East Anglia TWO Offshore Windfarm

Appendix 28.3

Landscape Assessment

Preliminary Environmental Information
Volume 3
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Revision Summary					
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Glossary of Acronyms

AONB	Area of Outstanding Natural Beauty
LCT	Landscape Character Type
NNR	National Nature Reserve
SAC	Special Area of Conservation
SPA	Special Protection Area
SSSI	Site of Special Scientific Interest
ZTV	Zone of Theoretical Visibility

Glossary of Terminology

Applicant	East Anglia TWO Limited.
Development area	The area comprising the Indicative Onshore Development Area and the Offshore Development Area
East Anglia TWO project	The proposed project consisting of up to 75 wind turbines, up to four offshore electrical platforms, up to one offshore construction, operation and maintenance platform, inter-array cables, platform link cables, up to one operational meteorological mast, up to two offshore export cables, fibre optic cables, landfall infrastructure, onshore cables and ducts, onshore substation, and National Grid infrastructure.
East Anglia TWO windfarm site	The offshore area within which wind turbines and offshore platforms will be located.
Horizontal directional drilling (HDD)	A method of cable installation where the cable is drilled beneath a feature without the need for trenching.
Inter-array cables	Offshore cables which link the wind turbines to each other and the offshore electrical platforms.
Landfall	The area (from Mean Low Water Springs) where the offshore export cables would make contact with land, and connect to the onshore cables.
Monitoring buoys	Buoys to monitor in situ condition within the windfarm, for example wave and metocean conditions.
Offshore cable corridor	This is the area which will contain the offshore export cable between offshore electrical platforms and landfall jointing bay.
Offshore development area	The East Anglia TWO windfarm site and offshore cable corridor (up to Mean High Water Springs).
Offshore electrical infrastructure	The transmission assets required to export generated electricity to shore. This includes inter-array cables from the wind turbines to the offshore electrical platforms, offshore electrical platforms, platform link cables and export cables from the offshore electrical platforms to the landfall.
Offshore electrical platform	A fixed structure located within the windfarm area, containing electrical equipment to aggregate the power from the wind turbines and convert it into a more suitable form for export to shore.
Offshore export cables	The cables which would bring electricity from the offshore electrical platforms to the landfall.
Offshore infrastructure	All of the offshore infrastructure including wind turbines, platforms, and cables.
Construction, operation and maintenance platform	A fixed structure required for construction, operation and maintenance personnel and activities.
Offshore platform	A collective term for the offshore construction, operation and maintenance platform and the offshore electrical platforms.
Platform link cable	An electrical cable which links one or more offshore platforms.
Safety zones	A marine area declared for the purposes of safety around a renewable energy installation or works / construction area under the Energy Act 2004.
Scour protection	Protective materials to avoid sediment being eroded away from the base of the foundations as a result of the flow of water.

28.3 Landscape Assessment

28.1 Potential Impacts during Construction, Operation and Decommissioning

1. A preliminary assessment of the landscape receptors in the study area has been undertaken using zone of theoretical visibility (ZTV) analysis (***Figure 28.17***) and site survey, to identify which of the landscape receptors are likely to be affected by the construction and operation of the offshore infrastructure. This preliminary assessment is presented in ***Table A28.1*** and ***Table A28.2*** below, which identifies the landscape character types (LCTs) and landscape designations that have the potential to undergo significant effects as a result of the construction and operation of the offshore infrastructure and require to be assessed in full; and those that do not have potential to undergo potential significant effects that can be scoped out of further assessment.

Table A28.1Landscape Character Types (LCTs)

