receptors and the special qualities of designated landscapes) in accordance with the standard methodology for SLVIA.	Paragraph 2.8.211	The assessment follows good practice methodology guidance as noted in Section 29.4.1.
Where appropriate, cumulative SLVIA should be undertaken in accordance with the policy on cumulative assessment outlined in Section 5.10.16-17 of EN-1.	Paragraph 2.8.212	An assessment of cumulative effects is set out in Section 29.7. The relevant paragraphs of EN-1 are referenced in this table, above.
Neither the design nor scale of individual wind turbines can be changed without significantly affecting the electricity generating output of the wind turbines. Therefore, the Secretary of State should expect it to be unlikely that mitigation in the form of reduction in scale will be feasible. However, the siting layout of the turbines should be designed appropriately to minimise harm, considering other constraints such as ecological effects, safety reasons or engineering and design parameters.	Paragraph 2.8.263 and 2.8.264	The design of the array area has been modified since PEIR, with the removal of the former northern array and reduction of the former southern array (refer to Section 29.3). This has reduced the predicted effects on the sensitive coastal landscapes of the SECHNL.

29.4.1.2 Other legislation, policy and guidance

33. Further to the NPS described above, the following policy and guidance documents have been considered in carrying out this assessment:

- East Suffolk Council (adopted 2020). Suffolk Coastal Local Plan;
- Tendring District Council (adopted 2021). Tendring District Local Plan 2013-2033 and Beyond;
- Thanet District Council (adopted 2020). Thanet Local Plan;
- Planning Inspectorate (2018). Advice Note Nine: Rochdale Envelope;
- Landscape Institute and IEMA (2013). Guidelines for Landscape and Visual Impact Assessment, 3rd Edition (GLVIA3);
- Suffolk and Essex Coast and Heaths National Landscape Management Plan 2023-28;
- LDA Design (2016). Natural Beauty and Special Qualities of the Suffolk Coast and Heaths AONB;
- Suffolk Coast and Heaths AONB Partnership (2015). Development in the setting of the Suffolk Coast and Heaths AONB;
- Suffolk Coast and Heaths AONB Partnership (2018). Guidance on the selection and use of colour in development;
- The Designation History of the Suffolk Coast and Heaths AONB (no date), incorporating Countryside Commission (1999) Designation History Series: Suffolk Coast and Heaths AONB;

- Dedham Vale National Landscape and Coast and Heaths National Landscape (2023). Lighting Design Guide: Guidance to reduce light pollution and protect our dark skies;
- Natural England (2012a). An Approach to Seascape Character Assessment;
- Natural England (2014a). An Approach to Landscape Character Assessment;
- Landscape Institute (2021). Assessing the Value of Landscapes outside National Designations, The Technical Guidance Note (TGN) 02-21;
- NatureScot (2021). Assessing the cumulative impact of onshore wind energy developments2;
- Landscape Institute (2019). Visual representation of Development Proposals, Technical Guidance Note 06/19; and
- Scottish Natural Heritage (SNH, now NatureScot) (2017) Visual Representation of Wind Farms, Guidance (Version 2.2)2.

29.4.2 Data sources

29.4.2.1 Site specific

34. To provide site specific and up to date information on which to base the impact assessment, a site characterisation survey and visits to viewpoints was carried out between November 2021 and July 2022.

29.4.2.2 Other available sources

35. The following information sources have been referred to in carrying out this assessment:

- White Consultants (2020 and updated addendum 2023). Suffolk Seascape Sensitivity to Offshore Wind Farms. Suffolk County Council and Suffolk Coast and Heaths AONB Partnership;
- Marine Management Organisation (MMO) (2018). Seascape Character Assessment for the South East Inshore marine plan area;
- MMO (2012). Seascape character area assessment East Inshore and East Offshore marine plan area;
- Natural England (2012). Seascape Characterisation around the English Coast (Marine Plan Areas 3 and 4 and Part of Area 6 Pilot Study) (NECR106);
- Natural England (2012-2015). National Character Area Profiles;
- Alison Farmer Associates (2018). Suffolk Coastal Landscape Character Assessment. Suffolk Coastal District Council;

[2] The SNH / NatureScot guidance documents provide industry standard best practice guidance for assessing the cumulative effect of wind farms and preparing wind farm visualisations, which can also be applied to projects based in England.

- LUC (2017). Thanet District Council Landscape Character Assessment;
- Essex County Council (2002). Landscape Character Assessment of the Essex Coast;
- Land Use Consultants (2001). Tendring District Landscape Character Assessment. Prepared for Tendring District Council;
- Ordnance Survey (OS) maps at a range of scales;
- OS digital terrain model (DTM) datasets; and
- Aerial and street-level photography available online.

29.4.3 Impact assessment methodology

36. The level of likely significant effects of the Offshore Above-sea Development has been determined by professional consideration of the sensitivity of the receptor and the magnitude of the impact. The methodology is in accordance with the guidance set out in Guidelines for Landscape and Visual Impact Assessment, 3rd Edition (GLVIA3), and as such slightly differs to the approach taken by other topic specialists as presented in the ES. Detailed information about the approach to assessment of magnitude is provided in ES Appendix 29.1 (Document Reference: 3.3.69), and this is summarised in this section.

29.4.3.1 Sensitivity of receptors

37. The sensitivity of the baseline conditions, including the importance of environmental features across the study area or the sensitivity of potentially affected receptors, has been assessed in line with best practice guidance, legislation, statutory designations and professional judgement.

38. Judgements regarding the sensitivity of seascape, landscape or visual receptors require consideration of both the susceptibility of the receptor to the type of development proposed and the value attached to the seascape, landscape or visual resource.

39. Judgements have been recorded as high, medium or low, as defined in Table 29.4 for landscape receptors (including seascape), and Table 29.5 for visual receptors.

Table 29.4 Sensitivity of Landscape Receptors

Sensitivity	Definition
High	Landscapes which by nature of their character would be less able to accommodate development without change in character, due to their relatively higher susceptibility to the type of change proposed, and/or the higher value placed upon them by society.
Medium	Landscapes which by nature of their character would be able to accommodate development, subject to careful siting and design, due to their more moderate susceptibility to the type of change proposed, and/or relatively moderate value placed upon them by society.
Low	Landscapes which by nature of their character would be more able to accommodate development without substantive change in character, due to their relatively lower susceptibility to the type of change proposed, and/or lower value placed upon them by society.

Table 29.5 Sensitivity of Visual Receptors

Sensitivity	Definition
High	Larger numbers of viewers and/or those with proprietary interest and prolonged viewing opportunities such as residents and users of attractive and well-used recreational facilities. The quality of the existing view, as likely to be perceived by the viewer, is considered to be high.
Medium	Small numbers of residents or moderate numbers of recreational viewers, with an interest in their environment. Larger numbers of recreational road users. The quality of the existing view, as likely to be perceived by the viewer, is considered to be medium.
Low	Small numbers of recreational viewers with interest in their surroundings. Viewers with a passing interest not specifically focussed on the landscape e.g. workers, commuters. The quality of the existing view, as likely to be perceived by the viewer, is considered to be low.

29.4.3.2 Magnitude of impact

40. The magnitude of impacts has been identified through consideration of the scale of change to baseline conditions predicted as a result of the Offshore Above-sea Development, as well as the geographical extent, duration and reversibility of the impact. This professional judgement has been made in line with guidance, as listed in Section 29.4.1.

41. Judgements regarding the magnitude of seascape, landscape or visual impact combine an assessment of the scale and geographical extent of the seascape, landscape or visual impact, its duration and reversibility. Judgements have been recorded as high, medium, low or negligible as defined in Table 29.6 for landscape receptors, and Table 29.7 for visual receptors.

Table 29.6 Magnitude of Landscape Impact

Magnitude	Definition
High	A clearly evident and frequent/continuous change in landscape features and characteristic affecting an extensive area (relative to the Hornsea Four landscape and visual study area), or the characteristics, and/or notable widespread alteration to the special or key qualities of designated areas.
Medium	A moderate change in landscape features and character, frequent or continuous, and over a wide area, or a clearly evident change either over a restricted area, and/or with some alteration to the special or key qualities of designated areas.
Low	A small change in landscape features and character over a wide area or a moderate change over a more restricted area, and/or barely altering the special of key qualities of designated areas.
Negligible	An imperceptible, barely or rarely perceptible change in landscape features and character, and/or not altering the special or key qualities of designated areas.

Table 29.7 Magnitude of Visual Impact

Magnitude	Definition
High	Large change in view, perhaps where the development is in close proximity in a direct line of vision, or affecting a substantial part of the view, or providing contrast with the existing view.
Medium	Clearly perceptible change in view, perhaps where the development is relatively close but at an oblique angle or further away in the direct line of vision, creating a distinct new element in the view.
Low	Small change in view, perhaps where the development is at a distance or oblique angle, or where the scale of the landscape absorbs the development well.
Negligible	Change in view which is barely perceptible.

29.4.3.3 Significance of effect

42. The sensitivity of the seascape, landscape or visual receptor and the magnitude of the impact has been used as a guide, informed by professional judgement, to assess the significance of the likely effects.

43. ES Appendix 29.1 (Document Reference: 3.3.69) provides full details of the criteria considered in judging the identified aspects of sensitivity (susceptibility and value) and magnitude of impact (scale, geographical extent, duration and reversibility), and the grades used to describe each.

44. Although a numerical or formal weighting system has not been applied, consideration of the relative importance of each aspect has been made to feed into the overall decision. This determination requires the application of professional judgement and experience to take on board the many different variables which need to be considered, and which are given different weight according to site-specific and location-specific considerations in every instance. Judgements have been made on a case by case basis, guided by the principles set out in Plate 29.1.

45. Effect significance has been identified as negligible, minor, moderate or major (including intermediate levels where appropriate). Moderate, major-moderate and major effects are considered significant in EIA terms. Effects which are below moderate, e.g. moderate-minor, are considered not significant. Definitions of significance levels are provided in Table 29.8.

46. In terms of the direction of effects (positive or adverse) there is a wide spectrum of opinion with regard to wind energy development. Taking a precautionary stance, effects are assumed to be adverse, unless stated otherwise.

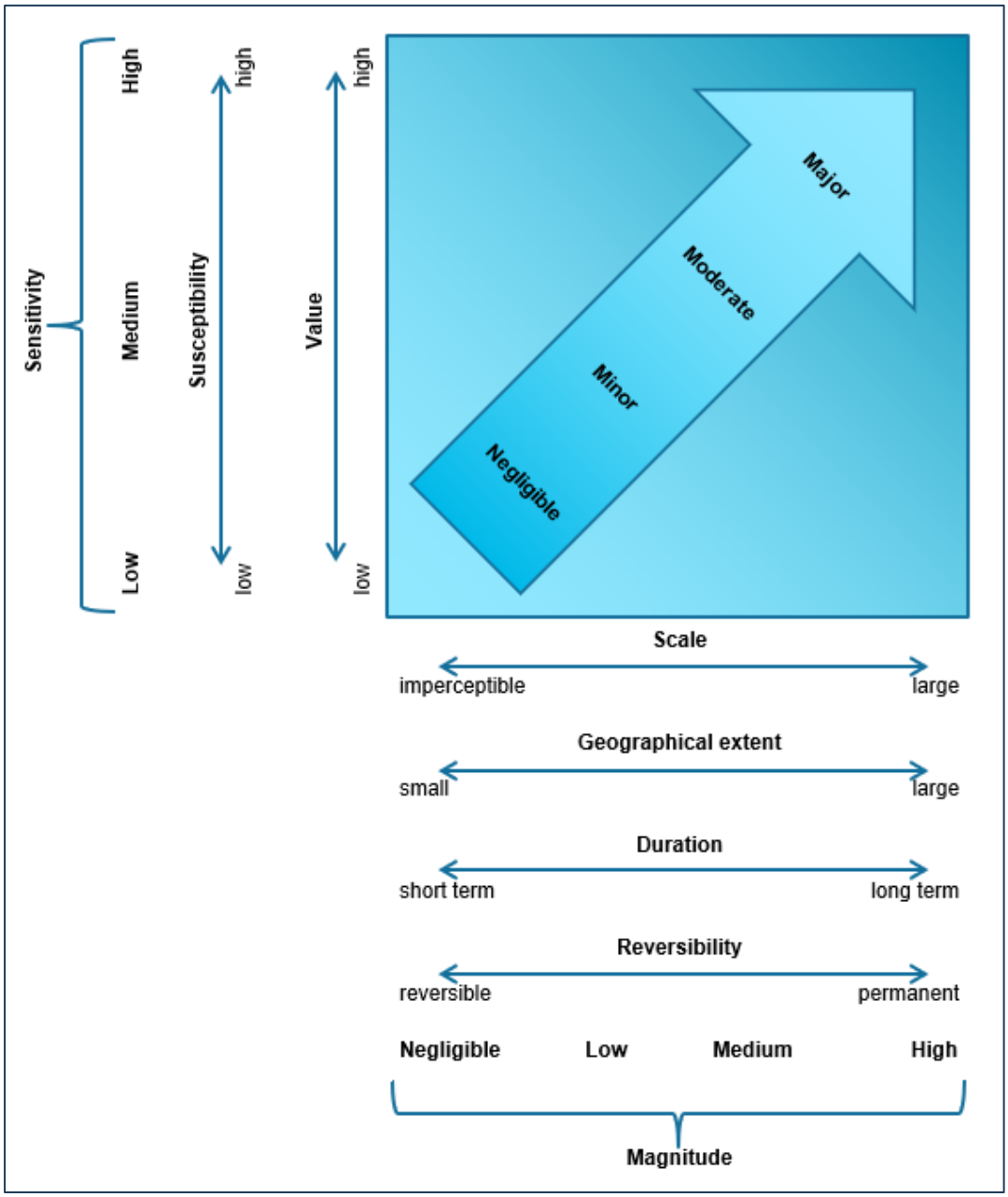

Plate 29.1 Guide to judging levels of effect

Table 29.8 Levels of effect significance

Level	Definition
Major	The proposed development will result in an obvious change in baseline characteristics, likely affecting a receptor with a medium or high susceptibility to that type of change, and/or which is highly valued at a national level. The effect is likely to be long term and affect a relatively large area.
Moderate	The proposed development will result in a noticeable change in baseline characteristics, likely affecting a receptor with a medium sensitivity to that type of change. This level of effect may also occur when a smaller scale of effect acts on a higher-sensitivity receptor, or when a large scale of effect occurs over a relatively short period or over a small area.

Level	Definition
Minor	The development will result in a small change in baseline characteristics over a long term, or a larger scale of effect of short duration or confined to the site.
Negligible	The development will not result in a noticeable change in baseline characteristics.

29.4.4 Cumulative effects assessment methodology

47. Cumulative assessment considers the likely significant effects of the proposed development, against a baseline including other developments. This can include operational developments, as well as consented and proposed developments that may or may not be present in the future. The latter covers schemes that are consented but not yet built, and/or undetermined planning applications.

48. In line with GLVIA3, and also with NatureScot guidance on cumulative effects (NatureScot, 2021) which is widely used across the UK, the cumulative assessment focuses on the additional changes caused by the Project, in conjunction with other developments.

49. The NatureScot guidance states that the purpose of cumulative LVIA is "to describe, visually represent and assess the ways in which a proposed wind farm would have additional impacts when considered with other consented or proposed wind farms. It should identify the significant cumulative impacts arising from the proposed wind farm" (emphasis added).

50. This 'additional' cumulative assessment identifies the effect of adding the Offshore Above-sea Development to a scenario that includes other operational, consented and/or proposed wind farms. In other words, it is the 'contribution' which can be attributed to the Offshore Above-sea Development.

51. It should be noted that, in this SLVIA, the baseline for the Project alone (or 'primary') assessment includes operational wind farms, the effects of which have already been deemed to be acceptable. Therefore the Project alone assessment already includes consideration of additional cumulative effects.

52. The cumulative assessment reports the additional cumulative effects of the Offshore Above-sea Development against a future baseline of consented and/or proposed wind farms. In cases where the additional cumulative effect is limited, the effect experienced by the receptor will remain the same as in the Project alone (or 'primary') assessment.

53. As well as additional effects, GLVIA3 also discusses 'combined' or 'total' cumulative effects, which are the effects of "*all the past, present and future proposals together with the new project*". The NatureScot guidance defines these simply as "*the combined effects of a set of developments*". This approach considers the totality of effects of all operational and proposed development, and does not seek to attribute effects to a particular project. GLVIA3 notes that stakeholders may be interested in this type of effect, but it does not enable the effects arising from the proposed wind farm to be clearly identified.

54. In this SLVIA, the additional cumulative effects are reported for each receptor, in Section 29.6, and these are summarised in Section 29.7. In order to give due consideration to 'total' cumulative effects, Section 29.7 also presents a summary

of the locations where 'total' cumulative effects are predicted to be significant, but where significant 'additional' cumulative effects are not predicted. This allows an understanding of the extent of likely significant effects, and also enables the contribution of the Project to be understood.

55. Cumulative interactions with other offshore activity, such as additional vessels associated with certain industries, is unlikely to be significant, due to the transient nature of these activities. Cumulative interactions with onshore projects, including onshore wind farms and single wind turbines, are also unlikely to lead to significant effects. This is due to the different landscape context and distance of the Offshore Above-sea Development from the shoreline. These are therefore scoped out and not considered further in this Chapter.

56. The methodology for the cumulative assessment follows the approach set out in ES Appendix 29.1 (Document Reference: 3.3.69) and summarised in Section 29.4.3. For cumulative effects, the evaluation of magnitude of impact considers the following additional aspects:

- The pattern and arrangement of developments in the seascape/ landscape or view, e.g. developments seen in one direction or part of the view (combined views), or seen in different directions (successive views in which the viewer must turn) or developments seen sequentially along a route;
- The relationship between the scale of the wind farms, including turbine size and number, and if wind farms appear balanced in views in terms of their composition, or at odds with one another; and
- The distances between developments, how they relate to each other and their distances from the viewer.

29.4.5 Transboundary effects assessment methodology

57. The transboundary assessment considers the potential for transboundary effects to occur as a result of North Falls; either those that might arise within the Exclusive Economic Zone (EEZ) of European Economic Area (EEA) states or arising on the interests of EEA states. ES Chapter 6 EIA Methodology (Document Reference: 3.1.8) provides further details of the general framework and approach to the assessment of transboundary effects.

58. For SLVIA, no potential for transboundary effects has been identified in the scoping report (North Falls, 2021), the scoping opinion (Planning Inspectorate, 2021) or through post PEIR feedback. Transboundary effects are therefore not considered further in this chapter.

29.4.6 Assumptions and limitations

59. No substantial information gaps have been identified during the preparation of baseline information or undertaking of the assessment, and it is considered that there is sufficient information to enable an informed decision to be taken in relation to the identification and assessment of likely significant effects on seascape, landscape, views and visual amenity.

60. With regard to offshore wind farms considered in the cumulative assessment, certain data has been sourced from publicly accessible locations including PEIR

and environmental report plans, and from the open infrastructure website[3]. Layouts are approximate, and any discernible discrepancies between cumulative wirelines and baseline photography are not considered sufficient to alter the reliability of the images or result in material changes to the assessment presented in this chapter.

61. Bespoke atmospheric visibility data for this specific site was requested from the Met Office, which stated that it could not provide the data. Atmospheric visibility will limit views of offshore development (see Section 29.6.1), but in order to assess worst case, the assessment assumes conditions of 'excellent' atmospheric visibility (see ES Figure 29.1.7, Document Reference: 3.2.25). In reality, variable weather conditions will frequently reduce the level of visibility.

29.5 Existing environment

29.5.1 Seascape character

62. The seascape of the array area, and of the outer Thames estuary in which it lies, is characterised by human activity including offshore wind farms and shipping. Nevertheless, the seascape provides an open backdrop for seaward views from sections of the low-lying Essex, Suffolk and Kent coasts.

29.5.1.1 Regional seascape character

63. Seascape character is defined at a regional scale in the seascape assessments published by the MMO. The array area is within the East Anglian Shipping Waters Marine Character Area (MCA)[4], in the East Inshore and East Offshore Marine Plan Area (Natural England, 2012; MMO, 2012). The southern parts of the SLVIA study area are covered by the South East Inshore Marine Plan Area (MMO, 2018). MCAs across the SLVIA study area are mapped on ES Figure 29.1.4a-b (Document Reference: 3.2.25).

64. The key characteristics of the East Anglian Shipping Waters MCA, as defined in the East Inshore and East Offshore Marine Plan Area (MMO, 2012), are as follows:

- "Dense concentration of shipping activity.
- Consistently deep water between 20 and 50 metres.
- Designated shipping routes.
- Visually unified and expansive open water character with few surface features.
- Extensive offshore commercial activities such as fishing and dredging.
- Large military practice area.

[3] Open Infrastructure Map. Available at https://openinframap.org/

[4] The MCAs in the East Inshore and East Offshore Marine Plan Areas report (MMO, 2012) are referred to as Seascape Character Areas (SCA). MCA is the term preferred in more recent MMO reports and is adopted here. The terms MCA and SCA can be considered as interchangeable.

- Windfarm developments and gas fields.
- Important archaeological features present."

29.5.1.2 Local seascape character

65. Seascape character is defined more locally for the array area and surrounding area in the Seascape Character Assessment for Suffolk, South Norfolk and North Essex (LDA Design, 2018). This identifies smaller character areas in the inshore waters but does not subdivide the offshore area. The array area is within seascape character type (SCT) 06 Offshore Waters. This SCT is similar in extent to the East Anglian Shipping Waters MCA, and its key characteristics are also similar. The SCTs in this document are not considered separately but have been referred to where they overlap with the MCAs listed in Table 29.9.

29.5.1.3 Seascape sensitivity analysis

66. The sensitivity of the seascape is defined for the array area and surrounding area in the Suffolk Seascape Sensitivity to Offshore Wind Farms report (White Consultants, 2020 and updated addendum 2023). This identifies seascape character zones (SCZ) and assesses their sensitivity.

67. The array area, along with the southern components of the operational Galloper and Greater Gabbard Wind Farms, falls into 'SCZ08 East Anglia Outer Offshore', with a small part in the 'SCZ02 Suffolk Heritage Coast Offshore- South'. Information from the Suffolk Seascape Sensitivity assessment has been referred to, to help understand seascape sensitivity. Effects on SCZs are not separately assessed.