Landscape Character Assessment/ Type		Distance from the offshore windfarm site	Theoretical visibility of proposed East Anglia TWO	Actual visibility of proposed East Anglia TWO	Preliminary Assessment
South Norfolk District Landscape Character Assessment, 2006*					
A5.	Waveney River Valley	48.7 kilometres (km)	Partial area of LCT has low theoretical visibility (1-8 wind turbines).	Inland location, substantial intervening screening.	No potential for significant effects - scoped out of further assessment.
B5.	Chet Tributary Farmland	50.4km	Limited area of LCT has low theoretical visibility (1-8 wind turbines).	Inland location, substantial intervening screening.	No potential for significant effects - scoped out of further assessment.
C2.	Thurlton Tributary Farmland with Parkland	40.6km	Partial area of LCT has high theoretical visibility (41-48 wind turbines).	Inland location, substantial intervening screening.	No potential for significant effects - scoped out of further assessment.
Broads Authority Landscape Character Assessment, 2012*					
0.	Arable Lands, outside of Broads	41.1km	Limited area of LCT has low theoretical visibility (1-8 wind turbines).	Inland location, substantial intervening screening.	No potential for significant effects - scoped out of further assessment.
2.	Bungay/Ditchingham to	51.2km	Limited area of LCT has low theoretical visibility (1-8 wind turbines).	Inland location, substantial intervening screening.	No potential for significant effects - scoped out of further assessment.

Landscape Character Assessment/ Type		Distance from the offshore windfarm site	Theoretical visibility of proposed East Anglia TWO	Actual visibility of proposed East Anglia TWO	Preliminary Assessment
	Shipmeadow				
3.	Barsham, Gillingham and Beccles Marshes	45.2km	Limited area of LCT has low theoretical visibility (1-8 wind turbines).	Inland location, substantial intervening screening.	No potential for significant effects - scoped out of further assessment.
4.	Aldeby to Burgh St Peter	40.1km	Limited area of LCT has low theoretical visibility (1-8 wind turbines).	Inland location, substantial intervening screening.	No potential for significant effects - scoped out of further assessment.
7.	Burgh to St Peter to Haddiscoe Marshes	40.3km	Widespread area of LCT has low theoretical visibility (1-8 wind turbines).	Inland location, substantial intervening screening.	No potential for significant effects - scoped out of further assessment.
9.	St Olaves to Burgh Castle	42.7km	No theoretical visibility.	Inland location, substantial intervening screening.	No potential for significant effects - scoped out of further assessment.
13.	Claxton to Hardley Marshes	52.2km	Limited area of LCT has low theoretical visibility (1-8 wind turbines).	Inland location, substantial intervening screening.	No potential for significant effects - scoped out of further assessment.
16.	Norton Marshes to Haddiscoe dismantled railway	45.4km	Partial area of LCT has moderate theoretical visibility (17-32 wind turbines).	Inland location affords substantial screening from much of LCT	No potential for significant effects - scoped out of further assessment.
17.	Chet Valley	52.1km	No theoretical visibility.	Inland location, substantial intervening screening.	No potential for significant effects - scoped out of further assessment.
18.	Haddiscoe Island	44km	Limited area of LCT has low theoretical visibility (1-8 wind turbines). Majority area of LCT has no theoretical visibility.	Inland location, substantial intervening screening.	No potential for significant effects - scoped out of further assessment.

Landscape Character Assessment/ Type		Distance from the offshore windfarm site	Theoretical visibility of proposed East Anglia TWO	Actual visibility of proposed East Anglia TWO	Preliminary Assessment
19.	Halvergate Marshes	45.7km	Widespread area of LCT has low theoretical visibility (1-8 wind turbines).	Inland location, substantial intervening screening.	No potential for significant effects - scoped out of further assessment.
20.	Breydon Water	44.3km	Limited area of LCT has low theoretical visibility (1-8 wind turbines). Majority area of LCT has no theoretical visibility.	Inland location, substantial intervening screening.	No potential for significant effects - scoped out of further assessment.
21.	Church Farm, Burgh Castle, Marshes	44.3km	No theoretical visibility.	Inland location, substantial intervening screening.	No potential for significant effects - scoped out of further assessment.
25.	Lower Bure Arable Marshlands	44.1km	Widespread area of LCT has low theoretical visibility (1-8 wind turbines).	Inland location, substantial intervening screening.	No potential for significant effects - scoped out of further assessment.
Great Yarmouth Borough Landscape Character Assessment, 2008**					
A.	Rural Wooded Valleys	40.7km	No theoretical visibility.	Inland location, substantial intervening screening.	No potential for significant effects - scoped out of further assessment.
C.	Broads River Valley	43.4km	No theoretical visibility.	Inland location, substantial intervening screening.	No potential for significant effects - scoped out of further assessment.
E.	Dunes, Coastal Levels and Resorts	37.8km	Widespread area of LCT has high theoretical visibility (41-48 wind turbines).	Coastal location affords open views with limited screening, however it is heavily influenced by the urban/developed coastline.	No potential for significant effects - scoped out of further assessment.
G.	Settled Farmland	39.5km	Partial area of LCT has moderate theoretical visibility (17-32 wind turbines).	Inland location affords substantial screening from much of LCT.	No potential for significant effects - scoped out of further assessment.
H.	Tributary Valley Farmland	37.7km	Limited area of LCT has low theoretical	Inland location, substantial	No potential for significant effects -