29.5.1.4 Basis of assessment

68. Consideration of the key characteristics; influence of existing operational wind farms; and potential relationship with the Offshore Above-sea Development, are used as means of identifying which MCAs require further assessment, and which MCA can be scoped out because they are unlikely to experience significant effects arising from the Offshore Above-sea Development. Details are provided in Table 29.9, with MCA to be assessed shown in bold.

Table 29.9 Marine Character Areas

MCA	Approximate Distance to array area	Considerations to determine if MCA carried forward for assessment
East Anglian Shipping Waters (SCA 04)	Within	Yes – the Offshore Above-sea Development is located in this MCA.
Suffolk Coastal Waters (SCA 10)	20.5km	Yes – the Offshore Above-sea Development is located to the south-east of the MCA. This MCA separates the coastal edge from the offshore waters in which the Offshore Above-sea Development is located.
Goodwin Sands and North Dover Strait (MCA 11)	37.2km	No – Thanet Offshore Wind Farm is located between this MCA and the Offshore Above-sea Development, and influences seascape character. Combined with distance to the Offshore Above-sea Development, effects on seascape character are unlikely to be significant.
Eastern English Channel Approaches (MCA 15)	29.6km	No – Thanet Offshore Wind Farm is located between this MCA and the Offshore Above-sea Development, and influences seascape character. Combined with distance to the Offshore

MCA	Approximate Distance to array area	Considerations to determine if MCA carried forward for assessment
		Above-sea Development, effects on seascape character are unlikely to be significant.
Swale, Kentish Flats and Margate Sands (MCA 16)	34.0km	No – Kentish Flats Offshore Wind Farm is within this MCA and directly influences the seascape character. Thanet Offshore Wind Farm and London Array are located between this MCA and the Offshore Above-sea Development, and also influence seascape character. Combined with distance to the Offshore Above-sea Development, effects on seascape character are unlikely to be significant.
Thanet Shipping Waters (MCA 17)	16.8km	No – Thanet Offshore Wind Farm is located in this MCA, and directly influences seascape character, covering a large proportion of this smaller MCA. The Offshore Above-sea Development is located approximately 16.8km to the north-east and will be seen in the context of outward sea based views, which have been altered by offshore wind farm development. In this context, and overall, effects on seascape character are unlikely to be significant.
Essex and South Suffolk Estuaries and Coastal Waters (MCA 19)	28.8km	No – Gunfleet Sands Offshore Wind Farm is located in this MCA, and directly influences seascape character across the centre and northern extents of the MCA. The Offshore Above-sea Development is located approximately 28.8km to the east and will be seen in the context of outward sea based views, which have been altered by offshore wind farm development (including closer proximity views of London Array Offshore Wind Farm). In this context, and overall, effects on seascape character are unlikely to be significant.
Thames Approaches (MCA 20)	13.1km	No – London Array is located to the east of this MCA, and directly influences seascape character. The Offshore Above-sea Development is located approximately 13.1km to the east and will be seen in the context of outward sea based views (and behind closer proximity views of London Array, from many locations in this MCA) which have been altered by offshore wind farm development. In this context, and overall, effects on seascape character are unlikely to be significant.

29.5.2 Onshore landscape character

69. This section provides a description of landscape character (including constituent landscape elements) across the landward part of the SLVIA study area, drawing on published studies, supplemented with project specific research and field work where relevant.

29.5.2.1 National Character Areas

70. The coastline to the west of the array area, as far north as Harwich, is part of the Greater Thames Estuary (81) National Character Area (NCA) (Natural England, 2014b). This is a "*predominantly flat, low-lying coastal landscape where extensive open spaces are dominated by the sky, and the pervasive presence of water and numerous coastal estuaries extend the maritime influence far inland*". Behind this coastal NCA is the Northern Thames Basin (111) NCA (Natural England, 2014c), described as "*a diverse area which extends from Hertfordshire in the west to the Essex coast in the east",* including the "*predominantly arable area of the Essex heathlands, with areas of urbanisation mixed in throughout."*

71. North of Harwich, the study area includes part of the Suffolk Coast and Heaths (82) NCA, whose "distinctive landscape character is a product of its underlying geology, shaped by the effects of the sea and the interactions of people. It is mainly flat or gently rolling […] wildlife habitats and landscape features lie in an intimate mosaic, providing great diversity in a small area." (Natural England, 2015).

72. To the south-west is the North Kent Plain (113) NCA. The key characteristics refer to “A diverse coastline (both in nature and orientation) ... Much of the coastal hinterland has been built on, and the coast itself has been modified through the construction of sea walls, harbours and piers” (Natural England, 2012b).

73. NCAs across the SLVIA study area are mapped on ES Figure 29.1.4a-b (Document Reference: 3.2.25).

29.5.2.2 Local landscape character assessments

74. There are various county and district level landscape character assessments across the counties of Suffolk, Essex and Kent which have been used to inform the baseline of the SLVIA study area. Those which fall within 50km of the array area are shown on ES Figure 29.1.5a-b (Document Reference: 3.2.25) and are listed below:

    - Suffolk County Council (2008/2011). Suffolk Landscape Character Assessment;
    - LUC (2001). Tendring District Landscape Character Assessment; and
    - LUC (2017). Thanet District Council Landscape Character Assessment.

75. In addition to the above, reference was made to the Landscape Character Assessment of the Essex Coast (Essex County Council, 2002). This overlaps with the Tendring Landscape Character Assessment, and provides more detail on local typology of coastal character. The landscape units within the Tendring Landscape Character Assessment are considered to be the most appropriate reporting units, and these have been referred to by stakeholders in setting out their expectations for the SLVIA (see Section 29.2).

29.5.2.3 Basis of assessment

76. Significant effects on landscape character tend to be less widespread than those on visual amenity. The SLVIA study area has been set at 60km to allow for long-range effects on views, but 50km is considered sufficient for landscape effects. This encompasses all the coastal landscapes within the SLVIA study area that are considered to be susceptible to changes in the offshore outlook.

77. There will be no direct effects on landscape character. Where effects do occur, this will typically be in relation to perceptual landscape characteristics. For those landscapes with a strong relationship with the sea, changes in these perceptual characteristics may give rise to significant effects. Landscapes without a relationship to the sea will be less susceptible to change.

78. The landscape character types (LCT) within 50km of the array area are listed in Table 29.10 below. For each LCT, the table sets out:

    - The distance from the array area;

- The extent of theoretical visibility (as indicated by ES Figure 29.1.5b, Document Reference: 3.2.25); and
- The key characteristics that relate to marine influence, and the extent to which the influence of the sea is a key component, indicating susceptibility to offshore development.

79. This information has been used to determine which LCTs need to be carried forward for further assessment. Urban landscapes are not considered susceptible to change, and are not considered further.

80. As noted in the updated addendum (2023) to the Suffolk Seascape Sensitivity to Offshore Wind Farm Study, at paragraph 5.3-5.4: "*Turbines over 400m to blade tip are likely to be visible beyond 40km at times although their visibility decreases with distance due to reduced perceived scale of effect and the influence of visibility modifiers. Wind farms with turbines over 400m high should be at least 40km away from the coast and preferably more….*" As the proposed turbines, under the worst case scenario as considered in this chapter, are under 400m to tip, and would be at least 40km offshore, this has been a key consideration with regard to which coastal LCTs have been taken forward for assessment (shown in bold in Table 29.10).

Table 29.10 Landscape Character Types

LCT	Key characteristics in which the relationship/ influence of the sea is a key component and whether carried forward for assessment
Suffolk Landscape Character Assessment	
Ancient estate farmlands (LCT 2)	This LCT lies at least 46km from the array area, on the Shotley peninsula. The ZTV indicates visibility, and views are described as being "*usually open*". There are no key characteristics in which a relationship with the sea is recognised, or which indicate susceptibility to offshore development. This LCT is not carried forward for assessment.
Coastal dunes and shingle ridges (LCT 5)	This LCT is located approximately 40km from the array area, along the Suffolk coastal edge. The ZTV indicates extensive visibility. The LCT has key characteristics in which the relationship/ influence of the sea is recognised, for example: • "Vast, open, uncluttered landscape" Taking a precautionary approach to the assessment, this LCT is carried forward for assessment.
Coastal levels (LCT 6)	This LCT is located just over 40km from the array area, and is often found immediately inland from LCT 5. Again the ZTV indicates extensive visibility. The LCT has key characteristics in which the relationship/ influence of the sea is recognised, for example: • "The views are generally open and wide, and there is usually a profound sense of exposure, enhanced when the sea or a wide estuary is close at hand. On the inland side the rising land, and the trees on it, tend to confine the views." Taking a precautionary approach, this LCT is carried forward for assessment.
Estate sandlands (LCT 7)	The LCT is located at least 43km from the array area. There are no key characteristics for this LCT in which the relationship/ influence of the sea is explicitly recognised. There is likely to be a visual relationship with the sea in some locations, and the ZTV indicates widespread visibility. In practice this is limited by trees and woodland that restrict views. The character of this LCT is unlikely to be susceptible to offshore development. This LCT is not carried forward for assessment.

LCT	Key characteristics in which the relationship/ influence of the sea is a key component and whether carried forward for assessment
Plateau estate farmland (LCT 11)	The LCT is located at least 43km from the array area, north of Felixstowe. There are no key characteristics for this LCT in which the relationship/ influence of the sea is explicitly recognised. There is likely to be a visual relationship with the sea in some locations, and the ZTV indicates widespread visibility. In practice this is limited by hedgerows and characteristic tree belts and coverts that restrict views across the flat landscape. The character of this LCT is unlikely to be susceptible to offshore development. This LCT is not carried forward for assessment.
Rolling estate sandlands (LCT 16)	There are no key characteristics for this LCT in which the relationship/ influence of the sea is recognised. A small section of this LCT abuts the coastal edge, north-east of Felixstowe, approximately 40km from the array area. The majority of the LCT covers more distant inland areas, where views of the sea do not contribute to the key landscape characteristics and characteristic areas of woodland and parkland vegetation combine with the undulating terrain to limit offshore views. Mature woodland along the coastal edge at Bawdsey Manor, blocks of woodland in the fields to the east of Ferry Road and hedgerow cover all combine to limit views to sea within a relatively short distance from the coastal edge (along the short section of this LCT which abuts the coast). As such, effects on the character of inland parts of this LCT are unlikely to be significant. Taking a precautionary approach, the coastal area of this LCT is carried forward for assessment.
Saltmarsh and inter-tidal flats (LCT 20)	This LCT is located approximately 40km distant of the array area. The ZTV indicates some areas of visibility across this LCT, including in coastal areas. The LCT has key characteristics in which the relationship/ influence of the sea is recognised, for example: • "Often these landscapes form a fringing element to the upland or costal grazing marsh, however in the larger areas of mud on the flats, such as Holbrook Bay, a powerful sense of isolation and wildness can be found." Taking a precautionary approach, this LCT is carried forward for assessment.
Tendring District Landscape Character Assessment	
LCT 1 – Open estuarine/ coastal marsh	1C – Colne Point Marshes • "Open coastal landscape at the mouth of the Colne Estuary. • Remote landscape with limited access from land." 1D – Hamford Water Marshes • "A cluster of boat masts at Titchmarsh Marina is a feature of the open skyline. • Long views across the estuarine basin from the surrounding sea walls." 1E – Stour Estuary Marshes • "Tidal estuary of the River Stour forming a dynamic landscape setting to the Suffolk Coast and Heaths AONB to the north. • Influenced by large scale shipping and activity surrounding Harwich International Port. • Dramatic views across the estuary to the Suffolk coast." This LCT displays key characteristics in which the relationship/ influence of the sea is a component, noted above. Area 1D is around 42km from the array area, and forms an inward-facing area of inlets and creeks. Open views to the sea are limited to the most northern part, around 45km from the array area. Other areas are more distant, and have less relationship with the open sea. Effects on landscape character are unlikely to be significant.

LCT	Key characteristics in which the relationship/ influence of the sea is a key component and whether carried forward for assessment
	This LCT is not carried forward for assessment.
LCT 2 – Drained estuarine/ coastal marsh	2B – St Osyth Drained Marshes • "Exposed coast with a series of groynes and breakwaters to help keep sandy beaches from eroding into the sea. • Expansive coastal views." 2C – Holland Haven • "A golf course is the only built development resulting in a remote, tranquil character. • Long views over the landscape from the coastal sea wall and from Great Holland." 2D – Hamford Drained Marshes and Islands • "Expansive landscape of alluvial grasslands intercepted by reed-lines drainage ditches and scattered patches of low lying scrub." 2E – Parkeston Drained Marshes • "Dockside cranes at the container terminal at Parkeston dominate the skyline." This LCT displays key characteristics in which the relationship/ influence of the sea is a component, noted above. The closest area is 2D, around 42km from the array area, though most of this area is further inland and has limited relationship with the open sea. Area 2C is over 43km distant, but does face out to sea where views of offshore turbines are already a feature. Effects on landscape character are unlikely to be significant. This LCT is not carried forward for assessment.
LCT 3 – Coastal slopes	3A – Hamford Coastal Slopes 3C – St Osyth Coastal Slopes 3D – Holland Coastal Slopes There are no key characteristics for this LCT in which the relationship/ influence of the sea is explicitly recognised. Areas 3A and 3D are around 42km and 43km from the array area, respectively. Both areas have visual relationships with the sea, and offshore wind turbines are already an element in seaward views. Effects on landscape character are unlikely to be significant. This LCT is not carried forward for further assessment.
LCT 4 – Coastal ridges and peninsulas	4A – The Oakley Ridge 4B – The Naze Peninsula • "Exposed to the North Sea where wave action and slippage is causing the Naze to erode at a rapid rate." 4D – St Osyth Coastal Ridge • "Open, windswept landscape with little vegetation cover and views to the coast." Some areas of this LCT display key characteristics in which the relationship/ influence of the sea is a component, noted above. Area 4B is around 42km from the array area, while other areas of the LCT are over 45km. Area 4B is also most clearly open to the sea, where 4A and 4D are partly occupied by Harwich and Clacton-on-Sea, respectively. Effects on the character of the more inland areas of this LCT are unlikely to be significant. Taking a precautionary approach, the coastal area 4B of this LCT is carried forward for assessment.
Thanet District Council Landscape Character Assessment	
LCT F – Undeveloped Coast	F2 – Foreness Point and North Foreland

LCT	Key characteristics in which the relationship/ influence of the sea is a key component and whether carried forward for assessment
	• "Long unrestricted views across the Thames Estuary and North Sea from the cliff tops and beaches, Thanet wind farm, traffic on the shipping lanes of the Channel and North Sea. • Strong rural, coastal character and sense of exposure along the cliffs despite proximity of adjacent urban areas." F3 – Minnis Bay • "Extensive views across the Thames Estuary, North Sea and adjacent marshes. • An exposed coast open to the full force of winds and tides from the North Sea. • Offshore windfarms form focal features on the skyline and combined with shipping create a busy dynamic seascape." This LCT displays key characteristics in which the relationship/ influence of the sea is a component, noted above. The LCT is over 41km from the array area. The WTGs will be seen behind the closer Thanet Offshore Wind Farm, and in the context of other offshore wind farms in the Thames Estuary which influence character. Significant effects on character are not considered likely. This LCT is not carried forward for assessment.
LCT G – Developed Coast	G2 – North Thanet Coast • "Long unrestricted views across the Thames Estuary and North Sea from the cliff tops and beaches, with inland views restricted by urban development. • Experience of stunning sunsets over the sea as depicted in Turner's paintings from this part of the coast, and commemorated in the Turner Contemporary Gallery at Margate. • Offshore views to numerous wind farms, traffic on the shipping lanes and ships sheltering on the Margate Roads before joining the shipping lanes of the Channel and North Sea." This LCT displays key characteristics in which the relationship/ influence of the sea is a component, noted above. The LCT is over 42km from the array area. The WTGs will be seen behind the closer Thanet Offshore Wind Farm, and in the context of other offshore wind farms in the Thames Estuary which influence character. Significant effects on character are not considered likely. This LCT is not carried forward for assessment.

29.5.3 Landscape designations

81. The Suffolk coast to the north-west of the array area is part of the SECHNL and Suffolk Heritage Coast. These designations extend from Felixstowe north towards Lowestoft (refer to ES Figure 29.1.6a-b, Document Reference: 3.2.25).

82. The special qualities of the National Landscape are set out in the Management Plan for 2023-2028 and include the landscape and scenic qualities of the area, and its relative wildness. A detailed assessment of effects on the landscape and scenic qualities of the SECHNL is provided in Section 29.6.3.2.2. Effects on the Suffolk Heritage Coast are considered in more detail in the Cultural Heritage Assessment, refer to ES Chapter 25 Onshore Archaeology and Cultural Heritage (Document Reference: 3.1.27).

83. There are no relevant local landscape designations in East Suffolk, Tendring or Thanet which require detailed assessment.

29.5.4 Visual amenity

84. This section identifies the extent of potential visibility of the Offshore Above-sea Development and identifies visual receptors who may be affected, and which are assessed as part of the SLVIA. This section also introduces the viewpoints that are used as representative points from which to assess effects on visual receptors (people) and particular views, including reasons for their selection.

29.5.4.1 Analysis of visibility of the development

85. ES Figures 29.1.2a-b and 29.1.3a-b (Document Reference: 3.2.25) show the theoretical visibility of the Offshore Above-sea Development to maximum wind turbine blade tip height (377m above MHWS) and hub height (208.5m above MHWS) respectively.

86. The ZTV indicates that across the offshore part of the SLVIA study area theoretical visibility of the Offshore Above-sea Development is widespread, as would be expected from the open water. Visibility is also widespread along the coastal edge, across the SLVIA study area. There is a notable area of visual shadow to the coastal edge south of Ramsgate, with visual screening provided by the headland to the north-east. In terms of inland areas, the pattern of visibility is more fragmented, and actual visibility will likely be much reduced from more inland flatter coastal areas where vegetation and buildings will combine to limit seaward views.

87. The coastline north of Felixstowe, within the SECHNL, is generally undeveloped, with smaller settlements such as Aldeburgh and limited tourism development. The low-lying coast has sand and shingle beaches, and the notable expanse of Orford Ness, a long shingle spit hosting defence installations. Estuaries and creeks extend inland, with a mix of pasture, arable and remnant heath between.

88. Between the Thames estuary and Felixstowe, the Essex coastline is more developed, including the seaside towns of Felixstowe, Harwich, Frinton-on Sea and Clacton-on-Sea. These towns have popular seafronts, promenades, piers and beaches, from which sea views are a key element of the experience. Between these settlements are more rural or undeveloped coasts, including the creeks and islands of Hamford Water National Nature Reserve, and the headland of The Naze. Public footpaths and cycleways give access to these more rural locations.

89. South of the Thames estuary, in Kent, seaside towns along the northern coastline include Herne Bay, Westgate-on-Sea and Margate. These towns offer coastal views north and north-east towards the wind farm area.

29.5.4.2 Key visual receptors

90. Potential visual receptors include:

- Residents, including views from coastal properties and coastal settlements;
- Road users (including tourists);
- Those engaged in recreational activities (e.g. walkers using coastal paths, cyclists and recreational users of the coastline); and
- People at their place of work, including agricultural workers.

29.5.4.3 Selection of viewpoints for assessment

91. This section sets out the viewpoints that are used to represent and assess the visual effects of the Offshore Above-sea Development. The viewpoint list is a representative selection of locations agreed with the statutory consultees; it is not an exhaustive list of locations from which the Offshore Above-sea Development will be visible.

92. A total of 17 viewpoints (of which 16 have been provided as photomontage visualisations and one as a wireline) were selected across the 60km study area through desk study, site work and discussions with statutory consultees (refer to Section 29.2). These viewpoints are all publicly accessible as advocated by GLVIA3 and include:

- Locations selected to represent the experience of different types of receptor;
- Locations at different distances to provide a representative range of viewing angles and distances (i.e. shorter to longer distance views);
- Locations which illustrate key cumulative interactions with other existing, consented and/or proposed wind farms (either in combination or succession);
- Locations which represent a range of viewing experiences (i.e. static views and points along sequential routes);
- Specific viewpoints selected because they represent promoted views or viewpoints within the landscape; and
- Illustrative viewpoints chosen specifically to demonstrate a particular visual effect or specific issue (which could include restricted visibility in particular locations or effects from coastal settlements).

93. The viewpoints are listed in Table 29.11 below and shown alongside the blade tip height ZTV on ES Figure 29.1.2 (Document Reference: 3.2.25). Certain viewpoints have also been selected to help understand effects associated with turbine lighting, as outlined in the table below.

94. An assessment of effects on views experienced at Viewpoints 1 to 16 is included in Section 29.6.3.3.

95. Viewpoint 17 is included as a supplementary viewpoint to assist in illustrating sequential effects on views from the Suffolk Coast Path. As such, it is not included in the main viewpoint assessment, but is considered in the detailed assessment of effects on views from the Suffolk Coast Path (see Table 29.38).

Table 29.11 SLVIA assessment viewpoints

Viewpoint	Location	Grid Reference	Distance from array area	Reason for selection
1	Covehithe	652337E 281100N	66.0km	Inspectorate request. Included as SLVIA assessment viewpoint to consider residential receptors at this small coastal settlement, and recreational users of the coast in this area. Due to changes in the array area since PEIR this viewpoint is now outside the 60km SLVIA study

Viewpoint	Location	Grid Reference	Distance from array area	Reason for selection
				area. For completeness it has been included for the DCO application.
2	Southwold Pier	651350E 276621N	62.0km	Inspectorate and East Suffolk Council request. Included to represent tourism and residential receptors in this coastal settlement. This viewpoint also represents views from Gunhill in Southwold, as this was requested by the Planning Inspectorate but excluded as equivalent to Southwold Pier. Due to changes in the array area since PEIR this viewpoint is now outside the 60km SLVIA study area. For completeness it has been included for the DCO application.
3	Dunwich Coastguard Cottages	647769E 267687N	55,0km	Inspectorate and East Suffolk Council request. Included as SLVIA assessment viewpoint to represent residential receptors, and recreational receptors using the coast in this area.
4	Sizewell Beach	647602E 262883N	50.8km	Inspectorate and East Suffolk Council request. Included as SLVIA assessment viewpoint to represent recreational receptors of the coast in this area.
5	Cliffs above Thorpeness	647580E 260335N	48.5km	Inspectorate and East Suffolk Council request. Included as SLVIA assessment viewpoint to represent recreational receptors of the coast in this area.
6	Aldeburgh	646522E 256453N	45.6km	Included as SLVIA and night-time assessment viewpoint to consider effects on views from the coastal settlement. Also included as a night-time viewpoint for assessment of effects of lighting.
7	Orford Castle	641966E 249816N	42.5km	Included as SLVIA assessment viewpoint to consider effects on recreational receptors visiting the castle. Also representative of slightly inland views from the settlement of Orford.
8	Orford Ness	644551E 248769N	40.1km	Included as SLVIA assessment viewpoint to consider effects on recreational receptors visiting the lighthouse and surrounding coastline.
9	Shingle Street	636652E 242526N	40.8km	Natural England request. Included as SLVIA assessment viewpoint to consider residential receptors at the small coastal settlement of Shingle Street, and recreational users of the coast in this area.
10	Pulhamite Cliffs	633373E	40.5km	Natural England and East Suffolk Council request. Included as SLVIA assessment

Viewpoint	Location	Grid Reference	Distance from array area	Reason for selection
	(Bawdsey Manor)	237651N		viewpoint to consider effects on visitors to Bawdsey Manor, and recreational users of the coast in this area.
11	Felixstowe Seafront Gardens	630540E 234432N	41.3km	Inspectorate and East Suffolk Council request. Included as SLVIA and night-time assessment viewpoint to consider effects on views from the coastal settlement, and recreational users of the seafront gardens. Also included as a night-time viewpoint for assessment of effects of lighting.
12	Landguard Fort	628580E 231878N	42.0km	East Suffolk Council Request. Include as LVIA assessment viewpoint to represent effects on recreational receptors at this coastal heritage feature.
13	Naze Tower	626531E 223524N	41.6km	Inspectorate and Essex County Council request. Included as SLVIA assessment viewpoint to consider effects on recreational receptors visiting the tower. This viewpoint also represents views from Walton Pier, as this was requested by the Planning Inspectorate but excluded as equivalent to Naze Tower.
14	Frinton-on-Sea	623636E 219029N	43.8km	Included as SLVIA assessment viewpoint to consider effects for recreational users of the coast (and residential receptors) in Frinton on Sea. Similar views can be experienced from Frinton Golf Club.
15	Clacton-on-Sea	617880E 214223N	48.0km	Included as SLVIA and night-time assessment viewpoint to consider effects on views from the coastal settlement. Also included as a night-time viewpoint for assessment of effects of lighting.
16	North Foreland	639238E 171118N	41.7km	Included as SLVIA and night-time assessment viewpoint to consider effects on views from the coastal settlement of North Foreland and Margate. Also included as a night-time viewpoint for assessment of effects of lighting.
Wireline Visualisations				
17	Coastal Path between Thorpeness and Sizewell	647624E 261190N	49.3km	Natural England Request. Included as a wireline viewpoint to help understand sequential effects from the Suffolk Coast Path.

29.5.4.4 Routes

96. Visibility from a route is not uniform along its entire length. This is because views of the surrounding seascape/ landscape change as one moves along the route depending on the surrounding topography, buildings, structures, tree cover and vegetation along the route.

97. As requested through the scoping opinion and PEIR responses, sequential effects from the Suffolk Coast Path and King Charles III England Coast Path have been given further consideration. The Suffolk Coast Path runs for 97km between Lowestoft and Felixstowe. The route follows the coastal edge through Dunwich and Thorpeness but turns inland at Aldeburgh to skirt the Alde estuary via Snape. It continues to the south, then follows the coast between the mouth of the Ore and Felixstowe. Theoretical visibility of the Offshore Above-sea Development from the Suffolk Coast Path is illustrated on ES Figure 29.1.2 (Document Reference: 3.2.25). A summary of effects on views from this route is given in Section 29.6.3.4.

98. As of March 2024, the King Charles III England Coast Path (ECP) is open in sections.[5] In Kent, the ECP is open around the Thanet coast, within the SLVIA study area. The route follows the developed coastal sea-front of Ramsgate, Broadstairs and Margate. At over 41km, and in the context of the developed coast and existing views of the nearby Thanet Offshore Wind Farm, significant effects on this section of the ECP are not anticipated. Refer to the assessment for Viewpoint 16, North Foreland (Table 29.37) which is on the ECP.

99. North of the Thames, the ECP is open between Tilbury and West Mersea, and northward of Lowestoft, but not along the Tendring or Suffolk coasts. As there are no open parts of this route are within the SLVIA study area, effects are not assessed further.

29.5.5 Other offshore wind farm development

29.5.5.1 Existing offshore wind farm development

100. There are a number of operational wind farms located across the study area, as shown on ES Figure 29.1.8 (Document Reference: 3.2.25). Operational wind farms, as listed in Table 29.12 below, are included as part of the baseline for the SLVIA and considered as part of the primary SLVIA assessment.

Table 29.12 Existing offshore wind farm developments

Approximate Distance from array area (min-max)	Name	Status	Number of WTG	Blade Tip Height (m)
0-20km	Greater Gabbard	Operational	140	131
0-25km	Galloper	Operational	56	180.5

[5] King Charles III England Coast Path: National Trails. Available at [https://www.nationaltrail.co.uk/en_GB/trails/england-coast-path/]. Accessed 8 March 2024.

Approximate Distance from array area (min-max)	Name	Status	Number of WTG	Blade Tip Height (m)
20-32km	London Array - Phase 1	Operational	175	147
27-32km	Thanet	Operational	100	115
39-46km	Gunfleet Sands - Phase 1 and 2	Operational	48	129
46km	Gunfleet Sands - Phase 3 Demonstration Project	Operational	2	144
55-62km	Kentish Flats	Operational	30	115
55-62km	Kentish Flats Extension	Operational	16	139.6
54-73km	East Anglia One	Operational	102	167

29.5.6 Future trends in baseline conditions and cumulative effects assessment

101. There are a number of consented and proposed offshore wind farms across the 60km SLVIA study area. In the absence of the North Falls Project being developed, it is likely that consented offshore wind farms will become operational and certain proposed offshore wind farms may also become operational. More generally, in the absence of the Project the array area would remain as an area of open sea, with its character dependent on marine activities such as shipping or fishing that may take place. Across the wider study area, changes to the seascape baseline will include those driven by coastal processes such as erosion at the coastal edge, potentially exacerbated by sea level rise in the long term. Onshore land use change will also continue, including built development in coastal and inland areas.

102. For the Offshore Above-sea Development, the cumulative assessment focuses on offshore wind farms within the SLVIA study area (see Section 29.4.4). Consented offshore wind farms, and offshore wind farms currently in the NSIP planning system, are considered as part of the assessment of potential future cumulative effects.

103. A cut-off date of 30 April 2024 was applied for the inclusion of developments within the cumulative assessment. Relevant developments are listed in Table 29.13 and their locations are illustrated on ES Figure 29.1.8 (Document Reference: 3.2.25).

Table 29.13 Offshore wind farm developments (consented and proposed)

Distance from the array area (min-max)	Name	Status	Number of WTG	Blade Tip Height
34-55km	East Anglia Two	Consented	60	282m above LAT
65-82km	East Anglia One North	Consented	67	282m above LAT

Distance from the array area (min-max)	Name	Status	Number of WTG	Blade Tip Height
0-30km	Five Estuaries	DCO application submitted	41 (worst case scenario, largest turbine layout at PEIR)	424m above LAT (worst case scenario, largest turbine at PEIR)[6]

104. Combined ZTVs (refer to ES Figures 29.1.9a-b, Document Reference: 3.2.25) have been prepared to show where ZTVs of North Falls and other wind farms overlap, and where cumulative views may occur. This includes combined views – two wind farms seen at the same time in a similar direction; and successive views – two wind farms seen from the same location but in different directions (the viewer must turn around to view the different wind farms). The cumulative ZTVs also indicate where developments may be seen sequentially along a route.

29.6 Assessment of significance

105. The assessment of seascape, landscape and visual effects (including cumulative) follows the methodology presented in this chapter and detailed in ES Appendix 29.1 (Document Reference: 3.3.69). It is based upon the worst case scenario described in Section 29.3.2, and the project description outlined in ES Chapter 5 Project Description (Document Reference: 3.1.7). The SLVIA reports on construction, operational and decommissioning effects separately.

29.6.1 Visibility range

106. A key consideration of the SLVIA is the likely extent of atmospheric visibility, as any landscape and visual effects will result from the Offshore Above-sea Development being seen in offshore views. The actual visibility of distant offshore structures will vary greatly with atmospheric conditions and weather. Met Office visibility range is mapped on ES Figure 29.1.7 (Document Reference: 3.2.25), in the context of the Offshore Above-sea Development. This is based on the following Met Office visibility definitions:

- <1km Very Poor Visibility;
- 1-4km Poor Visibility;
- 4-10km Moderate Visibility;
- 10-20km Good Visibility;

[6] The cumulative assessment is based on the Five Estuaries PEIR design envelope. Since completion of the SLVIA, the Five Estuaries DCO has been submitted, which includes a maximum turbine height of 399m above LAT (395m above MHWS). The number of WTG remains the same at 41. The difference of 25m between the scheme considered in the cumulative assessment and the scheme as submitted is not considered to make a material difference to the reported findings.

- 20-40km Very Good Visibility; and
- >40km Excellent Visibility.

107. The Suffolk Seascape Sensitivity to Offshore Wind Farms (2023 addendum) provides some information on visibility data, from the Suffolk Coast (by way of weather station data from Weyborne and Manston). At paragraph 4.11 of this report it states that: *"The key conclusion of the existing data visibility analysis is that developments at around 39km offshore may be visible for 20% days annually…"* The study also notes that "*visibility over longer distances [is] most prevalent in summer. This is when the most people would be visiting or enjoying coastal and sea views*."

108. The likelihood of visibility of the Offshore Above-sea Development, at over 39km offshore, is noted. To consider worst case, all assessments assume 'excellent visibility'.

29.6.2 Likely significant effects during construction

29.6.2.1 Effects on seascape during construction

109. The majority of seascape impacts which will occur during the construction phase will be short-term, reversible and transient. The main exception to this is construction of the proposed turbines, which is not reversible during the construction phase. Seascape character impacts may arise from the presence and movement of vessels and equipment, and partly-constructed turbines, in the offshore area. Geographically these activities will be limited to the array area and offshore cable corridor, including the area near the landfall, along with vessel movements to and from the array area.

110. The magnitude of impact to seascape character arising from the presence and movement of vessels and equipment will be negligible, largely due to their transient nature. Significance of effects will be negligible and not significant in EIA terms.

111. The magnitude of impact to seascape character arising from the presence of partially constructed turbines and platforms will change during the construction phase. Initially it will be negligible, due to the presence of the first foundations, but will increase as more turbines and platforms are erected. Towards the end of the construction phase, the magnitude of impact will be very similar to that of the operational phase, which is locally high, as set out in Table 29.14. When combined with medium-low sensitivity, significance of effects on the local area of the East Anglia Shipping Waters MCA will be negligible and not significant during early stages of the construction, increasing to moderate adverse as the Offshore Above-sea Development nears completion, which is significant in EIA terms.

29.6.2.2 Effects on landscape during construction

112. The majority of impacts on onshore landscape character during the construction phase will be short-term and reversible, limited to the influence of more or less distant views of construction work taking place within the array area and offshore cable corridor. The construction of the proposed turbines is not reversible during the construction phase. Effects on landscape character may arise from views of vessels and equipment, and partly-constructed turbines, in the offshore area. Geographically these activities will be limited to the array area and offshore cable

corridor. These areas are generally distant from onshore landscape, but there will be construction activity taking place near the landfall, along with vessel movements to and from the array area.

113. The magnitude of impact to landscape character arising from the presence and movement of vessels and equipment in the array area will be negligible, largely due to their distance from shore and transient nature. Effects will be negligible and not significant.

114. The impacts on landscape character arising from construction of the landfall are considered in Table 30.15 in ES Chapter 30 (Document Reference: 3.1.32), including impacts of vessel activity in the near-shore area. The impacts of vessel activity at landfall, seaward of MHWS, will be short-term and transient, affecting a small geographical area. The magnitude of impact will be small and the effect on landscape character will be minor and not significant.

115. The magnitude of impact to landscape character arising from the presence of partially constructed turbines and platforms in offshore views will change during the construction phase. Initially it will be negligible, as the foundations will be barely perceptible from shore, but will increase as more turbines and platforms are erected. Towards the end of the construction phase, the magnitude of impact to onshore landscape character will be low, which is the same as during the operational phase, as set out in Section 29.6.3.2. For high sensitivity coastal landscape receptors, effects will be negligible during early stages of the construction, increasing to moderate-minor adverse as the Offshore Above-sea Development nears completion, which is not significant in EIA terms.

29.6.2.3 Visual impacts during construction

116. The majority of visual impacts which will occur during the construction phase will be short-term and reversible, limited to the array area and offshore cable. The main exception to this is construction of the proposed turbines, which is not reversible during the construction phase. Impacts on views may arise from presence and movement of vessels and equipment, and partly-constructed turbines, in the views experienced by people in the area. Geographically these activities will be limited to the array area and offshore cable corridor. These areas are generally distant from onshore, where the higher sensitivity visual receptors are located. There will be construction activity taking place near the coast at the landfall, as well as vessel movements to and from the array area.

117. Views of vessels in the offshore area are an existing characteristic of the outlook from the coasts in the study area. The magnitude of impact on views arising from the presence and movement of vessels and equipment in the array area will be negligible, largely due to their transient nature. Effects will be negligible and not significant.

118. Impacts on views arising from construction of the landfall are considered in Section 30.6.5.2 in ES Chapter 30 (Document Reference: 3.1.32), including vessels and near-shore activity. The impacts of vessels and activity at landfall, seaward of MHWS, will be short-term and transient, affecting localised views. The magnitude of impact will be small and the effect on visual receptors will be minor and not significant.

119. The magnitude of impact on visual receptors arising from the presence of partially constructed turbines and platforms in seaward views will change during the

construction phase. Initially it will be negligible, as the foundations will be barely perceptible from shore, but will increase as more turbines and platforms are erected. Towards the end of the construction phase, the magnitude of impact experienced by visual receptors at the coast will be up to medium. This is the same as during the operational phase at several viewpoints, for example Viewpoint 9 Shingle Street (Table 29.30) and Viewpoint 11 at Felixstowe (Table 29.32). At these and other locations representing high-sensitivity receptors, effects will be negligible during early stages of the construction, increasing to moderate as the Offshore Above-sea Development nears completion, which is significant in EIA terms.

29.6.3 Likely significant effects during operation and maintenance

29.6.3.1 Effects on seascape character during operation and maintenance

120. This section describes the operational effects resulting from the Offshore Above-sea Development on the MCAs which have been identified as requiring detailed consideration in Table 29.9. Further information on key characteristics of each MCA is provided alongside the assessment for each receptor in Table 29.14 and Table 29.15.

121. All operational effects are considered to be long-term, reversible and adverse unless stated otherwise.

122. Interactions with operational offshore wind farms (refer to Section 29.5.5) are considered in the primary assessment, when arriving at overall judgements on seascape effects.

123. The cumulative assessment considers the effects of the Offshore Above-sea Development in addition to the consented and proposed offshore wind farms listed in Table 29.13. See Section 29.4.4 for details.

Table 29.14 East Anglian Shipping Waters

Receptor	East Anglian Shipping Waters Marine Character Area (SCA04)
Baseline Description	The key characteristics of the East Anglian Shipping Waters MCA, as identified in the Seascape Character Area Assessment East Inshore and Offshore Marine Plan Area (MMO, 2012), are as follows: • "Dense concentration of shipping activity. • Consistently deep water between 20 and 50 metres. • Designated shipping routes. • Visually unified and expansive open water character with few surface features. • Extensive offshore commercial activities such as fishing and dredging. • Large military practice area. • Windfarm developments and gas fields. • Important archaeological features present." This MCA is co-extensive with SCT 06 Offshore Waters in the Suffolk Seascape Character Assessment (LDA Design, 2018). The following additional relevant characteristics are given in this report: • Visually unified. Consistent panoramic horizons across extensive tracts of sea. • Wild and isolated qualities although views to large vessels, dredging activity and offshore wind turbine arrays become important points of orientation in an otherwise vast and featureless seascape.
Sensitivity	The Suffolk Seascape Sensitivity to Offshore Wind Farms (White Consultants, 2020) report identifies the following seascape character zones in/ near the edges of this marine

Receptor	East Anglian Shipping Waters Marine Character Area (SCA04)
	character area. The sensitivity of each SCZ, as outlined in the 2023 addendum to this report, is indicated in brackets. • SCZ01 – Suffolk and Heritage Coast Inshore – South (high/medium); • SCZ02 - Suffolk and Heritage Coast Offshore – South (medium); • SCZ03 – Greater Gabbard Environs (medium); • SCZ04 - Suffolk and Heritage Coast Inshore – North (high); • SCZ05 - Suffolk and Heritage Coast Offshore – North (medium); and • SCZ08 – Outer Offshore (medium/low). The sensitivity of these SCZs ranges between high nearer the coastal edge, to medium/low for offshore waters where the Offshore Above-sea Development will be located. The highest sensitivity is within SCZ04 which is to the north, separated from the array area by the Greater Gabbard and Galloper offshore wind farms. The higher sensitivity assigned to SCZ01 and SCZ04 relate to proximity to the SECHNL coast and indicate sensitivity to wind farm development within these areas, not outside them. Some of the key characteristics, such as visual unity and wild and isolated qualities, indicate susceptibility to change. This is tempered by the influence of shipping, commercial activities and wind farms, which would indicate lower susceptibility. The susceptibility of the East Anglian Shipping Waters is judged to be low in the vicinity of the array area, increasing to high-medium closer to the coast. In terms of value, there are no designations across the MCA. The MCA provides a distant seascape setting in views east from the SECHNL, which increases value closer to the coast. The sensitivity of the MCA is judged to vary spatially. It is concluded that sensitivity in the vicinity of the array area is medium-low. Sensitivity increases towards the coast, due to the value placed on the seascape setting of the SECHNL.
Magnitude of impact	The Offshore Above-sea Development is contained in this MCA. Due to the open nature of sea based views, the ZTV (refer to ES Figure 29.1.4b, Document Reference: 3.2.25) indicates widespread visibility across the MCA. The Offshore Above-sea Development will be located in a seascape where existing offshore wind farms (including Galloper, Greater Gabbard and East Anglia One) influence seascape character. The Offshore Above-sea Development will extend the influence of offshore wind farms, introducing larger turbines (34 No. under the largest turbine worst case scenario) to south-west of the southern cluster of turbines in Greater Gabbard and Galloper Wind Farms. This will further alter the '*expansive open water character'* and *'wild and isolated qualities'*, across the southern extents of the MCA. However, it will not conflict with existing human activity, including wind farms, that are seen as characteristic of the MCA. Taking a precautionary approach to the assessment, the presence of the Offshore Above-sea Development is judged to result in large to medium scale of change in character locally, up to around 10km from the array area. From more distant areas the increased distance will result in the Offshore Above-sea Development having a decreasing influence on seascape character. These effects will intensify and extend the effects of offshore wind farms across the southern extents of the East Anglian Shipping Waters MCA. The existing Galloper and Greater Gabbard offshore wind farms have altered the character of the MCA to the north-east of the Offshore Above-sea Development, and this is recognised in the key characteristics of the MCA.

Receptor	East Anglian Shipping Waters Marine Character Area (SCA04)
	Taking a precautionary approach to the assessment, the magnitude of impact will be high within 10km of the array area. Beyond this distance the magnitude of impact will be medium reducing to low beyond around 20km.
Effect significance	A high magnitude of impact will occur in the area of the MCA where sensitivity is judged to be medium-low. Taking a precautionary approach to the assessment, where high magnitude affects medium to low sensitivity seascape, i.e. within 10km of the array area, a moderate adverse effect is anticipated, which is significant in EIA terms. This would affect the southern central extents of the MCA, to the south-east of the existing Galloper and Greater Gabbard offshore wind farms. Beyond 10km, the reducing magnitude of impact would lead to effects falling below the level of significant. It is noted above, that sensitivity of the seascape increases in areas nearer the coast. The magnitude of impact will be lower in these areas, which are more distant from the array area. Due to sensitivity reducing away from the coast, and magnitude decreasing away from the array area, there are no locations where significant effects are assessed.
Cumulative Effects	The consented East Anglia Two will extend and intensify the influence of offshore wind turbines in this MCA, between East Anglia One and Galloper. In addition, the proposed Five Estuaries will extend and intensify the influence of offshore wind turbines in this MCA to the north and east of the Galloper and Greater Gabbard offshore cluster. The Offshore Above-sea Development will extend and intensify the influence of offshore wind turbines in this MCA to the south-west of the Galloper and Greater Gabbard offshore southern cluster. As the consented and proposed developments will be to the north and east of the Galloper and Greater Gabbard offshore cluster, and the Offshore Above-sea Development is located to the south-west, they will be visually separate. The additional cumulative effects will be similar to those identified in the primary assessment. Taking a precautionary approach, the cumulative magnitude of change arising from the contribution of the Offshore Above-sea Development is judged to be high. This will result in moderate adverse cumulative effects, which are significant in EIA terms, on the offshore seascape character of the southern extents of the MCA up to 10km from the array area, to the south-east of the existing Galloper and Greater Gabbard offshore wind farms and the proposed Five Estuaries project. Beyond this area cumulative effects would not be significant.

Table 29.15 Suffolk Coastal Waters

Receptor	Suffolk Coastal Waters (SCA10)
Baseline Description	The key characteristics of the Suffolk Coastal Waters, as identified in the Seascape Character Area Assessment East Inshore and Offshore Marine Plan Area (MMO, 2012), are as follows: • "A rich mixture of unique coastal lowland landscapes some of which submerged. • Estuaries characterised by wildlife-rich salt-marsh and mudflat, with significant reclaimed freshwater marshes protected by earth-bank river walls. • Estuaries bustling with recreational water craft. • Low-lying coastline dominated by coastal processes and estuarine influences. • Characterised by a nationally significant concentration of vegetated shingle structures, soft cliffs and coastal lagoon habitats with open sloping beaches. • Colourful seafront town coastlines lined by brightly painted beach huts in some places. • Dramatic and contrasting developments such as Sizewell nuclear power station, Orford Ness transmitting station and commercial port development at Felixstowe.

Receptor	Suffolk Coastal Waters (SCA10)
	• Historic military defence of the coastline, leaving a number of associated structures. • Large scale panoramic views of the seascape dominated by busy offshore North Sea shipping waters including static vessels. • Important archaeological features present. • A strong fishing heritage in terms of small fleets. • Rapidly eroding low cliff lines and shrinking saltmarshes. • Long distance coastal footpath (Suffolk Coast Path)". This MCA is largely co-extensive with SCT 05 Coastal Waters in the Suffolk Seascape Character Assessment (LDA Design, 2018), though the SCT excludes the coastal edge. The following additional relevant characteristics are given in this report: • Open expanse of sea marking the transition between nearshore and offshore areas. • Several shipping routes travelling to and from continental Europe and major coastal ports. Activity also includes fishing boats and vessels servicing designated aggregates dredging areas and offshore wind farms. • Visually unified and extensive open water character in views offshore. • Coastline seen as low horizon and offshore windfarms are visible subject to location and conditions.
Sensitivity	The Suffolk Seascape Sensitivity to Offshore Wind Farms (White Consultants, 2020) report identifies the following seascape character zones in/ near edges of this marine character area. The sensitivity of each of these SCZ, as outlined in the 2023 addendum to this report, is indicated in brackets. • SCZ01 – Suffolk and Heritage Coast Inshore – South (high/medium); and • SCZ04 – Suffolk and Heritage Coast Inshore – North (high). The sensitivity of these SCZs is high to high-medium due to their proximity to the SECHNL coast. Some of the key characteristics, such as visual unity and large scale panoramic views, indicate susceptibility to change. This is tempered by the influence of shipping, commercial activities and wind farms, which would indicate lower susceptibility. The susceptibility of the Suffolk Coastal Waters, to development outside the MCA, is judged to be medium-high for the reasons stated above. In terms of value, large sections of the coastal edge are designated as National Landscape and Heritage Coast, indicating a higher value. The overall sensitivity is judged to be high.
Magnitude of impact	The Offshore Above-sea Development is located approximately 22km to the south-east of this MCA. There will be no direct impacts on the MCA. Due to the open nature of sea based views, the ZTV (refer to ES Figure 29.1.4b, Document Reference: 3.2.25) indicates widespread visibility across the MCA. The Offshore Above-sea Development will be located in a seascape where existing offshore wind farms (including Galloper, Greater Gabbard and East Anglia One) influence outward views and seascape character. The Offshore Above-sea Development will extend the influence of offshore wind farms introducing larger turbines to the south-east of the Galloper and Greater Gabbard cluster. As noted in the MCA description, 'dramatic and contrasting developments' are a feature of this MCA, and the Offshore Above-sea Development will add further to this. Although it may affect 'large scale panoramic views', the Offshore Above-sea Development will not conflict with existing human activity, including views of offshore wind farms that are seen as characteristic of this MCA.

Receptor	Suffolk Coastal Waters (SCA10)
	The presence of the Offshore Above-sea Development in views is judged to result in a medium to small scale of change within the southern edge of this MCA. Its presence will intensify and extend the indirect impacts of offshore wind farms viewed to the south of the Suffolk Coastal Waters. The scale of change will reduce to small along the coastal edge between Bawdsey Manor and Orford Ness. Beyond Orford Ness and in the northern part of the MCA, the scale of change will be minimal. The magnitude of impact in seascape character will be medium to low up to 30km from the array area, reducing with distance to low at the coast.
Effect significance	The magnitude of impact will be, at most, medium to low in this MCA. Considering the high sensitivity, the level of effect is predicted to be moderate-minor, which is not significant in EIA terms. The effect will occur across the southern part of the MCA, to the west of the existing Galloper and Greater Gabbard offshore wind farms. The effect will reduce to minor and not significant at the coast between Bawdsey Manor and Orford Ness. Beyond this area the effect will be negligible.
Cumulative Effects	There are no consented or proposed offshore wind farms within this MCA. Outside the MCA, the consented East Anglia Two and proposed Five Estuaries will extend and intensify the influence of offshore wind turbines seen in offshore waters in large scale views outside and to the east of this MCA. In addition to these developments, the Offshore Above-sea Development will extend and intensify the indirect influence of offshore wind turbines, seen in large scale views outside and to the south-east of this MCA. This will be seen in the context of a more developed seascape which also includes Galloper, Greater Gabbard and East Anglia One Offshore Wind Farms. Taking a precautionary approach, the cumulative magnitude of change arising from the contribution of the Offshore Above-sea Development is judged to be medium to low. This will result in moderate-minor cumulative effects, which are not significant in EIA terms.

29.6.3.2 Effects on landscape character during operation and maintenance

29.6.3.2.1 Operational effects on landscape character

124. This section describes the operational effects resulting from the Offshore Above-sea Development on Landscape Character Areas and Types (LCAs/ LCTs) which have been identified as requiring detailed consideration in Table 29.10.

125. All operational impacts are considered to be long-term, reversible and adverse unless stated otherwise.

126. All landscape impacts, including cumulative impacts, will be indirect, as changes considered in this assessment all relate to offshore wind farms.

127. The operational offshore wind farms (refer to Section 29.5.5) are considered as part of the baseline in the primary assessment, when arriving at overall judgements on seascape effects.

128. The cumulative assessment considers the effects of the Offshore Above-sea Development in addition to the consented and proposed offshore wind farms listed in Table 29.13. See Section 29.4.4 for details.

Table 29.16 Coastal dunes and shingle ridges

Receptor	Suffolk County Council Landscape Character Assessment Coastal dunes and shingle ridges LCT5
Baseline Description	This LCT occurs in long narrow strips along numerous locations of the coastal edge of Suffolk, including between the Rivers Orwell and Deben, and from Bawdsey to Orford Ness and Aldeburgh. It is seldom more than 1km across (refer to ES Figure 29.1.5a2, Document Reference: 3.2.25). The key characteristics of the LCT, are as follows: • "Flat or gently rolling landform of sand or shingle. • Low fragile vegetation. • Vast open uncluttered landscape. • Historic military structures. • Occasional large buildings in an empty landscape. • Occasional fishing huts and boats on the beach. • Only in short stretches is there the paraphernalia of intensive tourist activity, beach huts and piers."
Sensitivity	This is an open and natural landscape, with only occasional buildings, and a very strong relationship to the open sea, indicating a higher susceptibility to the type of development proposed. Large parts of the coastal edge of Suffolk are designated as National Landscape and heritage coast, indicating a higher value. The overall sensitivity is judged to be high.
Magnitude of impact	There will be no direct impacts on the LCT. The Offshore Above-sea Development is located in the offshore waters approximately 40km to the south-east. Impacts on the LCT will be as a result of changes to certain perceptual qualities. The ZTV (refer to ES Figure 29.1.5b, Document Reference: 3.2.25) identifies widespread visibility along the coastal edge of Suffolk. Given the characteristically open nature of this landscape, actual visibility will closely reflect this. Changes to the key characteristics of the LCT would occur as a result of changes to views looking out to sea or along the coast. When visible, the Offshore Above-sea Development will typically be seen in the context of large scale views, with expansive areas of sea and sky. It will be seen on and beyond the horizon of sea based views. On clear days, operational wind farms including Greater Gabbard and Galloper are visible in seaward views from this landscape. The Offshore Above-sea Development will introduce further elements into the seascape setting of the coastal edge. This could further alter certain perceptual qualities of the landscape, including the *"vast open uncluttered landscape."* The Offshore Above-sea development will be larger than operational turbines and will be seen in the context of offshore human activity such as shipping. Taking a precautionary approach to the assessment, the magnitude of impact on this key characteristic is judged to be low. This will occur on clear days when visibility is 'excellent' (over 40km, see ES Figure 29.1.7, Document Reference: 3.2.25) and will affect the narrow coastal edge between the Rivers Orwell and Deben, and between Bawdsey and Orford Ness. Other key characteristics of the LCT will not be altered. To the north of Orford Ness, due to the increased viewing distance, the magnitude of impact on this LCT will reduce.
Effect significance	The low magnitude of impact, combined with high sensitivity, will result in moderate-minor effects, which are not significant in EIA terms. These effects will occur along the narrow coastal edge between the Rivers Orwell and Deben, and between Bawdsey and Orford Ness. Effects are only likely to be experienced on clear days. Effects on other areas of this LCT further inland will be similar or lower.
Cumulative Effects	In open, sea based views from the coastal dunes and shingles ridges and on clear days, East Anglia Two will extend and intensify the influence of operational offshore wind turbines

Receptor	Suffolk County Council Landscape Character Assessment Coastal dunes and shingle ridges LCT5
	seen in large scale and long distance views to the north-east and east. In addition Five Estuaries will intensify the influence of offshore wind turbines, seen behind operational turbines to the south-east. The Offshore Above-sea Development will further extend and intensify the influence of offshore wind turbines, seen in large scale and long distance views to the south-east, from the coastal edge. This intensification will be a matter of degree, and will not further materially affect the character of the coastal landscape. Taking a precautionary approach, the cumulative magnitude of change arising from the contribution of the Offshore Above-sea Development is judged to be low. The cumulative effect is predicted to be moderate-minor, which is not significant in EIA terms.

Table 29.17 Coastal levels

Receptor	Suffolk County Council Landscape Character Assessment Coastal levels LCT6
Baseline Description	This LCT occurs in approximately six locations (to the south of Southwold) along the coast of Suffolk. It tends to be associated with points where rivers meet the coastline, and lies just behind the coastal edge. The LCT is found around the River Deben, and inland from the River Ore and River Alde, with the LCT units extending inland to the west (refer to ES Figure 29.1.5a2, Document Reference: 3.2.25). The key characteristics of this LCT mention no specific relationship with the sea. The more detailed character description states the following, with regard to the visual experience of the landscape. • "The views are generally open and wide, and there is usually a profound sense of exposure, enhanced when the sea or a wide estuary is close at hand. On the inland side the rising land, and the trees on it, tend to confine the views."
Sensitivity	This is a varied landscape with more natural areas as well as areas where agriculture has a stronger influence on character. Small plantations and carr woodland influence the level of visibility inside and out of the LCT. Domestic buildings on the fringes of the landscape also influence character. This landscape is judged to be of medium-high susceptibility to the type of development proposed. Large parts of the coastal edge of Suffolk are designated as National Landscapes and heritage coast, indicating a higher value. The overall sensitivity is judged to be high.
Magnitude of impact	There will be no direct impacts on the LCT. The Offshore Above-sea Development will be located in the offshore waters at least 40km to the south-east. Impacts on the LCT will be as a result of changes to certain perceptual qualities. The ZTV (refer to ES Figure 29.1.5b2, Document Reference: 3.2.25) identifies widespread visibility across much of this LCT, particularly the eastern area along the Ore and Alde. Given the characteristically open nature of the coastal edge actual visibility will closely reflect this. From more inland areas of this LCT, including around the River Deben, the vegetation and more undulating nature of the terrain tend to confine views. Changes to the key characteristics of the LCT would occur as a result of changes to views looking out to sea or along the coast. When visible, the Offshore Above-sea Development will typically be seen in the context of large scale views, with expansive areas of sea and sky. It will be seen on and beyond the horizon of seaward views. From the coastal edge of this LCT, and on clear days, operational wind farms including Greater Gabbard and Galloper are visible in seaward views. The Offshore Above-sea Development will introduce further elements into the seascape setting of the coastal edge. This could further alter certain perceptual qualities of the landscape, including the

Receptor	Suffolk County Council Landscape Character Assessment Coastal levels LCT6
	"*profound sense of exposure*". The Offshore Above-sea development will be larger than operational turbines, but will be seen in the context of offshore human activity such as shipping. Taking a precautionary approach to the assessment, a magnitude of impact on this key characteristic is judged to be low. Other key characteristics of the LCT will not be altered. This will occur on clear days when visibility is 'excellent' (over 40km, see ES Figure 29.1.7, Document Reference: 3.2.25) and will affect limited areas along the south-east extents of this LCT, where it occurs close to the coastal edge between Bawdsey and Orford. In other areas, due to the increased viewing distance, the magnitude of impact will reduce.
Effect significance	The low magnitude of impact, combined with high sensitivity, will result in moderate-minor effects, which are not significant in EIA terms. These effects will be localised to areas along coastal sections of the River Ore and River Alde, and are only likely to be experienced on clear days. Effects on other areas of this LCT further inland will be similar or lower.
Cumulative Effects	In open, sea based views from the coastal edge on clear days, East Anglia Two (consented) will extend the influence of operational offshore wind turbines seen in large scale and long distance views to the east. In addition, Five Estuaries will intensify the influence of offshore wind turbines, seen behind operational turbines to the south-east. The Offshore Above-sea Development will further extend and intensify the influence of offshore wind turbines in these views from the coastal edge. This intensification will be a matter of degree but will not result in materially different effects on the character of the coastal landscape. Taking a precautionary approach, the cumulative magnitude of change arising from the contribution of the Offshore Above-sea Development is judged to be low. The cumulative effect is predicted to be moderate-minor, which is not significant in EIA terms.

Table 29.18 Rolling estate sandlands

Receptor	Suffolk County Council Landscape Character Assessment Rolling estate sandlands LCT16
Baseline Description	This LCT occurs extensively across coastal parts of Suffolk. It tends to form narrow strips between the Coastal Levels (LCT6) and more inland LCTs (refer to ES Figure 29.1.5a2, Document Reference: 3.2.25). The key characteristics of this LCT mention no specific relationship with the sea, and marine views are not mentioned in the LCT description. However, the LCT does extend to the sea at one location, between Bawdsey and the River Deben. This is amongst the closest land to the Offshore Above-sea Development, which would be just under 40km from the coast at this location.
Sensitivity	This is a settled and farmed landscape, and woodland is a consistent feature. The landscape is described as 'more complex and intimate' than adjacent uplands, and views are described as 'shorter and more confined'. This landscape is judged to be of medium susceptibility to the type of development proposed. Large parts of the coastal edge of Suffolk are designated as National Landscape and heritage coast, indicating a higher value. The overall sensitivity is judged to be medium-high.
Magnitude of impact	There will be no direct impacts on the LCT. The Offshore Above-sea Development is located in the offshore waters approximately 40km to the south-east. Impacts on the LCT will be as a result of changes to certain perceptual qualities.

Receptor	Suffolk County Council Landscape Character Assessment Rolling estate sandlands LCT16
	The ZTV (refer to ES Figure 29.1.5b2, Document Reference: 3.2.25) identifies widespread visibility across parts of this LCT, including the coastal area near Bawdsey. Given the characteristically open nature of the coastal edge, actual visibility in this location will closely reflect this. From more inland areas of this LCT, the views are likely to be 'shorter and more confined', so that views of the Offshore Above-sea Development will not be available. Changes to the character of the LCT would occur as a result of changes to views looking out to sea or along the coast. When visible, the Offshore Above-sea Development will typically be seen in the context of large scale views, with expansive areas of sea and sky. It will be seen on and beyond the horizon of sea based views, in the context of other offshore wind farms and human activity such as shipping. The magnitude of impact on the character of this LCT is judged to be low, and no specific key characteristics will be altered. This will occur on clear days when visibility is 'excellent' (over 40km, see ES Figure 29.1.7, Document Reference: 3.2.25) and will affect only a limited area between Bawdsey and the River Deben. In more inland areas, due to woodland screening and increased viewing distance, the magnitude of impact will reduce.
Effect significance	The low magnitude of impact, combined with medium-high sensitivity, will result in moderate-minor effects on landscape character, which are not significant in EIA terms. These effects will be localised to a small area between Bawdsey and the River Deben, and are only likely to be experienced on very clear days. Effects on other areas of this LCT further inland will be similar or lower.
Cumulative Effects	In open, seaward views from the coastal edge on clear days, East Anglia Two (consented) may be visible to the east, although it will be over 50km from the Bawdsey area. In addition, Five Estuaries will intensify the influence of offshore wind turbines, seen behind operational turbines to the south-east. The Offshore Above-sea Development will extend and intensify the influence of offshore wind turbines, seen in large scale and long distance views to the south-east, from the coastal edge. This intensification will be a matter of degree, and will not have materially different influence on the onshore landscape character. Taking a precautionary approach, the cumulative magnitude of change arising from the contribution of the Offshore Above-sea Development is judged to be low. The cumulative effect is predicted to be moderate-minor, which is not significant in EIA terms.

Table 29.19 Saltmarsh and inter-tidal flats

Receptor	Suffolk County Council Landscape Character Assessment Saltmarsh and inter-tidal flats LCT20
Baseline Description	This landscape occurs in areas near the coastal edge between Felixstowe and Aldeburgh (refer to ES Figure 29.1.5a2, Document Reference: 3.2.25), and is associated with sections of the River Deben, Ore and Alde. The key characteristics of the LCT, are as follows: • "Marine alluvium and some outcrops of clay, forming mud flat. • Inter-tidal flats dissected by creeks. • A few small areas of saltmarsh. • Wild unimproved land. • Unsettled landscape. • Powerful sense of isolation and wildness. • Integral to the setting of notable features. • *Suffering from coastal squeeze and the associated erosion."*
Sensitivity	This is a natural landscape, displaying areas with wilder characteristics, indicating a higher susceptibility to the type of development proposed.

Receptor	Suffolk County Council Landscape Character Assessment Saltmarsh and inter-tidal flats LCT20
	Large parts of the coastal edge of Suffolk are designated as a National Landscape and heritage coast, indicating a higher value. The overall sensitivity is judged to be high.
Magnitude of impact	There will be no direct impacts on the LCT. The Offshore Above-sea Development is located in the offshore waters over 40km to the south-east. Impacts on the LCT will be as a result of changes to certain perceptual qualities. The ZTV (refer to ES Figure 29.1.5b2, Document Reference: 3.2.25) identifies widespread visibility along the coastal edge of Suffolk. Given the characteristically open nature of this landscape along the coastal edge, actual visibility will closely reflect this. From more inland areas along the River Deben, Ore and Alde, the terrain and vegetation typically combine to limit the availability of seaward views. Changes to the key characteristics of the LCT will be as a result of changes to views looking out to sea or along the coast. When visible, the Offshore Above-sea Development will typically be seen in the context of large scale coastal views, with expansive areas of sea and sky. It will be seen on and beyond the horizon of sea based views. On clear days, operational wind farms including Greater Gabbard and Galloper are visible in seaward views from this landscape. The Offshore Above-sea Development will introduce further elements into the seascape. This could alter certain perceptual qualities of the landscape, including the "*Powerful sense of isolation and wildness*." The Offshore Above-sea Development will be larger than operational turbines, but will not greatly extend the spread of turbines, and will be seen in the context of offshore human activity such as shipping. Taking a precautionary approach to the assessment, the magnitude of impact on this key characteristic is judged to be low. Other key characteristics of this LCT will not be affected. This will occur on clear days when visibility is 'excellent' (over 40km, see ES Figure 29.1.7, Document Reference: 3.2.25) and will affect very limited areas of this LCT, around Orford Ness and the mouth of the River Deben. Beyond this, and due to the increased viewing distance, the magnitude of impact will reduce.
Effect significance	The low magnitude of impact, combined with high sensitivity, will result in moderate-minor effects, which are not significant in EIA terms. These effects will be localised to small areas at Orford Ness and the River Deben, and only likely to be experienced on clear days. Effects on other areas of this LCT further inland will be similar or lower.
Cumulative Effects	In open, seaward views from the saltmarsh and intertidal flats and on clear days, East Anglia Two will extend the influence of offshore wind turbines seen in offshore waters in large scale and long distance views to the east, from eastern areas of this LCT at Orford Ness. In addition, Five Estuaries will intensify the influence of offshore wind turbines seen behind operational turbines to the south-east. The Offshore Above-sea Development will intensify the influence of offshore wind turbines, seen in large scale and long distance views to the south-east, from the coastal edge. The intensification will be a matter of degree, and will not have materially different effects on the onshore landscape character. The Offshore Above-sea development will not greatly extend the horizontal spread of turbines on the skyline. Taking a precautionary approach, the cumulative magnitude of change arising from the contribution of the Offshore Above-sea Development is judged to be low. The cumulative effect is predicted to be moderate-minor, which is not significant in EIA terms.

Table 29.20 Coastal ridges and peninsulas

Receptor	Tendring District Landscape Character Assessment Coastal ridges and peninsulas – The Naze Peninsula LCA 4B
Baseline Description	This character area lies at coastal edge of The Naze peninsula, to the north of Walton-on-the-Naze (refer to ES Figure 29.1.5a3, Document Reference: 3.2.25). It is an elevated area and represents the closest part of Tendring to the Offshore Above-sea Development. The key characteristics of the character area are as follows: • "Distinctive gravel-topped promontory sheltering Hamford Water from the North Sea. • Rare Red Crag formation is exposed in cliffs – a geological SSSI. • Exposed to the North Sea where wave action and slippage is causing the Naze to erode at a rapid rate. • Landscape of rough grassland and scrub forming public open space. • Naze Tower is a grade II listed building and a prominent landmark of the Naze. • Views across Hamford Water to Harwich."
Sensitivity	This is an open landscape, with 'dramatic views' out to sea indicating a higher susceptibility to the type of development proposed. Although not part of a designated landscape, the Naze is an area of accessible open space and is valued for recreation. The overall sensitivity is judged to be medium-high.
Magnitude of impact	There will be no direct impacts on the character area. The Offshore Above-sea Development is located in the offshore waters approximately 43km to the east. Impacts on the LCT will be as a result of changes to certain perceptual qualities arising from views of offshore infrastructure. The ZTV (refer to ES Figure 29.1.5b3, Document Reference: 3.2.25) identifies visibility across the Naze including this character area and adjacent areas that are lower-lying and more distant from the Offshore Above-sea Development. Given the characteristically open nature of this landscape of the Naze, actual visibility will closely reflect this, though will be reduced in more developed adjacent areas. Any changes to the key characteristics of the LCT would occur be as a result of changes to views looking out to sea or along the coast. When visible, the Offshore Above-sea Development will typically be seen in the context of large scale coastal views, with expansive areas of sea and sky. It will be seen on and beyond the horizon in seaward views. On very clear days, operational wind farms including Greater Gabbard and Galloper are visible from this character area. The Offshore Above-sea Development will introduce further elements into the seascape, which will be closer and larger than the operational turbines. The key characteristics of this area will not be greatly affected by the presence of the WTGs in distant offshore views. Taking a precautionary approach to the assessment, the magnitude of impact on the character of this area is judged to be low. This will occur on clear days when visibility is 'excellent' (over 40km, see ES Figure 29.1.7, Document Reference: 3.2.25) and will affect the Naze peninsula and adjacent areas where there are open seaward views.
Effect significance	The low magnitude of impact, combined with a medium-high sensitivity, will result in moderate-minor effects, which are not significant in EIA terms. These effects will be localised to the Naze peninsula, and only likely to be experienced on clear days. Effects on other areas of this LCT, and on other LCTs along the Tendring coast, will be similar or less than effects on the Naze.
Cumulative Effects	Other consented and proposed developments will be at least 15km more distant from this character area than the Offshore Above-sea Development and are therefore not likely to be clearly visible. East Anglia Two will not be visible due to earth curvature. Because no other

Receptor	Tendring District Landscape Character Assessment Coastal ridges and peninsulas – The Naze Peninsula LCA 4B
	offshore wind farms are likely to be visible, they would not affect landscape character, and therefore no significant cumulative effects are anticipated.

29.6.3.2.2 Operational effects on designated landscapes

129. This section describes the implications of the Offshore Above-sea Development for the Suffolk and Essex Coast and Heaths National Landscape (formerly AONB), with reference to the special qualities for which it is designated. This section is also considered to represent the likely significant effects on the Suffolk Heritage Coast.

Table 29.21 Suffolk and Essex Coast and Heaths National Landscape

Receptor	Suffolk and Essex Coast and Heaths National Landscape
Baseline Description	The SECHNL Management Plan 2023-2028, outlines that the special qualities of the National Landscape are listed in the Natural Beauty and Special Qualities Indicators document (November 2016). This document has been reviewed to identify the special qualities of relevance, with regard to the influence of the sea (and the Offshore Above-sea Development Site). These include: • "Close-knit interrelationship of semi-natural and cultural landscapes (notably sea, coast, estuaries, reedbeds, Sandlings heath, forest, farmland and market towns) and built heritage features (such as Martello towers, pill boxes, river walls), creating a juxtaposition of elements in a relatively small area. • A small number of large scale and long established elements on the coast of the AONB divide opinion, being regarded by some as incongruous features and by others as enigmatic; for example the complex military site at Orford Ness. The power stations at Sizewell also divide opinion in this way, however in many views, particularly of the B station, the apparent uncluttered simple appearance and outline as well as the lack of visible human activity, partially mitigate the adverse visual impacts. • Offshore wind turbines at Greater Gabbard, Galloper and the more distant London Array are visible from some stretches of the coastline. These create a cluttered horizon and, like the large scale elements onshore, also divide opinion. • Unique character defined by semi-natural and cultural landscapes (notably sea, coast, estuaries, reedbeds, Sandlings heath, forest, farmland and villages) and built heritage features (such as Martello towers, pill boxes, river walls), creating a juxtaposition elements in a relatively small area. • Extensive shingle beaches and shallow bays provide opportunities for long distance and panoramic views including out to sea and along the Heritage Coast. Views to coastal landform also possible from locations offshore. • Elevated vantage points provide impressive views over low lying coastal marshes, estuaries, beaches and expansive long distance views out to sea. Views to the coastline from out at sea are also noted. • Strong aesthetic, spatial and emotional experiences - for example in the contrast between open and exposed areas on the coast, seaward or within estuaries with more traditional enclosed farmland areas. • Large open vistas across heaths and along the coast, out to sea and from sea to the coastline. Landmarks include historic structures such as medieval churches, Martello towers and lighthouses, the House in the Clouds (Thorpeness) and Snape Maltings, the riverside at Woodbridge with iconic Tide Mill, along with more modern structures including Sizewell A and B and former military site at Orford Ness. • Sensory stimuli enhanced by quality of light/space (the big 'Suffolk skies'), areas with dark skies and sound (e.g. bird calls, curlews on heath and geese on estuaries, the wind through reeds in estuaries, waves on shingle). • Absence of major coastal road or rail route, due to estuaries, and intermittent 'soft edged', often lightly trafficked access routes across the AONB to the coastline from main routes inland, has contributed to the relatively undeveloped character of the Suffolk coast.

Receptor	Suffolk and Essex Coast and Heaths National Landscape
	• Pockets of relative wildness associated with coast, estuary and forests in this largely farmed and settled landscape. • Largely undeveloped coastline and offshore areas and areas of semi-natural habitat including Sandlings heath, forests, reedbeds, estuaries and marshland. • A small number of large scale and industrial elements on the coast of the AONB are long established, notably Sizewell A and B and the former military site at Orford Ness, whilst offshore wind turbines at Greater Gabbard, Galloper and the more distant London Array are visible from stretches of the coastline. • Big 'Suffolk skies' and expansive views offshore emphasise sense of openness and exposure on open and exposed coastline and on the Sandlings heaths. • Significant areas of semi natural landscape and seascape notably along the coastline, offshore and within undeveloped estuaries where there is little evidence of apparent human activity despite the sea walls and coastal marshes. • More latterly the Sizewell nuclear complex highlights evidence of time depth across the landscape. Both the nuclear complex and the nearby infrastructure associated with offshore energy generation are part of a developing story of the Suffolk's Energy Coast. • There are often strong associations between these [historic] features and areas of more remote coastal landscape character." Special qualities for the Suffolk Heritage Coast are not defined. For the purposes of this assessment, they are assumed to be similar to those for the SECHNL above.
Sensitivity	The National Landscape is varied in character, with areas of sand dunes and shingle ridges; saltmarsh and intertidal flats; coastal levels; open coastal and wooded fens; valley meadowlands; and estate sandlands and farmlands. The susceptibility of the various landscape types across the National Landscape, to offshore wind farm development, will vary. Susceptibility will be higher along the coastal edges and from open parts of the National Landscape where the relationship with the sea has a stronger influence on character. From areas of the National Landscape where woodland and hedgerows are more characteristic, the terrain is more varied, and the relationship with the sea is less strongly expressed, the susceptibility to offshore wind farm development will reduce. Generally the more open coastal areas will be of higher susceptibility. Given this is a nationally designated landscape, the value attached to it is high. The sensitivity of the SECHNL is judged to be high.
Magnitude of impact	There will be no direct impacts on the special qualities of the National Landscape. The Offshore Above-sea Development is located in the offshore waters approximately 40km to the south-east. Impacts on the National Landscape will be as a result of indirect changes to aspects of certain perceptual qualities. The ZTV (refer to ES Figure 29.1.6b, Document Reference: 3.2.25) identifies widespread visibility along the coastal edge of the National Landscape. Given the characteristically open nature of the coastal edge, actual visibility will closely reflect this. With distance from the coastal edge subtle undulations in the terrain result in a more fragmented pattern of theoretical visibility. This includes some larger areas of visual shadow to the north of the River Deben, south of the River Alde near Iken, north-west of Sizewell and west of Southwold. This includes areas of the National Landscape where woodland and hedgerows are more characteristic landscape features, which combined with the flatter/ gently undulating terrain, will further limit actual visibility. Changes to the special qualities of the National Landscape will be as a result of changes to views looking out from the National Landscape, out to sea or along the coast. When visible, the Offshore Above-sea Development will typically be seen in the context of large scale views, with expansive areas of sea and sky. The Offshore Above-sea Development will not affect the immediate setting of the National Landscape (it is located outside of the higher sensitivity Suffolk Coastal Waters MCA 10) . It will be seen on and beyond the horizon of sea based views.

Receptor	Suffolk and Essex Coast and Heaths National Landscape
	On clear days, operational wind farms including East Anglia One, Greater Gabbard, Galloper and London Array are visible in seaward views from the National Landscape. This is recognised at a number of places in the special qualities of the National Landscape: • "Offshore wind turbines at Greater Gabbard, Galloper and the more distant London Array are visible from some stretches of the coastline. These create a cluttered horizon and, like the large scale elements onshore, also divide opinion; and • A small number of large scale and industrial elements on the coast of the AONB are long established, notably Sizewell A and B and the former military site at Orford Ness, whilst offshore wind turbines at Greater Gabbard, Galloper and the more distant London Array are visible from stretches of the coastline." The Offshore Above-sea Development will introduce further wind turbines into the distant seascape setting of the coastal edges of the National Landscape. This could further alter aspects of certain perceptual special qualities, where the relationship with the sea is more strongly expressed, such as: • "…long distance and panoramic views including out to sea… • …expansive long distance views out to sea… • …open and exposed areas on the coast… • Large open vistas… along the coast, out to sea and from sea to the coastline... • …quality of light/space (the big 'Suffolk skies')… • …relatively undeveloped character of the Suffolk coast. • Pockets of relative wildness associated with coast… • Largely undeveloped coastline and offshore areas… • Big 'Suffolk skies' and expansive views offshore emphasise sense of openness and exposure on open and exposed coastline…" Taking a precautionary approach to the assessment, the scale of change on certain perceptual aspects of the SECHNL special qualities is judged to be medium, although other special qualities will be entirely unchanged. The geographical extent of the change will be small, limited to coastal areas within around 40km of the Offshore Above-sea Development, between Bawdsey Manor and Orford Ness. This will affect a very localised area of the coastal edge, in the context of this large-scale designation. Effects will also be limited to days with clear weather. For the vast majority of the National Landscape, which is largely beyond 40km from the Offshore Above-sea Development, and due to the increased distance and the reduced visibility from inland areas, the scale of change will be small or negligible. As noted above, and on clear days, operational wind farms including East Anglia One, Greater Gabbard and Galloper will also be visible. The Offshore Above-sea Development will be seen in the context of these offshore wind farms. The Offshore Above-sea Development will intensify the effects associated with offshore wind farm development that influence certain perceptual special qualities of the National Landscape. The contribution of offshore turbines to the seascape horizon is acknowledged in the special qualities of the National Landscape, where it is acknowledged that they divide opinion. The Offshore Above-sea Development will not greatly extend the spread of turbines across the horizon. It will introduce turbines into an area of the skyline which has already been altered by offshore wind farm development. The Project will also contribute to the "*developing story of the Suffolk's Energy Coast*". Overall, the magnitude of impact to the special qualities of the National Landscape will be locally low along the coast, and negligible further inland.
Effect significance	The low magnitude of impact, combined with high sensitivity, will result in moderate-minor effects on the special qualities of the SECHNL, which is not significant in EIA terms. These effects will be localised to the coastal strip between Bawdsey Manor and Orford Ness, and

Receptor	Suffolk and Essex Coast and Heaths National Landscape
	are only likely to be experienced on clear days. Effects on special qualities in other areas of the National Landscape will be similar or lower. Since no significant effects on the special qualities of the SECHNL were identified, this assessment does not go on to consider the effects of the Project on the natural beauty of the National Landscape or the statutory purposes of the designation. Similarly, the assessment does not go on to consider the effects of the Project on the purposes of the Heritage Coast designation. This assessment is based on the maximum turbine height scenario, which is considered to be worst case for SLVIA, as set out in Section 29.3.2. Examination of wireframe views for the maximum turbine number scenario (larger number of turbines at lower tip height) indicates that in this scenario turbines would be less visible, due to the lower tip heights (refer to ES Figures 29.3.7, 29.3.8 and 29.3.9). The effects would not be greater than in the maximum turbine height scenario.
Cumulative Effects	Cumulative effects on special qualities of the National Landscape will be indirect, as changes to the cumulative baseline considered in this assessment all relate to offshore wind farms. In open seaward views and on clear days, East Anglia Two (consented) will extend and intensify the influence of offshore wind turbines seen in offshore waters in large scale and long distance views to the east and north-east, from the National Landscape. In addition, Five Estuaries will intensify the influence of offshore wind turbines, seen behind operational turbines to the south-east. The Offshore Above-sea Development will extend and intensify the influence of offshore wind turbines, seen in large scale and long distance views to the south-east, from the National Landscape. This intensification will be a matter of degree rather than a change in influence, and the effects will not be materially different in relation to the special qualities of the SECHNL. Taking a precautionary approach, the cumulative magnitude of change arising from the contribution of the Offshore Above-sea Development is judged to be low. The cumulative effect on the special qualities of the SECHNL is predicted to be moderate-minor, which is not significant in EIA terms.

29.6.3.3 Effects on views during operation and maintenance

130. This section describes the operational impacts resulting from the Offshore Above-sea Development experienced at viewpoints that are representative of key receptor groups around the SLVIA study area. Viewpoints are set out in Table 29.11, and are identified on ES Figure 29.1.2 (Document Reference: 3.2.25). In addition, sequential impacts on users of the Suffolk Coast Path and King Charles III England Coast Path are also assessed.

131. All operational impacts are considered to be long-term, reversible and adverse unless stated otherwise. Accompanying visualisations for each assessment viewpoint are contained in the ES (Document Reference: 3.2.25), prepared in accordance with the methodology set out in ES Appendix 29.1 (Document Reference: 3.3.69).

132. Interactions with operational offshore wind farms (refer to Section 29.5.5) are considered in the primary assessment, when arriving at judgements on visual effects.

133. The cumulative assessment considers the effects of the Offshore Above-sea Development in addition to the consented and proposed offshore wind farms listed in Table 29.13. See Section 29.4.4 for details.

134. Effects associated with aviation and safety lighting have been considered from the following viewpoints, as agreed through consultation. These locations provide a representative spread of night time assessment viewpoints along the coastal edge. Dusk visuals have been prepared for these viewpoints in line with the approach set out in ES Appendix 29.1 (Document Reference: 3.3.69):

- Viewpoint 6 – Aldeburgh (which also represents views from the SECHNL);
- Viewpoint 11 – Felixstowe Seafront Gardens;
- Viewpoint 15 – Clacton on Sea: and
- Viewpoint 16 – North Foreland.

Table 29.22 Viewpoint 1

Receptor	Viewpoint 1 - Covehithe			
Grid Reference	652337E	281100N	ES Figure Number	29.2.1 (Document Reference: 3.2.25)
LCT	Estate Sandlands LCT		Landscape Designation	SECHNL and Suffolk Heritage Coast
Direction of View	South-east		Distance to nearest turbine	66km
Baseline Description	This viewpoint is located to the south-east of the small settlement of Covehithe, south of the point where Beach Road meets the coastline and near Covehithe Broads. It is representative of recreational users of the coastal edge. Due to changes in the array area between PEIR and DCO application, this viewpoint is located outside the 60km SLVIA study area. For completeness it has been included. In seawards views to the east and south-east, the expansive open waters of the North Sea are visible. Existing offshore wind farms including Galloper and Greater Gabbard are just visible on clear days. These form small features in the overall seaward view, seen above the horizon to the south-east. In views along the coastline to the north the dunes to the west of the beach are apparent. Woodland around the small settlement of Covehithe contributes to the near distance inland horizon and the square church tower in Covehithe is visible on the skyline. In views along the coastline to the south, inland waters associated with Covehithe Broads are apparent. Woodland on slightly higher ground south of the broads contributes to the middle distance inland horizon. Further south, along the coastal edge, settlement within Southwold is apparent.			
Sensitivity	Recreational users of the coastline are considered to be of higher susceptibility. The viewpoint is located in the SECHNL and Suffolk Heritage Coast, indicating a higher value. On balance, taking account of the judgements of susceptibility and value, the overall sensitivity is judged to be high.			
Magnitude of impact	The Offshore Above-sea Development will be seen at a distance of 66km. The curvature of the earth will limit visibility of the array area of the Offshore Above-sea Development, to turbine blades seen above the horizon. The turbines in the array area will extend the horizontal field of view occupied by turbines to the south of distant turbines in			

Receptor	Viewpoint 1 - Covehithe
	Greater Gabbard and Galloper cluster (just perceptible above the horizon). The difference in turbine scale between the proposed and existing turbines, in views to the south-east, will be difficult to perceive due to viewing distance and screening provided by the curvature of the earth. The scale of change is judged to be barely perceptible. The geographical extent of the change is judged to be medium. Similar views will be available from the coastline near Covehithe. The overall magnitude of impact is judged to be negligible.
Effect significance	The negligible magnitude of impact, arising from the turbines being barely visible, combined with high sensitivity, will result in a negligible effect, which is not significant in EIA terms. At 66km, the Offshore Above-sea Development will only be visible in conditions of 'excellent' atmospheric visibility.
Cumulative Effects	East Anglia Two (consented) will introduce further offshore wind farms into the view, seen as a distinct cluster of turbines to the north of (and closer to the viewpoint than) the Galloper and Greater Gabbard cluster. There will be a gap between this scheme and the Galloper and Greater Gabbard cluster, which the proposed Five Estuaries will appear to fill. When visible on very clear days, the Offshore Above-sea Development will extend the influence of wind turbines to the south of the Galloper and Greater Gabbard Cluster. Due to the great distance involved, the cumulative magnitude of change arising from the contribution of the Offshore Above-sea Development is judged to be negligible. The additional cumulative effect of the Offshore Above-sea Development is predicted to be negligible, which is not significant in EIA terms.

Table 29.23 Viewpoint 2

Receptor	Viewpoint 2 - Southwold Pier			
Grid Reference	651350E	276621N	ES Figure Number	29.2.2 (Document Reference: 3.2.25)
LCT	Urban LCT		Landscape Designation	SECHNL and Suffolk Heritage Coast
Direction of View	South-east		Distance to nearest turbine	62km
Baseline Description	This viewpoint is located on Southwold Pier, to the east of the settlement of Southwold. It is representative of recreational users of the pier. Similar views will be experienced by recreational users of the coastal edge/ residents with open seaward views, in the settlement. Due to changes in the array area between PEIR and DCO application, this viewpoint is located outside the 60km SLVIA study area. For completeness it has been included. In seawards views to the east and south-east, the expansive open waters of the North Sea are visible. Existing offshore wind farms including Galloper and Greater Gabbard are just visible on clear days. These form small features in the overall seaward view, seen above the horizon to the east and south-east. In views along the coastline to the north beach huts and properties on the northern edge of Southwold are apparent. In middle distance views further north woodland on the slightly higher ground south of Covehithe Broads contributes to the horizon. There are some smaller scale operational onshore turbines seen on the skyline. In views along the coastline to the south, large Victorian seafront properties sit on slightly higher ground above the beach which is lined by beach huts. Buildings in Sizewell Power			

Receptor	Viewpoint 2 - Southwold Pier
	Station and large scale steel tower overhead electricity lines linking into the power station are visible on the longer distance horizon, in views south.
Sensitivity	Recreational users of the pier/ coastline are considered to be of higher susceptibility. Similar views will be experienced by certain residential receptors in the area, with open coastal views. The viewpoint is located in the SECHNL and Suffolk Heritage Coast, indicating a higher value. On balance, taking account of the judgements of susceptibility and value, the overall sensitivity is judged to be high.
Magnitude of impact	The Offshore Above-sea Development will be seen at a distance of 62km. The curvature of the earth will limit visibility of the array area of the Offshore Above-sea Development, to turbine blades seen above the horizon. The turbines in array area will extend the horizontal field of view occupied by turbines to the south of distant turbines in Greater Gabbard and Galloper cluster (just perceptible above the horizon). The difference in turbine scale between the proposed and existing turbines, in views to the south-east, will be difficult to perceive due to viewing distance and screening provided by the curvature of the earth. The scale of change is judged to be barely perceptible. The geographical extent of the change is judged to be medium. Similar views will be available from the coastline near Southwold. The overall magnitude of impact is judged to be negligible.
Effect significance	The negligible magnitude of impact, arising from the turbines being barely visible, combined with high sensitivity, will result in a negligible effect, which is not significant in EIA terms. At 62km, the Offshore Above-sea Development will only be visible in conditions of 'excellent' atmospheric visibility.
Cumulative Effects	East Anglia Two (consented) will introduce further offshore wind farms into the view, seen as a distinct cluster of turbines to the north of (and closer to the viewpoint than) the Galloper and Greater Gabbard cluster. There will be a gap between this scheme and the Galloper and Greater Gabbard cluster, which the proposed Five Estuaries will appear to fill. When visible on very clear days, the Offshore Above-sea Development will extend the influence of wind turbines to the south of the Galloper and Greater Gabbard Cluster. Due to the great distance involved, the cumulative magnitude of change arising from the contribution of the Offshore Above-sea Development is judged to be negligible. The additional cumulative effect of the Offshore Above-sea Development is predicted to be negligible, which is not significant in EIA terms.

Table 29.24 Viewpoint 3

Receptor	Viewpoint 3 - Dunwich Coastguard Cottages			
Grid Reference	647769E	267687N	ES Figure Number	29.2.3 (Document Reference: 3.2.25)
LCT	Estate Sandlands LCT		Landscape Designation	SECHNL and Suffolk Heritage Coast
Direction of View	South-east		Distance to nearest turbine	55km
Baseline Description	This viewpoint is located near a coastal car park and Dunwich Coastguard Cottages (a National Trust property). It is representative of recreational users of the coastal edge.			

Receptor	Viewpoint 3 - Dunwich Coastguard Cottages
	In seawards views to the east and south-east, the expansive open waters of the North Sea are visible. Existing offshore wind farms including East Anglia One (just perceptible due to curvature of earth), Galloper and Greater Gabbard are visible on clear days. Whilst, due to viewing distance, the offshore turbines form small features, the wide horizontal field of view occupied by offshore turbines is apparent from this location. In views along the coastline to the north the dunes and woodland to the west of Dunwich Beach are apparent. In longer distance views settlement in Southwold is apparent on the coastline, with onshore wind turbines and the lighthouse contributing small scale vertical features on an otherwise very horizontal horizon. In views along the coastline to the south, marshes to the west of Dunwich Beach are visible. Buildings in Sizewell Power Station and large scale steel tower overhead electricity lines linking into the power station are visible on the middle distance horizon, in views south.
Sensitivity	Recreational users of the coastline are considered to be of higher susceptibility. The viewpoint is located in the SECHNL and Suffolk Heritage Coast, indicating a higher value. On balance, taking account of the judgements of susceptibility and value, the overall sensitivity is judged to be high.
Magnitude of impact	The Offshore Above-sea Development will be seen at a distance of 55km. The turbine hubs and blades of the majority of the array area will be visible in longer distance views to the south-east, seen above the horizon. The turbines in the array area will be seen to extend the horizontal field of view occupied by turbines, to the south of distant turbines in the Greater Gabbard and Galloper cluster. The difference in turbine scale between the proposed and existing turbines in views to the south-east will be apparent, though masked to a degree by viewing distance and dependant on weather conditions. The scale of change is judged to be small. The geographical extent of the change is judged to be medium. Similar views will be available from the coastline near Dunwich. The overall magnitude of impact is judged to be low.
Effect significance	The low magnitude of impact, combined with high sensitivity, will result in a minor effect, which is not significant in EIA terms. At 55km, the Offshore Above-sea Development will only be visible in conditions of ‘excellent’ atmospheric visibility.
Cumulative Effects	The consented East Anglia Two will introduce further offshore wind turbines into the east of the view. There will be a gap between East Anglia Two and the Galloper and Greater Gabbard cluster further south, which the proposed Five Estuaries will appear to partially fill. When visible on very clear days, the Offshore Above-sea Development will extend the influence of wind turbines to the south of the Galloper and Greater Gabbard Cluster. As it will occupy a narrow extent of the horizon, the Offshore Above-sea Development will not contribute to ‘curtaining’. Due to the great distance involved, the cumulative magnitude of change arising from the contribution of the Offshore Above-sea Development is judged to be low. The cumulative effect is predicted to be minor, which is not significant in EIA terms.

Table 29.25 Viewpoint 4

Receptor	Viewpoint 4 - Sizewell Beach			
Grid Reference	647602E	262883N	ES Figure Number	29.2.4 (Document Reference: 3.2.25)

Receptor	Viewpoint 4 - Sizewell Beach		
LCT	Coastal Dunes and Shingle Ridges LCT	Landscape Designation	SECHNL and Suffolk Heritage Coast
Direction of View	South-east	Distance to nearest turbine	50.8km
Baseline Description	This viewpoint is located on Sizewell Beach. There is a coastal car park at the small settlement of Sizewell, to the west. It is representative of recreational users of the coastal edge. In seawards views to the east and south-east, the expansive open waters of the North Sea are visible. Two disused platforms form notable offshore features in the foreground. Existing offshore wind farms including Galloper and Greater Gabbard are visible on clear days. Whilst, due to viewing distance, the offshore turbines form small features, the wide horizontal field of view occupied by offshore turbines is apparent from this location (on clear days). In views along the coastline to the north the dunes to the west of Sizewell Beach are apparent. Buildings in Sizewell Power Station form notable features seen on the horizon in the foreground. In longer distance views settlement in Southwold is apparent on the coastline, with onshore wind turbines and the lighthouse contributing small scale vertical features on an otherwise very horizontal horizon. In views along the coastline to the south, properties in the small settlement of Sizewell area apparent. The middle distance horizon is form by the rising dunes to the south of the settlement.		
Sensitivity	Recreational users of the coastline are considered to be of higher susceptibility. The viewpoint is located in the SECHNL and Suffolk Heritage Coast, indicating a higher value. On balance, taking account of the judgements of susceptibility and value, the overall sensitivity is judged to be high.		
Magnitude of impact	The Offshore Above-sea Development will be seen at a distance of 50.8km. The turbine hubs and blades of the majority of the array area will be visible in longer distance views to the south-east, seen above the horizon. The turbines in the array area will be seen to extend the horizontal field of view occupied by turbines to the south of distant turbines in the Greater Gabbard and Galloper cluster. The difference in turbine scale between the proposed and existing turbines in views to the south-east will be apparent, though masked to a degree by viewing distance and dependant on weather conditions. The scale of change is judged to be small. The geographical extent of the change is judged to be medium. Similar views will be available from the coastline near Sizewell. The overall magnitude of impact is judged to be low.		
Effect significance	The low magnitude of impact, combined with high sensitivity, will result in a minor effect, which is not significant in EIA terms. At 50.8km, the Offshore Above-sea Development will only be visible in conditions of ‘excellent’ atmospheric visibility.		
Cumulative Effects	The consented East Anglia Two will introduce further offshore wind turbines into the view, seen to the north (closer to the viewpoint) of the Galloper and Greater Gabbard cluster. There will be a gap between these schemes and the Galloper and Greater Gabbard cluster, which the proposed Five Estuaries will appear to partially fill. When visible on clear days, the Offshore Above-sea Development will extend the influence of wind turbines to the south of the Galloper and Greater Gabbard Cluster. As it will occupy a narrow extent of the horizon, the Offshore Above-sea Development will not contribute to		

Receptor	Viewpoint 4 - Sizewell Beach
	'curtaining'. Due to the great distance involved, the cumulative magnitude of change arising from the contribution of the Offshore Above-sea Development is judged to be low. The cumulative effect is predicted to be minor, which is not significant in EIA terms.

Table 29.26 Viewpoint 5

Receptor	Viewpoint 5 - Cliffs above Thorpeness			
Grid Reference	647580E	260335N	ES Figure Number	29.2.5 (Document Reference: 3.2.25)
LCT	Coastal Dunes and Shingle Ridges LCT		Landscape Designation	SECHNL and Suffolk Heritage Coast
Direction of View	South-east		Distance to nearest turbine	48.5km
Baseline Description	This viewpoint is located on a coastal path to the north of Thorpeness, and west of the cliffs above the beach. It is representative of recreational users of the cliff top footpath along the coastal edge. In seawards views to the east and south-east, the expansive open waters of the North Sea are visible. Existing offshore wind farms including East Anglia One (just perceptible due to curvature of the earth), Galloper and Greater Gabbard are visible on clear days. Whilst, due to viewing distance, the offshore turbines form small features, the wide horizontal field of view occupied by offshore turbines is apparent from this location. In views along the coastline to the north cliff top vegetation and the undulating terrain combine to foreshorten views. In views along the coastline to the south, properties on the northern edge of the small settlement of Thorpeness are apparent. Properties, vegetation and trees on the edge of the settlement combine to foreshorten views to the south.			
Sensitivity	Recreational users of the coastline are considered to be of higher susceptibility. The viewpoint is located in the SECHNL and Suffolk Heritage Coast, indicating a higher value. On balance, taking account of the judgements of susceptibility and value, the overall sensitivity is judged to be high.			
Magnitude of impact	The Offshore Above-sea Development will be seen at a distance of 48.5km. The turbine hubs and blades of the majority of the array area will be visible in longer distance views to the south-east, seen above the horizon. The turbines in the array area will be seen to extend the horizontal field of view occupied by turbines at the southern end of the Greater Gabbard and Galloper cluster. The difference in turbine scale between the proposed and existing turbines in views to the south-east will be apparent, though masked to a degree by viewing distance and dependant on weather conditions. The scale of change is judged to be small. The geographical extent of the change is judged to be medium. Similar views will be available from the clifftop path near Thorpeness and from the beach itself. The overall magnitude of impact is judged to be low.			
Effect significance	The low magnitude of impact, combined with high sensitivity, will result in a minor effect, which is not significant in EIA terms. At 48.5km, the Offshore Above-sea Development will only be visible in conditions of 'excellent' atmospheric visibility.			

Receptor	Viewpoint 5 - Cliffs above Thorpeness
Cumulative Effects	The consented East Anglia Two will introduce further offshore wind turbines into the eastward view. There will be a gap between this larger wind farm and the Galloper and Greater Gabbard cluster further south. Five Estuaries will reduce and partially infill this gap and will increase the apparent scale of the Galloper and Greater Gabbard cluster. When visible on clear days, the Offshore Above-sea Development will be seen to extend the influence of wind turbines to the south of the Galloper and Greater Gabbard cluster. As it will occupy a limited extent of the horizon, the Offshore Above-sea Development will not greatly contribute to 'curtaining'. Due to the distance involved, the cumulative magnitude of change arising from the contribution of the Offshore Above-sea Development is judged to be low. The cumulative effect is predicted to be minor, which is not significant in EIA terms.

Table 29.27 Viewpoint 6

Receptor	Viewpoint 6 - Aldeburgh			
Grid Reference	646522E	256453N	ES Figure Number	29.2.6 (Document Reference: 3.2.25)
LCT	Coastal Dunes and Shingle Ridges LCT		Landscape Designation	SECHNL and Suffolk Heritage Coast
Direction of View	South-east		Distance to nearest turbine	45.7km
Baseline Description	This viewpoint is located on the promenade of the coastal settlement of Aldeburgh. It is representative of residents on the coastal edge of the settlement and recreational users of the promenade and beach. In seawards views to the east and south-east, the expansive open waters of the North Sea are visible. Existing offshore wind farms including Galloper and Greater Gabbard are visible on clear days. Whilst, due to viewing distance, the offshore turbines form small features, the wide horizontal field of view occupied by offshore turbines is apparent from this location. In views along the coastline to the north, built form in the settlement is apparent. This includes the distinctive square towered building on the North Lookout, which contains short distance views in this direction. In views along the coastline to the south, built form in the settlement is apparent. This includes the distinctive square towered building on the South Lookout, which contains short distance views in this direction.			
Sensitivity	Residents are considered to be of higher susceptibility. The viewpoint is located in the SECHNL and Suffolk Heritage Coast, indicating a higher value. On balance, taking account of the judgements of susceptibility and value, the overall sensitivity is judged to be high.			
Magnitude of impact	The Offshore Above-sea Development will be seen at a distance of 45.7km. The turbine hubs and blades of the majority of the array area will be visible in longer distance views to the south-east, seen above the horizon. The more northern offshore platform ('OSP Location B') will also be apparent, on clear days. The turbines in the array area will be seen to extend the horizontal field of view occupied by turbines, to the south of the Greater Gabbard and Galloper cluster. The difference in turbine scale between the proposed and existing turbines in views to the south-east will be apparent, though masked to a degree by viewing distance and dependant on weather conditions.			

Receptor	Viewpoint 6 - Aldeburgh
	The scale of change is judged to be small. The geographical extent of the change is judged to be medium. Similar views will be available along the coastal edge of the settlement of Aldeburgh. The overall magnitude of impact is judged to be low.
Effect significance	The low magnitude of impact, combined with high sensitivity, will result in a minor effect, which is not significant in EIA terms. At 45.7km, the Offshore Above-sea Development will only be visible in conditions of 'excellent' atmospheric visibility.
Cumulative Effects	The consented East Anglia Two will introduce further offshore wind farms into the eastward view, seen as a distinct cluster of turbines to the north of (and closer to the viewpoint than) the Galloper and Greater Gabbard cluster. There will be a gap between East Anglia Two and the Galloper and Greater Gabbard cluster. Five Estuaries will partially infill this gap, and will add to the Galloper and Greater Gabbard cluster. When visible on clear days, the Offshore Above-sea Development will be seen in front of and extend the influence of wind turbines to the south of the Galloper and Greater Gabbard Cluster. As it will occupy a limited extent of the horizon, the Offshore Above-sea Development will not contribute greatly to 'curtaining'. Due to the distance involved, the cumulative magnitude of change arising from the contribution of the Offshore Above-sea Development is judged to be low. The cumulative effect is predicted to be minor, which is not significant in EIA terms.
Visual Effects Associated with Lighting	Red aviation lighting on peripheral turbines in the array area will be visible, seen at a distance of 45.7km. This would be seen in an offshore context which includes sources of light from marine infrastructure, shipping and offshore wind farms. Under both the 2000 and 200 candela scenarios, and given the viewing distance, a small scale of change and non-significant effects are assessed. For the 200 candela scenario in particular (which represents the more realistic scenario in which the lights are dimmed to 10 percent intensity in clear weather conditions, such as the photography has been shot in), lighting on the offshore wind farm will be difficult to perceive at this viewing distance.

Table 29.28 Viewpoint 7

Receptor	Viewpoint 7 - Orford Castle			
Grid Reference	641966E	249816N	ES Figure Number	29.2.7 (Document Reference: 3.2.25)
LCT	Edge of Coastal Levels LCT		Landscape Designation	SECHNL and Suffolk Heritage Coast
Direction of View	South-east		Distance to nearest turbine	42.5km
Baseline Description	This viewpoint is located on an area of slightly raised ground, near Orford Castle. It is representative of recreational views experienced by people visiting this historic feature. At the time of photography it was not possible to enter the castle itself, which offers a higher viewing point. More elevated views from inside the castle will likely offer greater visibility in seaward views (and as demonstrated through the wirelines provided with the assessment). In views to the south-east a break in foreground vegetation provides longer distance views over Orford Ness Nature Reserve, towards the North Sea. Existing offshore wind farms including Galloper and Greater Gabbard are visible on clear days. Whilst, due to viewing distance, the offshore turbines form small features, these features occupy the glimpsed seaward horizon from this location. In other viewing directions mature vegetation around the site of Orford Castle generally foreshortens the view. Breaks in this vegetation provided glimpses of properties in Orford Ness.			
Sensitivity	Recreational visitors to the castle are considered to be of medium susceptibility, as their focus will be on the castle as much as the surrounding landscape. The viewpoint is located in the SECHNL and Suffolk Heritage Coast, indicating a higher value. On balance, taking account of the judgements of susceptibility and value, the overall sensitivity is judged to be medium-high.			
Magnitude of impact	The Offshore Above-sea Development will be seen at a distance of 42.5km. The turbine hubs and blades of the array area will be visible in longer distance views to the south-east, between a gap in foreground vegetation (partially screened by intervening buildings and vegetation). Turbines will be seen on the horizon in the context of disused military structures on Orford Ness. The array area will extend the horizontal field of view occupied by turbines to the south of distant turbines in Greater Gabbard and Galloper cluster (just perceptible though largely screened by intervening vegetation from this location). The difference in turbine scale between the proposed and existing turbines will be apparent, though masked to a degree by viewing distance, intervening features and dependant on weather conditions. The scale of change is judged to be small. The geographical extent of the change is judged to be small, with inland views of this nature limited to the area of slightly higher ground around Orford Castle. The overall magnitude of impact is judged to be low.			
Effect significance	The low magnitude of impact, combined with medium-high sensitivity, will result in a minor effect, which is not significant in EIA terms. At 42.5km, the Offshore Above-sea Development will only be visible in conditions of 'excellent' atmospheric visibility.			

Receptor	Viewpoint 7 - Orford Castle
Cumulative Effects	From this location views of further consented and proposed offshore wind farms will be limited by intervening foreground vegetation and buildings, and no cumulative effects are assessed.

Table 29.29 Viewpoint 8

Receptor	Viewpoint 8 - Orford Ness			
Grid Reference	644551E	248769N	ES Figure Number	29.2.8 (Document Reference: 3.2.25)
LCT	Coastal Dunes and Shingle Ridges LCT		Landscape Designation	SECHNL and Suffolk Heritage Coast
Direction of View	South-east		Distance to nearest turbine	40.1km
Baseline Description	This viewpoint is located in Orford Ness Nature Reserve. The reserve is managed by the National Trust and access is possible on certain days, with access via the ferry run by the Trust. It is representative of recreational views experienced by people visiting the nature reserve. In seawards views to the east and south-east, the expansive open waters of the North Sea are visible, seen beyond the flat shingle expanse of the reserve. Existing offshore wind farms including Galloper and Greater Gabbard, and in the distance London Array and Gunfleet Sands, are visible on clear days. Whilst, due to viewing distance, the offshore turbines form small features, the wide horizontal field of view occupied by offshore turbines is apparent from this location. In views along the coastline to the north and south, the flat shingle expanse of the reserve characterises the views. Built features in the reserve, including a wood clad beacon and disused military structures, provide notable points of contrast with the shingle expanse.			
Sensitivity	Recreational visitors to the nature reserve are considered to be of medium susceptibility. The viewpoint is located in the SECHNL and Suffolk Heritage Coast, indicating a higher value. On balance, taking account of the judgements of susceptibility and value, the overall sensitivity is judged to be medium-high.			
Magnitude of impact	The Offshore Above-sea Development will be seen at a distance of 40.1km. The turbine hubs and blades of the array area will be visible in longer distance views to the south-east. The array area will read as a coherent group of turbines. The more northern offshore platform will also be visible. The array area will be seen adjacent to, and extending the horizontal field of view occupied by, the Greater Gabbard and Galloper cluster. The difference in turbine scale between the proposed and existing turbines will be apparent, with turbines seen above the offshore horizon. Taking a precautionary approach to the assessment, the scale of change is judged to be medium. The geographical extent of the change is judged to be medium, with views of this nature available across the characteristically open nature reserve. The overall magnitude of impact is judged to be medium.			
Effect significance	The medium magnitude of impact, combined with medium-high sensitivity, will result in a moderate effect, which is significant in EIA terms. At 40.1km, the Offshore Above-sea Development will only be visible in conditions of 'excellent' atmospheric visibility.			

Receptor	Viewpoint 8 - Orford Ness
Cumulative Effects	The consented East Anglia Two will introduce further offshore wind turbines into the view to the east. There will be a gap between East Anglia Two and the Galloper and Greater Gabbard cluster. The proposed Five Estuaries will reduce this gap and also increase the number and visibility of turbines within the Galloper and Greater Gabbard cluster. When visible on clear days, the Offshore Above-sea Development will be seen to extend this cluster to the south. A notable gap to London Array, barely perceptible further south, will remain. Effects of this nature are recognised in the primary assessment. Appearing at a similar scale to Five Estuaries, the Offshore Above-sea Development will contribute somewhat to 'curtaining' of the skyline. The cumulative magnitude of change arising from the contribution of the Offshore Above-sea Development is judged to be medium. The cumulative effect is predicted to be moderate, which is significant in EIA terms.

Table 29.30 Viewpoint 9

Receptor	Viewpoint 9 - Shingle Street			
Grid Reference	636652E	242526N	ES Figure Number	29.2.9 (Document Reference: 3.2.25)
LCT	Coastal Dunes and Shingle Ridges LCT		Landscape Designation	SECHNL and Suffolk Heritage Coast
Direction of View	East, south-east		Distance to nearest turbine	40.8km
Baseline Description	This viewpoint is located in the small coastal settlement of Shingle Street. It is representative of residential receptors in the village (and recreational users of the coast in this area). In seawards views to the east and south-east, the expansive open waters of the North Sea are visible, seen beyond the flat shingle beach which is textured by a patchwork of low vegetation. Existing offshore wind farms including Galloper, Greater Gabbard, London Array and Gunfleet Sands are visible on clear days. Whilst, due to viewing distance, the offshore turbines form small features, the wide horizontal field of view occupied by offshore turbines is apparent from this location. Views along the coastline to the north are characterised by the flat expanse of shingle beach, with distant buildings at Orford Ness visible on the skyline beyond. To the south the blocky profile of a series of Martello Towers contrast with the flat shingle beach and coastline, with a band of woodland visible on the skyline beyond limiting longer distance views. To the west, views inland are largely contained by hedgerow trees and properties in Shingle Street, as well as the imposing barrel form of a Martello Tower.			
Sensitivity	Residential receptors in Shingle Street are considered to be of higher susceptibility. The viewpoint is located in the SECHNL and Suffolk Heritage Coast, indicating a higher value. On balance, taking account of the judgements of susceptibility and value, the overall sensitivity is judged to be high.			
Magnitude of impact	The Offshore Above-sea Development will be seen at a distance of 40.8km. The turbine hubs and blades of the array area will be visible in longer distance views to the south-east. The array area will read as a coherent group of turbines. The more northern offshore platform will also be visible. The array area will be seen to extend the horizontal field of view occupied by the Greater Gabbard and Galloper cluster. The difference in turbine scale between the proposed and existing turbines will be apparent, with the southern turbines of the Greater Gabbard and Galloper cluster being barely visible in this view.			

Receptor	Viewpoint 9 - Shingle Street
	Taking a precautionary approach to the assessment, the scale of change is judged to be medium. The geographical extent of the change is judged to be medium, with views of this nature available from the open coastal edge near Shingle Street. The overall magnitude of impact is judged to be medium.
Effect significance	The medium magnitude of impact, combined with high sensitivity, will result in a moderate effect, which is significant in EIA terms. At 40.8km, the Offshore Above-sea Development will only be visible in conditions of 'excellent' atmospheric visibility.
Cumulative Effects	The consented East Anglia Two will introduce a further offshore wind farm into distant views to the east. There will be a gap between East Anglia Two and the Galloper and Greater Gabbard cluster. Five Estuaries will slightly reduce this gap, while increasing the number and scale of turbines within the Galloper and Greater Gabbard cluster. When visible on clear days, the Offshore Above-sea Development will be seen to the south of the Galloper/ Greater Gabbard/ Five Estuaries cluster. A slight gap will be noticeable from the viewpoint, as the operational turbines in the south of the cluster are barely visible. A more notable gap to London Array, visible further south, will remain. Appearing at a similar scale to Five Estuaries, the Offshore Above-sea Development will contribute somewhat to 'curtaining' of the skyline, though it occupies a modest extent of the skyline. The cumulative magnitude of change arising from the contribution of the Offshore Above-sea Development is judged to be medium. The cumulative effect is predicted to be moderate, which is significant in EIA terms.

Table 29.31 Viewpoint 10

Receptor	Viewpoint 10 - Pulhamite Cliffs (Bawdsey Manor)			
Grid Reference	633373E	237651N	ES Figure Number	29.2.10 (Document Reference: 3.2.25)
LCT	Rolling Estate Sandlands/ Coastal Levels LCT		Landscape Designation	SECHNL and Suffolk Heritage Coast
Direction of View	East, south-east		Distance to nearest turbine	40.5km
Baseline Description	This viewpoint is located on a shingle beach adjacent to Bawdsey Manor at the mouth of the River Deben. It is representative of views experienced by visitors to Bawdsey Manor and recreational users of the coast in this area. In seawards views to the east and south-east, the expansive open waters of the North Sea are visible, seen beyond the flat shingle beach. Existing offshore wind farms including Galloper, Greater Gabbard, London Array and Gunfleet Sands are visible on clear days. Whilst, due to viewing distance, the offshore turbines form small features, the wide horizontal field of view occupied by offshore turbines is apparent from this location. Views along the coastline to the north-east are characterised by the western façade of Bawdsey Manor and surrounding woodland, which screens longer distance views of the coastline beyond. To the south-west, views are available across the mouth of the River Deben to properties at Felixstowe Ferry and two prominent Martello Towers. Longer distance coastal edge views are contained by a wooded skyline in the medium distance. To the north-west longer distance views are focused inland up the River Deben, foregrounded by a number of small ships moored in the river mouth.			

Receptor	Viewpoint 10 - Pulhamite Cliffs (Bawdsey Manor)
Sensitivity	Visitors to Bawdsey Manor and recreational users of the coast in this area are considered to be of higher susceptibility. The viewpoint is located in the SECHNL and Suffolk Heritage Coast, indicating a higher value. On balance, taking account of the judgements of susceptibility and value, the overall sensitivity is judged to be high.
Magnitude of impact	The Offshore Above-sea Development will be seen at a distance of 40.5km. The turbine hubs and blades of the array area will be visible in longer distance views to the south-east. The rows to the north of the array area will be apparent from this viewing angle. The more northern offshore platform will also be visible, on clear days. The array area will be seen to extend the horizontal field of view occupied by turbines to the south of the Greater Gabbard and Galloper cluster. The difference in turbine scale between the proposed and existing turbines will be apparent, with the southern turbines of the Greater Gabbard and Galloper cluster being barely visible in this view. Taking a precautionary approach to the assessment, the scale of change is judged to be medium. The geographical extent of the change is judged to be medium, with views of this nature available from this characteristically open coastline. The overall magnitude of impact is judged to be medium.
Effect significance	The medium magnitude of impact, combined with high sensitivity, will result in a moderate effect, which is significant in EIA terms. At 40.5km, the Offshore Above-sea Development will only be visible in conditions of 'excellent' atmospheric visibility.
Cumulative Effects	The consented East Anglia Two will be barely visible to the north-east, due to the curvature of the earth. The proposed Five Estuaries will intensify the effects of offshore wind farms, appearing above and behind the Greater Gabbard and Galloper cluster. When visible on clear days, the Offshore Above-sea Development will be seen to the south of the Galloper/ Greater Gabbard/ Five Estuaries cluster. The turbines will appear slightly larger than those of Five Estuaries. A notable gap to London Array, further south, will remain. The Offshore Above-sea Development will contribute somewhat to 'curtaining' of the skyline, though it occupies a modest extent of the skyline. The cumulative magnitude of change arising from the contribution of the Offshore Above-sea Development is judged to be medium. The cumulative effect is predicted to be moderate, which is significant in EIA terms.

Table 29.32 Viewpoint 11

Receptor	Viewpoint 11 - Felixstowe Seafront Gardens			
Grid Reference	630540E	234432N	ES Figure Number	29.2.11 (Document Reference: 3.2.25)
LCT	Urban LCT/Coastal Dunes and Shingle Ridges LCT		Landscape Designation	None
Direction of View	East, south-east		Distance to nearest turbine	41.3km
Baseline Description	This viewpoint is located at the Seafront Gardens in Felixstowe. It represents views experienced by recreational users of the Seafront Gardens. In seawards views to the east and south-east, the expansive open waters of the North Sea are visible, seen beyond the narrow beach, groynes and rock armour. Existing offshore wind farms including Galloper, Greater Gabbard, London Array and Gunfleet Sands are visible on			

Receptor	Viewpoint 11 - Felixstowe Seafront Gardens
	clear days. Whilst, due to viewing distance, the offshore turbines form small features, the wide horizontal field of view occupied by offshore turbines is apparent from this location. Views along the coastline to the north-east continue a short distance along the promenade. To the south-west medium distance views are available along the seafront to Felixstowe Pier and built forms in the south of the settlement. On the skyline above several tall cranes located at Felixstowe Port are prominent. To the west views are short distance and contained by vegetation and features in the Seafront Gardens.
Sensitivity	Recreational users of the Seafront Gardens are considered to be of higher susceptibility. The viewpoint is not located in any designated landscapes and is influenced by existing offshore and coastal infrastructure. The view is considered to be of medium-high value. Taking account of the judgements of susceptibility and value, the sensitivity is judged to be high.
Magnitude of impact	The Offshore Above-sea Development will be seen at a distance of 41.3km. The turbine hubs and blades of the array area will be visible in long distance views to the south-east. The turbine rows in the array area will be legible from this viewing angle. The more northern offshore platform will be apparent, on clear days. The array area will be seen to the south of the Greater Gabbard and Galloper cluster. The difference in turbine scale between the proposed and existing turbines will be apparent, with the existing cluster barely perceptible due to the curvature of the earth. Taking a precautionary approach to the assessment, the scale of change is judged to be medium. The geographical extent of the change is judged to be medium, with views of this nature available along the seafront at Felixstowe. The overall magnitude of impact is judged to be medium.
Effect significance	The medium magnitude of impact, combined with high sensitivity, will result in a moderate effect, which is significant in EIA terms. At 41.3km, the Offshore Above-sea Development will only be visible in conditions of ‘excellent’ atmospheric visibility.
Cumulative Effects	The consented East Anglia Two will be just perceptible, on very clear days. The proposed Five Estuaries will intensify the effects of offshore wind farms appearing above and behind the Greater Gabbard and Galloper cluster. When visible on clear days, the Offshore Above-sea Development will be seen to the south of the Galloper/ Greater Gabbard/ Five Estuaries cluster. The proposed turbines will appear slightly larger than those of Five Estuaries, and the two developments are likely to be read as one. A notable gap to London Array, further south, will remain. The Offshore Above-sea Development will contribute somewhat to ‘curtaining’ of the skyline, though it occupies a modest extent of the skyline. The cumulative magnitude of change arising from the contribution of the Offshore Above-sea Development is judged to be medium. The cumulative effect is predicted to be moderate, which is significant in EIA terms.
Visual Effects Associated with Lighting	Red aviation lighting on peripheral turbines in the array area will be visible, seen at a distance of 41.3km. This will be seen in an offshore context which includes sources of light from marine infrastructure, shipping and offshore wind farms. Under both the 2000 and 200 candela scenarios, and given the viewing distance, a small scale of change and non-significant effects are assessed. For the 200 candela scenario in particular (which represents the more realistic scenario in which the lights are dimmed to 10 percent intensity in clear weather conditions, such as the photography has been shot in), lighting on the offshore wind farm will be difficult to perceive at this viewing distance.

Table 29.33 Viewpoint 12

Receptor	Viewpoint 12 - Landguard Fort			
Grid Reference	628580E	231878N	ES Figure Number	29.2.12 (Document Reference: 3.2.25)
LCT	Urban/ Coastal Dunes and Shingle Ridges LCT		Landscape Designation	None
Direction of View	East, south-east		Distance to nearest turbine	42km
Baseline Description	This viewpoint is located in Landguard Nature Reserve adjacent to Landguard Fort. It represents views experienced by visitors to the Nature Reserve and Landguard Fort and recreational users of the Suffolk Coast Path and NCR 51. In seawards views to the east and south-east, the expansive open waters of the North Sea are visible, seen beyond the vegetated shingle beach. Existing offshore wind farms including Galloper, Greater Gabbard, London Array and Gunfleet Sands are visible on clear days. Shipping activity associated with the nearby Felixstowe Port is also apparent. Whilst, due to viewing distance, the offshore turbines form small features, the wide horizontal field of view occupied by offshore turbines is apparent from this location. Views along the coastline to the north-east extend over the vegetated shingle beach to the eastern edge of Felixstowe. To the south-west longer distance views are available along the coastline to the coastal headland of The Naze, with Naze Tower and turbines at Gunfleet Sands Offshore Windfarm visible on the distant skyline. To the west and north-west views are contained by Landguard Fort and the large cranes and stacked shipping containers of Felixstowe Port.			
Sensitivity	Visitors to Landguard Fort and Nature Reserve and recreational users of the coastline in this area are considered to be of higher susceptibility. The viewpoint is not located in any designated landscapes and is influenced by existing offshore and coastal infrastructure. The view is considered to be of medium value. On balance, taking account of the judgements of susceptibility and value, the overall sensitivity is judged to be medium-high.			
Magnitude of impact	The Offshore Above-sea Development will be seen at a distance of 42km. The turbine hubs and blades of the array area will be visible in longer distance views to the south-east. The turbine rows in the array area will be legible from this viewing angle. The more northern offshore platform will be apparent, on clear days. The array area will occupy around 15 degrees of the view. It will extend the horizontal field of view occupied by the Greater Gabbard and Galloper cluster, which is barely visible from this location. Taking a precautionary approach to the assessment, the scale of change is judged to be medium. The geographical extent of the change is judged to be medium, with views of this nature available along the seafront at Felixstowe. The overall magnitude of impact is judged to be medium.			
Effect significance	The medium magnitude of impact, combined with high sensitivity, will result in a moderate effect, which is significant in EIA terms. At 42km, the Offshore Above-sea Development will only be visible in conditions of 'excellent' atmospheric visibility.			

Receptor	Viewpoint 12 - Landguard Fort
Cumulative Effects	The consented East Anglia Two is unlikely to be perceptible, due to the curvature of the earth. The proposed Five Estuaries will appear above and behind the Galloper and Greater Gabbard cluster. When visible on clear days, the Offshore Above-sea Development will be seen in front of and will extend the influence of Five Estuaries (and, to a lesser extent, Galloper and Greater Gabbard) to the south. The proposed turbines will appear larger than those in the cluster behind. A notable gap to London Array, further south, will remain. The Offshore Above-sea Development will contribute somewhat to 'curtaining' of the skyline, though it occupies a modest extent of the skyline. The cumulative magnitude of change arising from the contribution of the Offshore Above-sea Development is judged to be medium. The cumulative effect is predicted to be moderate, which is significant in EIA terms.

Table 29.34 Viewpoint 13

Receptor	Viewpoint 13 - Naze Tower			
Grid Reference	626531E	223524N	ES Figure Number	29.2.13 (Document Reference: 3.2.25)
LCT	Coastal Ridges and Peninsulas LCT		Landscape Designation	None
Direction of View	East, south-east		Distance to nearest turbine	41.6km
Baseline Description	This is viewpoint is located at the historic landmark of Naze Tower. It represents views experienced by recreational visitors to the Tower. In seawards views to the east and south-east, the expansive open waters of the North Sea are visible, seen beyond the grassy headland. Approximately 24km to the south-east London Array Offshore Windfarm is prominent on the skyline, occupying a wide horizontal field of view. Thanet Wind Farm is visible beyond this scheme. Approximately 39 – 45km to the east, the more distant turbines of Galloper and Greater Gabbard Offshore Windfarms are just discernible (on very clear days). Shipping activity is apparent with both recreational and commercial boats visible in the coastal waters. To the north, long distance views are available beyond the headland to the settlement of Felixstowe, with several large cranes at the port particularly prominent. To the south and west, views are short distance, contained by hedgerow trees and built form adjacent to Naze Tower.			
Sensitivity	Visitors to Naze Tower are considered to be of higher susceptibility. The viewpoint is not located in any designated landscapes and is influenced by existing offshore and coastal infrastructure. It is considered to be of medium value. On balance, taking account of the judgements of susceptibility and value, the overall sensitivity is judged to be medium-high.			
Magnitude of impact	The Offshore Above-sea Development will be seen at a distance of 41.6km. The turbine hubs and blades of the array area will be visible to the south-east, occupying around 15 degrees of the view. Turbine rows to the south of the array area will be apparent from this viewing angle. Both offshore platforms will be visible, on clear days. The Offshore Above-sea Development will be seen in front of, and to the south of, more distant turbines in Greater Gabbard and Galloper Offshore Wind Farms. The difference in turbine scale between the proposed and existing turbines will be apparent, with the existing turbines screened by the curvature of the earth.			

Receptor	Viewpoint 13 - Naze Tower
	Taking a precautionary approach to the assessment, the scale of change is judged to be medium. The geographical extent of the change is judged to be medium, with views of this nature available along the coastline at Walton-on-the-Naze. The overall magnitude of impact is judged to be medium.
Effect significance	The medium magnitude of impact, combined with high sensitivity, will result in a moderate effect, which is significant in EIA terms. At 41.6km, the Offshore Above-sea Development will only be visible in conditions of 'excellent' atmospheric visibility.
Cumulative Effects	The consented East Anglia Two is unlikely to be perceptible, due to the curvature of the earth. The proposed Five Estuaries will appear above and behind the Galloper and Greater Gabbard cluster. When visible on clear days, the Offshore Above-sea Development will be seen in front of and extending the influence of Five Estuaries (and, to a lesser extent, Galloper and Greater Gabbard). The proposed turbines will appear larger than those in the cluster behind. A notable gap to London Array and Thanet, further south, will remain. The Offshore Above-sea Development will contribute somewhat to 'curtaining' of the skyline, though it occupies a modest extent of the skyline. The cumulative magnitude of change arising from the contribution of the Offshore Above-sea Development is judged to be medium. The cumulative effect is predicted to be moderate, which is significant in EIA terms.

Table 29.35 Viewpoint 14

Receptor	Viewpoint 14 - Frinton-on-Sea			
Grid Reference	623636E	219020N	ES Figure Number	29.2.14 (Document Reference: 3.2.25)
LCT	Clay Plateaux/ Coastal Slopes LCT		Landscape Designation	None
Direction of View	East, south-east		Distance to nearest turbine	43.8km
Baseline Description	This viewpoint is located on the promenade at Frinton-on-Sea. It represents views experienced by recreational users of the coast in this area and residential receptors at the eastern edge of the settlement. In seawards views to the east and south-east, the expansive open waters of the North Sea are visible, seen beyond the narrow sandy beach and groynes. Approximately 10km to the south-east the turbines of Gunfleet Sands Offshore Windfarm are prominent on the skyline. In combination with the visible, but more distant and smaller-scale turbines of London Array Offshore Windfarm, these existing developments occupy a wide horizontal field of view. Approximately 41 – 46km to the east, the more distant turbines of Galloper and Greater Gabbard Offshore Windfarms are unlikely to be discernible even on very clear days, due to the curvature of the earth. Views along the coastline to the north-east continue along the concrete promenade of Frinton-on-Sea to the wide horizontal profile of Walton Pier which is visible on the skyline. The promenade is lined by rows of colourful huts and the beach below has multiple wooden groynes along its length. Views to the south-west/ west are short distance, contained by beach huts along the promenade and built form and woodland at the eastern edge of Frinton-on-Sea.			
Sensitivity	Recreational users of the coast at Frinton-on-Sea are considered to be of higher susceptibility. Similar views will be experienced by certain residential receptors, with			

Receptor	Viewpoint 14 - Frinton-on-Sea
	open coastal views. The viewpoint is not located in any designated landscapes and is influenced by existing offshore and coastal infrastructure. It is considered to be of medium value. On balance, taking account of the judgements of susceptibility and value, the overall sensitivity is judged to be medium-high.
Magnitude of impact	The Offshore Above-sea Development will be seen at a distance of 43.8km. The turbine hubs and blades of the array area will be visible in views to the south-east. Turbines to the far south of the array area will appear as slight outliers. The turbines will appear partially behind the horizon. The array area will occupy less than 20 degrees of the view. There will be clear gaps remaining between the Offshore Above-sea Development and the London Array to the south, and a further gap between that scheme and the Gunfleet Sands turbines, which will appear closer and larger. Due to the viewing distance and existing influence of Gunfleet Sands and London Array Offshore Windfarms, the scale of change is judged to be medium-small. The geographical extent of the change is judged to be medium, with views of this nature available along the coastline at Frinton-on-Sea. The overall magnitude of impact is judged to be medium-low.
Effect significance	The medium-low magnitude of impact, combined with medium-high sensitivity, will result in a minor effect, which is not significant in EIA terms. At 43.8km, the Offshore Above-sea Development will only be visible in conditions of 'excellent' atmospheric visibility.
Cumulative Effects	The proposed Five Estuaries will be barely perceptible in distant views, with turbine blades seen above the skyline to the east. When visible on clear days, the Offshore Above-sea Development will be seen in front of and will extend the influence of wind turbines, to the south of Five Estuaries. The Offshore Above-sea Development may be perceived as part of the Five Estuaries wind farm. Notable gaps to London Array and Gunfleet Sands will remain. Due to the distance involved, the cumulative magnitude of change arising from the contribution of the Offshore Above-sea Development is judged to be medium-low. The cumulative effect is predicted to be minor, which is not significant in EIA terms.

Table 29.36 Viewpoint 15

Receptor	Viewpoint 15 - Clacton-on-Sea			
Grid Reference	617880E	214223N	ES Figure Number	29.2.15 (Document Reference: 3.2.25)
LCT	Coastal Ridges and Peninsulas		Landscape Designation	None
Direction of View	East		Distance to nearest turbine	49km
Baseline Description	This viewpoint is located on the pier at Clacton-on-Sea. It represents views experienced by recreational users of the coastline in this area (and residential receptors at the eastern edge of the settlement, with open coastal views). In seawards views to the east and south-east, the expansive open waters of the North Sea are visible, seen beyond the pier boardwalk. Approximately 6.8km to the south-east the turbines of Gunfleet Sands Offshore Windfarm appear relatively proximate and large-scale on the skyline. Behind, the more distant turbines of London Array Offshore			

Receptor	Viewpoint 15 - Clacton-on-Sea
	Windfarm (approximately 25km) are faintly visible and appear far smaller in scale than those of Gunfleet Sands. Views north-east and south-west along the coastline are characterised by built form at the eastern edge of Clacton-on-Sea, while nearby buildings on the pier contain views to the west.
Sensitivity	Recreational users of the coast at Clacton-on-Sea are considered to be of higher susceptibility. Similar views will be experienced by certain residential receptors at the eastern edge of the settlement, with open coastal views. The viewpoint is not located in any designated landscapes and is influenced by existing offshore and coastal infrastructure. It is considered to be of medium value. On balance, taking account of the judgements of susceptibility and value, the overall sensitivity is judged to be medium-high.
Magnitude of impact	The Offshore Above-sea Development will be seen at a distance of 49km. The turbine hubs and blades of the array area will be visible just above the horizon in views to the east. The Offshore Above-sea Development will read as a coherent array of turbines. On clear days, the Offshore Above-sea Development will introduce new wind turbine development in distant views to the east. There will be a slight gap between the Offshore Above-sea Development and operational offshore wind farms in the foreground to the south-east. In combination with Gunfleet Sands and London Array the Offshore Above-sea Development will extend the horizontal field of view occupied by wind turbines from this viewpoint, but will be largely below the horizon due to the curvature of the earth. Due to the viewing distance and existing influence of Gunfleet Sands and London Array Offshore Windfarms, the scale of change is judged to be small. The geographical extent of the change is judged to be medium, with views of this nature available along the coastline at Clacton-on-Sea. The overall magnitude of impact is judged to be low.
Effect significance	The low magnitude of impact, combined with medium-high sensitivity, will result in a minor effect, which is not significant in EIA terms. At 49km, the Offshore Above-sea Development will only be visible in conditions of ‘excellent’ atmospheric visibility.
Cumulative Effects	There will be some very distant theoretical visibility of turbine blades in Five Estuaries, at even greater distance. This will only be apparent on very clear days. Due to the distance and limited visibility of consented and proposed schemes, no cumulative effects are predicted.
Visual Effects Associated with Lighting	Red aviation lighting on peripheral turbines in the array area will be theoretically visible, at a distance of 49km. They would be seen in an offshore context which includes sources of light from marine infrastructure and offshore wind farms. The photography from this location had to be shot just before 10pm, as the pier closes at this time. As such, and during summer months, dusk views from the pier itself will be unobtainable. Under the 2000 candela scenario, a small scale of change and non-significant effects are assessed. For the 200 candela scenario, which represents the more realistic scenario in which the lights are dimmed to 10 percent intensity in clear weather conditions, such as the photography has been shot in, lighting on the offshore wind farm will be barely perceptible at this viewing distance, and resulting in negligible effects.

Table 29.37 Viewpoint 16

Receptor	Viewpoint 16 - North Foreland			
Grid Reference	639238E	171118N	ES Figure Number	29.2.16 (Document Reference: 3.2.25)
LCT	Forness Point and North Foreland		Landscape Designation	None
Direction of View	North-east		Distance to nearest turbine	41.7km
Baseline Description	This viewpoint is located at a clifftop vantage point above Botany Bay at North Foreland in Kent. It represents views experienced by recreational users of the coast in this area and residential receptors at the seaward edge of the surrounding settlement. Shipping activity in the area is clearly apparent with several large vessels visible in the coastal waters. In seawards views to the north-east, the expansive open waters of the North Sea are visible, seen beyond chalk cliffs and an exposed rocky foreshore at low tide. Turbines and an offshore platform at Thanet Offshore Windfarm are visible on the skyline, approximately 12km distant. Approximately 21km to the north wind turbines at the southern edge of London Array Offshore Windfarm are perceptible on the skyline. Views along the coastline to the north-west and south are characterised by the grass-topped chalk cliffs that define this part of the coast and seaward facing properties at the eastern edge of North Foreland. To the west views are short distance, contained by buildings in the settlement.			
Sensitivity	Recreational users of the coast at North Foreland are considered to be of higher susceptibility. Similar views will be experienced by certain residential receptors at the eastern edge of the settlement, with open coastal views. The viewpoint is not located in any designated landscapes and is influenced by existing offshore and coastal infrastructure and shipping activity. It is considered to be of medium value. On balance, taking account of the judgements of susceptibility and value, the overall sensitivity is judged to be medium-high.			
Magnitude of impact	The Offshore Above-sea Development will be seen at a distance of 41.7km. The turbine hubs and blades of the array area will be visible above the horizon in views to the north-east. The array area will read as a coherent group of turbines. The Offshore Above-sea Development will introduce new wind turbine development in views to the north-east. In combination with Thanet and London Array Offshore Windfarms the Offshore Above-sea Development will extend the horizontal field of view occupied by wind turbines from this viewpoint. There will be notable gaps between the array area and London Array (to the west) and Thanet (to the east). The distance to the array area and these gaps mean that scale differences between the operational turbines and the Offshore Above-sea Development will not be apparent. Due to the viewing distance and existing influence of Thanet and London Array Offshore Windfarms, as well as the much greater distance to the array area, the scale of change is judged to be small. The geographical extent of the change is judged to be medium, with views of this nature available along the coastline at North Foreland and Margate. The overall magnitude of impact is judged to be low			
Effect significance	The low magnitude of impact, combined with medium-high sensitivity, will result in a minor effect, which is not significant in EIA terms.			

Receptor	Viewpoint 16 - North Foreland
	At 41.7km, the Offshore Above-sea Development will only be visible in conditions of 'excellent' atmospheric visibility.
Cumulative Effects	There will be some very distant theoretical visibility of turbine blades in Five Estuaries, at even greater distance and directly behind the array area. This is unlikely to be perceptible even on very clear days, and no cumulative effects are assessed.
Visual Effects Associated with Lighting	Red aviation lighting on turbines in the northern and southern array area will be visible, seen at a distance of 40km. This would be seen in an offshore context which includes sources of light from marine infrastructure and offshore wind farms. The aviation lights of Thanet Offshore Wind Farm are visible alongside the navigation lights at the turbine bases. Under the 2000 candela scenario, a small scale of change and non-significant effects are assessed. For the 200 candela scenario, which represents the more realistic scenario in which the lights are dimmed to 10 percent intensity in clear weather conditions, such as the photography has been shot in, lighting on the offshore wind farm will be barely perceptible at this viewing distance, and resulting in negligible effects.

29.6.3.4 Effects on routes

135. Sequential effects from the Suffolk Coast Path between Lowestoft and Felixstowe are set out below. This assessment considers the way views will change along the course of the route, with reference to a number of viewpoints that are located along the course of the path.

Table 29.38 Sequential Assessment for the Suffolk Coast Path

Receptor	Suffolk Coast Path		
Representative Viewpoints and ES Figure numbers (Document Reference: 3.2.25)	VP2 Southwold Pier		29.2.2
	VP3 Dunwich Coastguard Cottages		29.2.3
	VP4 Sizewell Beach		29.2.4
	VP5 Cliffs above Thorpeness		29.2.5
	VP9 Shingle Street		29.2.9
	VP10 Pulhamite Cliffs (Bawdsey Manor)		29.2.10
	VP11 Felixstowe Seafront Gardens		29.2.11
	VP17 Coastal Path between Thorpeness and Sizewell		29.2.17
Direction of View	South-east	Distance to nearest turbine	Around 40km at closest point
Baseline Description	The Suffolk Coast Path is a long distance trail (97km) which starts in Lowestoft and ends in Felixstowe (refer to ES Figure 29.1.2a, Document Reference: 3.2.25). The coastal path generally follows the coastal edge, from which expansive and long distance views over the North Sea, to the east, are a characteristic feature. In these views, and on days of clear weather, offshore operational wind farms including East Anglia One, Greater Gabbard and Galloper are a feature of seaward views to the east and south-east. The are some locations where the coastal path deviates inland, including: • between Kessingland and Southwold;		

Receptor	Suffolk Coast Path
	• to the south of Aldeburgh as it crosses the River Alde; and • to the west of Orford Ness. With distance from the coastal edge the flat/ gently undulating terrain and vegetation cover tend to combine to limit seaward views. However, from large sections of the coastal path open seaward views are characteristic of the walking experience.
Sensitivity	Recreational users of the Suffolk Coast Path are likely to be undertaking the walk to enjoy coastal scenery, therefore they are considered to be of higher susceptibility. The Suffolk Coast Path passes through the SECHNL and Suffolk Heritage Coast, indicating a higher value. On balance, taking account of the judgements of susceptibility and value, the overall sensitivity is judged to be high.
Magnitude of impact	The ZTV (refer to ES Figure 29.1.2b, Document Reference: 3.2.25) indicates widespread theoretical visibility from the Suffolk Coast Path. Where the path follows the open coastal edge, actual visibility will reflect this. From the northern extents of the path, the Offshore Above-sea Development will be a very distant feature. From locations where the path deviates inland, primarily between Aldeburgh and the River Ore, the ZTV pattern is more intermittent. Actual visibility will be further reduced by intervening vegetation cover. The following viewpoints (and levels of effect) are representative of views from the Suffolk Coast Path: • VP2 Southwold Pier (Minor and Not Significant). • VP3 Dunwich Coastguard Cottages (Minor and Not Significant). • VP4 Sizewell Beach (Minor and Not Significant). • VP5 Cliffs above Thorpeness (Minor and Not Significant). • VP9 Shingle Street (Moderate and Significant). • VP10 Pulhamite Cliffs (Bawdsey Manor) (Moderate and Significant). • VP11 Felixstowe Seafront Gardens (Moderate and Significant). • VP12 Landguard Fort (Moderate and Significant). • The wireline from the Suffolk Coast Path between Thorpeness and Sizewell (VP17) does not indicate a likely significant visual effect, due to viewing distance (49.3km). When travelling south, the Offshore Above-sea Development is generally seen in slightly to increasingly oblique long distance seaward sequential views, and in the context of the operational Greater Gabbard and Galloper Wind Farms. It will introduce an array of turbines typically seen alongside/ in front of (and extending the horizontal field of view occupied by turbines to the south of) this existing cluster. The relationship between the turbine array area and the operational offshore wind farms will change, as walkers move along the route. The difference in scale between the proposed and existing offshore wind turbines will become increasingly apparent towards Aldeburgh. Walkers on the route then turn inland and their view of the Offshore Above-sea Development would be very limited over subsequent sections, until they return to the coast at the River Ore. Significant visual effects have been identified from viewpoints 9, 10, 11 and 12, arising from a medium magnitude of impact on higher-sensitivity receptors. These viewpoints are located along the final coastal section of the route, between 40-42km from the Offshore Above-sea Development. Taking a precautionary approach, it could be anticipated that the magnitude of impact along this southern coastal section would be similar (i.e. medium). This would occur along the route between the mouth of the Butley River, passing Shingle Street, Bawdsey Manor and Felixstowe, as far as Landguard Point, approximately 19km in length.

Receptor	Suffolk Coast Path
	From the more distant coastal section north of Aldeburgh, and the inland sections of the path between Aldeburgh and the Butley River, the magnitude of impact is likely to be no more than low.
Effect significance	Moderate effects, which is significant in EIA terms, are predicted for users of the southern coastal section of the Suffolk Coast Path. This would occur along the route between the mouth of the Butley River and Landguard Point, approximately 19km in length. Beyond this section, effects are judged to minor and not significant for users of the Suffolk Coast Path.
Cumulative Effects	The consented East Anglia Two will introduce further offshore wind farms into certain sequential views from the northern part of the Suffolk Coast Path, to the north of the Galloper and Greater Gabbard cluster. The proposed Five Estuaries will reduce the apparent gap between East Anglia Two and the Galloper and Greater Gabbard cluster. As users of the Suffolk Coast Path move further south, this scheme will typically intensify the effects of offshore wind farms in relation the larger offshore wind farm cluster including Galloper, Greater Gabbard and East Anglia Two. When visible on clear days, the Offshore Above-sea Development will be seen to the south of the Galloper and Greater Gabbard cluster, from coastal edge sections of the Suffolk Coast Path. The relationship (and gaps between) the various schemes will change as walkers move along the coastal edge. From the northern coastal section, the additional effect of the Offshore Above-sea Development will be minor and not significant, due to distance and the narrow angle of view it occupies. From the inland sections there will be no change. From the southern coastal section, scale differences will be more apparent and the Offshore Above-sea Development will contribute somewhat to 'curtaining' of the skyline, though it occupies a modest extent of the skyline. In this southern coastal section (between the mouth of the Butley River and Landguard Point) the cumulative magnitude of change in views arising from the contribution of the Offshore Above-sea Development is judged to be medium. The cumulative effect is predicted to be moderate, which is significant in EIA terms. The cumulative effect within other sections of the route will not be significant.

29.6.4 Likely significant effects during decommissioning

136. 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.

29.7 Cumulative effects

137. Cumulative interactions with operational development are considered in the primary assessment. Cumulative interactions with consented and proposed offshore wind farms are considered in the cumulative assessment. Both the primary assessment and cumulative assessment are reported in the tables within Section 29.6 for the various seascape, landscape and visual receptors.

138. As set out in Section 29.4.4, the assessments report on the additional cumulative effects arising from the Offshore Above-sea Development. That is, the 'contribution' which can be attributed to the Offshore Above-sea Development. A

summary of the additional cumulative effects in relation to consented and proposed offshore wind farms is provided in Table 29.39 below.

139. Significant (major) cumulative effects are predicted within an area up to 10km around the array area, affecting the East Anglian Shipping Waters MCA. No significant additional cumulative effects on coastal or onshore landscape character are predicted, including cumulative effects on the special qualities of the SECHNL. Significant (moderate) cumulative effects on views are predicted to affect high sensitivity receptors in seafront locations between The Naze and Orford Ness, as a result of the additional effects of the Offshore Above-sea Development seen in combination with other offshore turbines. Appearing at a similar scale to Five Estuaries in these viewpoints, the Offshore Above-sea Development will contribute somewhat to 'curtaining', though it will occupy a modest extent of the skyline.

140. As set out in Section 29.4.4, GLVIA3 also recommends consideration of combined or total cumulative effects. Total cumulative effects will be significant in the locations where additional effects have been identified, and these are summarised in the preceding paragraph. Total cumulative effects may also be significant in other areas, where the contribution of the Offshore Above-sea Development is more limited.

141. Significant (up to major) total cumulative effects are anticipated for the wider seascape, comprising the East Anglia Shipping Waters and Suffolk Coastal Waters MCAs, due to the number and geographical spread of offshore wind farms present or visible. However, the contribution of the Offshore Above-sea Development to these effects will be limited so this would remain the case even in the absence of the Project.

142. Significant (moderate) total cumulative effects are anticipated for the landscape character of the coastal edge, including coastal areas of the Coastal Dunes and Ridges, Coastal Levels, and Saltmarsh and Intertidal Flats LCTs. This will result from the number and geographical spread of offshore wind farms in offshore views to the east. The contribution of the Offshore Above-sea Development to these effects will be limited so this would remain the case even in the absence of the Project.

143. Significant (moderate) total cumulative effects are anticipated for visual receptors at viewpoints located on the east Suffolk coast between Covehithe (viewpoint 1) and Aldeburgh (viewpoint 6). This will result from the presence of offshore wind farms in offshore views to the east, including East Anglia Two. The contribution of the Offshore Above-sea Development to these effects will be limited so this would remain the case even in the absence of the Project.

Table 29.39 SLVIA Cumulative effects

Potential Impact	Receptor	Sensitivity	Magnitude of cumulative impact	Cumulative Effects (and Total, where significant)
Effects on Marine Character Areas	East Anglian Shipping Waters SCA04	Low, increasing to high-medium towards the coast	Medium (up to 10km), reducing with distance	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	High	Medium to low, reducing with distance	The effect is predicted to be moderate-minor, which is not significant in EIA terms.
Effects on Onshore Landscape Character	Coastal dunes and shingle ridges LCT5	High	Low along the coastal edge	The effect is predicted to be moderate-minor, which is not significant in EIA terms.
	Coastal levels LCT6	High	Low along the coastal edge	The effect is predicted to be moderate-minor, which is not significant in EIA terms.
	Rolling estate sandlands LCT16	Medium-high	Low along the coastal edge	The effect is predicted to be moderate-minor, which is not significant in EIA terms.
	Saltmarsh and inter-tidal flats LCT20	High	Low along the coastal edge	The effect is predicted to be moderate-minor, which is not significant in EIA terms.
	Coastal ridges and peninsulas – The Naze Peninsula LCA 4B	Medium-high	Negligible	No significant cumulative effects are anticipated.
Effects on Landscape Designations	Suffolk and Essex Coast and Heaths National Landscape	High	Locally low along the coast, and negligible further inland	The effect is predicted to be moderate-minor, which is not significant in EIA terms.
Effects on Views	Viewpoint 1 - Covehithe	High	Negligible	Cumulative effects will be negligible, which is not significant in EIA terms.
	Viewpoint 2 - Southwold Pier	High	Negligible	Cumulative effects will be negligible, which is not significant in EIA terms.
	Viewpoint 3 - Dunwich Coastguard Cottages	High	Low	Cumulative effects will be minor, which is not significant in EIA terms.
	Viewpoint 4 - Sizewell Beach	High	Low	Cumulative effects will be minor, which is not significant in EIA terms.

Potential Impact	Receptor	Sensitivity	Magnitude of cumulative impact	Cumulative Effects (and Total, where significant)
	Viewpoint 5 - Cliffs above Thorpeness	High	Low	Cumulative effects will be minor, which is not significant in EIA terms.
	Viewpoint 6 – Aldeburgh	High	Low	Cumulative effects will be minor, which is not significant in EIA terms.
	Viewpoint 7 - Orford Castle	Medium-high	Negligible	No cumulative effects are predicted.
	Viewpoint 8 - Orford Ness	Medium-high	Medium	Cumulative effects will be moderate, which is significant in EIA terms.
	Viewpoint 9 – Shingle Street	High	Medium	Cumulative effects will be moderate, which is significant in EIA terms.
	Viewpoint 10 - Pulhamite Cliffs (Bawdsey Manor)	High	Medium	Cumulative effects will be moderate, which is significant in EIA terms.
	Viewpoint 11 - Felixstowe Seafront Gardens	Medium-high	Medium-low	Cumulative effects will be moderate, which is significant in EIA terms.
	Viewpoint 12 - Landguard Fort	Medium-high	Medium-low	Cumulative effects will be moderate, which is significant in EIA terms.
	Viewpoint 13 - Naze Tower	Medium-high	Medium-low	Cumulative effects will be moderate, which is significant in EIA terms.
	Viewpoint 14 - Frinton on Sea	Medium-high	Low	Cumulative effects will be minor, which is not significant in EIA terms.
	Viewpoint 15 - Clacton on Sea	Medium-high	Negligible	No cumulative effects are predicted.
	Viewpoint 16 - North Foreland	Medium-high	Negligible	No cumulative effects are predicted.
Effects on Routes	Suffolk Coast Path	High	Medium between the mouth of the Butley River and Old Felixstowe	Moderate adverse and significant, from a section of the path between the mouth of the Butley River and Landguard Point (19km).

29.8 Potential monitoring requirements

144. No monitoring requirements are identified in light of the conclusions of the SLVIA. Whilst significant landscape and visual effects have been identified, there are no landscape mitigation proposals, which require monitoring, which could lead to a reduction in landscape and visual effects.

29.9 Interactions

145. The effects identified and assessed in this chapter have the potential to interact with each other, which could give rise to synergistic effects as a result of that interaction. Potential interactions exist between seascape, landscape and visual receptors, and receptors as identified in the following other technical chapters, as set out in the table below.

Table 29.40 Chapter Topic Inter-relationships

Linked ES Chapter (Volume 3.1)	Rationale	Section where addressed
ES Chapter 30 Landscape and visual impact assessment	Potential overlap between offshore and onshore seascape, landscape and visual effects, discussed further below.	Refer to seascape, landscape and visual receptors assessment in Section 29.6
ES Chapter 32 Tourism and recreation	Both chapters consider effects on recreational visual receptors.	Refer to visual receptors in Section 29.6.

146. With regard to interactions between landscape and visual effects identified in ES Chapter 30 LVIA (Document Reference: 3.1.32) and this chapter, visibility of the North Falls array area and the onshore substation or landfall, from a particular viewpoint or landscape receptor, may interact to produce a different, or greater effect on a receptor than when effects are considered in isolation.

147. During construction of the offshore turbines and the onshore export cable at the landfall (at Holland Haven) there may be a short period where views associated with the construction of both project components will be available. However, this would be from a very localised area. Holland Haven is located over 42km from the array area. Effects on views from the Offshore Above-sea development were assessed as minor (not significant) from the nearby viewpoints at Frinton-on-Sea (Viewpoint 14) and Clacton-on-Sea (Viewpoint 15). It is judged that effects on views from Holland Haven would be similar, i.e. not significant. Furthermore, construction effects would be temporary and transitory in nature. As such, the potential for significant inter-relationship effects, during the construction (and decommissioning) phase, is unlikely.

148. During operation, and due to the location of the key visible components, there is no potential for combined and successive views of the Offshore Above-sea Development and the onshore substation. For example, there are no SLVIA assessment viewpoints where inland views to the onshore substation zone are available. As such, there is no potential for significant inter-relationship effects during the operational phase.

29.10 Inter-relationships

149. The effects identified and assessed in this chapter have the potential to interrelate with each other. The areas of potential interrelationship are set out in the table below.

Table 29.41 Interactions between effects

Potential interactions between impacts				
	Changes to landscape elements/ fabric	**Changes to landscape/ seascape character**	**Changes to landscape designations**	**Changes to visual amenity**
Changes to landscape elements/ fabric	-	N/A	N/A	N/A
Changes to landscape/seascape character	N/A	-	Yes	Yes
Changes to landscape designations	N/A	Yes	-	Yes
Changes to visual amenity	N/A	Yes	Yes	-

29.11 Summary

150. This SLVIA describes the baseline seascape, landscape and visual environment within a 60km radius study area around the array area. Using a methodology based on established good practice guidance, and informed by a range of relevant policy and data sources, it presents a professional assessment of the likely significant impacts associated with the Offshore Above-sea Development.

151. Significant effects are predicted to arise within the character of the offshore seascape, within the East Anglian Shipping Waters MCA. This effect will be localised to an area within 10km of the array area, and effects will not be significant elsewhere in the MCA, or the wider seascape.

152. Landscape/ seascape and visual effects arising from the presence of partially constructed turbines will be comparable to the operational effects (although arguably to a lesser degree as construction-related effects will be of a shorter duration and transient in nature). Therefore, effects arising from the introduction of partially constructed turbines are not anticipated to be greater than operational effects.

153. No significant effects on the landscape character of onshore LCTs are predicted. No significant effects on the special qualities of the SECHNL are predicted.

154. Significant effects are predicted at a number of onshore viewpoints, representing high-sensitivity visual receptors with a clear coastal outlook, located within 42km of the array area. These include areas of the coast between The Naze and Orford Ness, as well as sequential effects on users of the Suffolk Coast between Butley River and Landguard Point. Beyond these areas, effects experienced by all visual receptors are predicted to fall below the level of significance.

155. No significant effects are predicted to arise as a result of aviation or navigation lighting on the WTGs.

156. Significant (major) cumulative effects are predicted within an area up to 10km around the array area, affecting the East Anglian Shipping Waters MCA. Significant total cumulative effects may extend more widely, but the contribution of the Offshore Above-sea Development will be limited.

157. No significant additional cumulative effects on coastal or onshore landscape character are predicted, including effects on the special qualities of the SECHNL. The potential for significant total cumulative effects is noted in relation to LCTs 5, 6 and 20 along the Suffolk coast between Felixstowe and Orford Ness, but the contribution of the Offshore Above-sea Development will be limited.

158. Significant (moderate) cumulative effects on views are predicted to affect high sensitivity receptors in seafront locations between The Naze and Orford Ness, as a result of the additional effects of the Offshore Above-sea Development seen in combination with other offshore turbines. Further north, the potential for significant total cumulative effects is noted, but the contribution of the Offshore Above-sea Development will be more limited as it will be more distant than other wind farms. Elsewhere, no significant cumulative effects on views will arise.

159. Table 29.42 provides a summary of the operational SLVIA findings.

Table 29.42 SLVIA Summary findings (Primary Assessment)

Potential impact	Receptor	Sensitivity	Magnitude of impact	Significance of effect (worst case, all project phases)	Additional mitigation measures	Residual effect (worst case, all project phases)
Effects on Seascape Character	East Anglian Shipping Waters SCA04	Low, increasing to high-medium towards the coast	Medium (up to 10km), reducing with distance	Moderate (significant) within 10km of the array area	N/A	Moderate (significant) within 10km of the array area
	Suffolk Coastal Waters SCA10	High	Medium to low, reducing with distance	Moderate-minor (not significant)	N/A	Moderate-minor (not significant)
Effects on Landscape Character	Coastal dunes and shingle ridges LCT5	High	Low along the coastal edge	Moderate-minor (not significant) along the narrow coastal edge between the Rivers Orwell and Deben, and between Bawdsey and Orford Ness.	N/A	Moderate-minor (not significant) along the narrow coastal edge between the Rivers Orwell and Deben, and between Bawdsey and Orford Ness.
	Coastal levels LCT6	High	Low along the coastal edge	Moderate-minor (not significant) along coastal sections of the River Ore and River Alde.	N/A	Moderate-minor (not significant) along coastal sections of the River Ore and River Alde.
	Rolling estate sandlands LCT16	Medium-high	Low along the coastal edge	Moderate-minor (not significant) between Bawdsey and the River Deben.	N/A	Moderate-minor (not significant) between Bawdsey and the River Deben.
	Saltmarsh and inter-tidal flats LCT20	High	Low along the coastal edge	Moderate-minor (not significant) in small areas at Orford Ness and the River Deben.	N/A	Moderate-minor (not significant) in small areas at Orford Ness and the River Deben.
	Coastal ridges and peninsulas – The Naze Peninsula LCA 4B	Medium-high	Low	Moderate-minor (not significant)	N/A	Moderate-minor (not significant)
Effects on Landscape Designations	Suffolk and Essex Coast and Heaths National Landscape	High	Low along the coast, and negligible further inland	Moderate-minor effects on the special qualities of the SECHNL, which is not significant in EIA terms. These effects will be localised to the coastal strip between Bawdsey Manor and Orford Ness.	N/A	Moderate-minor effects on the special qualities of the SECHNL, which is not significant in EIA terms. These effects will be localised to the coastal strip between Bawdsey Manor and Orford Ness.

Potential impact	Receptor	Sensitivity	Magnitude of impact	Significance of effect (worst case, all project phases)	Additional mitigation measures	Residual effect (worst case, all project phases)
Effects on Views	Viewpoint 1 - Covehithe	High	Negligible	Negligible (not significant).	N/A	Negligible (not significant).
	Viewpoint 2 - Southwold Pier	High	Negligible	Negligible (not significant).	N/A	Negligible (not significant).
	Viewpoint 3 - Dunwich Coastguard Cottage	High	Low	Minor (not significant).	N/A	Minor (not significant).
	Viewpoint 4 - Sizewell Beach	High	Low	Minor (not significant).	N/A	Minor (not significant).
	Viewpoint 5 - Cliffs above Thorpeness	High	Low	Minor (not significant).	N/A	Minor (not significant).
	Viewpoint 6 - Aldeburgh	High	Low	Minor (not significant).	N/A	Minor (not significant).
	Viewpoint 7 - Orford Castle	Medium-high	Low	Minor (not significant).	N/A	Minor (not significant).
	Viewpoint 8 - Orford Ness	Medium-high	Medium	Moderate (significant).	N/A	Moderate (significant).
	Viewpoint 9 - Shingle Street	High	Medium	Moderate (significant).	N/A	Moderate (significant).
	Viewpoint 10 - Pulhamite Cliffs (Bawdsey Manor)	High	Medium	Moderate (significant).	N/A	Moderate (significant).
	Viewpoint 11 - Felixstowe Seafront Gardens	Medium-high	Medium-low	Moderate (significant).	N/A	Moderate (significant).
	Viewpoint 12 - Landguard Fort	Medium-high	Medium-low	Moderate (significant).	N/A	Moderate (significant).
	Viewpoint 13 - Naze Tower	Medium-high	Medium-low	Moderate (significant).	N/A	Moderate (significant).

Potential impact	Receptor	Sensitivity	Magnitude of impact	Significance of effect (worst case, all project phases)	Additional mitigation measures	Residual effect (worst case, all project phases)
	Viewpoint 14 - Frinton-on-Sea	Medium-high	Medium-low	Minor (not significant).	N/A	Minor (not significant).
	Viewpoint 15 - Clacton-on-Sea	Medium-high	Medium-low	Minor (not significant).	N/A	Minor (not significant).
	Viewpoint 16 - North Foreland	Medium-high	Medium-low	Minor (not significant).	N/A	Minor (not significant).
Effects on Routes	Suffolk Coast Path	High	Medium between Butley River and Old Felixstowe	Moderate (significant) between Butley River and Landguard Point, not significant elsewhere.	N/A	Moderate (significant) between Butley River and Landguard Point, not significant elsewhere.

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