Landscape Character Assessment/ Type		Distance from the offshore windfarm site	Theoretical visibility of proposed East Anglia TWO	Actual visibility of proposed East Anglia TWO	Preliminary Assessment
			visibility (1-8 wind turbines).	intervening screening.	scoped out of further assessment.
U.	Urban	37.7km	Partial area of LCT has high theoretical visibility (41-48 wind turbines).	Developed urban area affords substantial screening from much of LCT.	No potential for significant effects - scoped out of further assessment.
Suffolk Landscape Character Assessment, 2011* **					
1.	Ancient Estate Claylands	37.2km	Widespread area of LCT has high theoretical visibility (41-48 wind turbines)	Inland location, substantial intervening screening.	No potential for significant effects - scoped out of further assessment.
3.	Ancient Plateau Claylands	37.2km	Widespread area of LCT has high theoretical visibility (41-48 wind turbines)	Inland location, substantial intervening screening.	No potential for significant effects - scoped out of further assessment.
5.	Coastal Dunes and Shingle Ridges	34.8km	Widespread area of LCT has high theoretical visibility (41-48 wind turbines).	Coastal location affords open views with limited screening.	Potential for significant effects that require further assessment.
6.	Coastal Levels	35.3km	Widespread area of LCT has high theoretical visibility (41-48 wind turbines).	Coastal location affords open views with limited screening.	Potential for significant effects that require further assessment.
7.	Estate Sandlands	36.1km	Widespread area of LCT has high theoretical visibility (41-48 wind turbines).	Coastal location affords open views with limited screening.	Potential for significant effects that require further assessment.
8.	Open Coastal Fens	39.5km	Partial area of LCT has high theoretical visibility (41-48 wind turbines).	Coastal location affords open views with limited screening.	Potential for significant effects that require further assessment.
10.	Plateau Claylands	37.5km	Widespread area of LCT has high theoretical visibility (41-48 wind turbines)	Inland location, substantial intervening screening.	No potential for significant effects - scoped out of further assessment.
11.	Plateau Estate Farmlands	37km	Widespread area of LCT has low to high theoretical visibility (1-48 wind turbines).	Inland location, substantial intervening screening.	No potential for significant effects - scoped out of further assessment.
14.	Rolling Estate Claylands	40km	Limited area of LCT has low theoretical	Inland location, substantial	No potential for significant effects -

Landscape Character Assessment/ Type		Distance from the offshore windfarm site	Theoretical visibility of proposed East Anglia TWO	Actual visibility of proposed East Anglia TWO	Preliminary Assessment
			visibility (1-8 wind turbines).	intervening screening.	scoped out of further assessment.
15.	Rolling Estate Farmlands	49.4km	No theoretical visibility.	Inland location, substantial intervening screening.	No potential for significant effects - scoped out of further assessment.
16.	Rolling Estate Sandlands	37.5km	Widespread area of LCT has high theoretical visibility (41-48 wind turbines)	Inland location, substantial intervening screening.	No potential for significant effects - scoped out of further assessment.
17.	Rolling Valley Claylands	45.3km	Limited area of LCT has low theoretical visibility (1-8 wind turbines).	Inland location, substantial intervening screening.	No potential for significant effects - scoped out of further assessment.
19.	Rolling Valley Farmlands and Furze	32.7km	Widespread area of LCT has low theoretical visibility (1-8 wind turbines).	Inland location, substantial intervening screening.	No potential for significant effects - scoped out of further assessment.
20.	Saltmarsh and Intertidal Flats	37.1km	Widespread area of LCT has low to high theoretical visibility (1-48 wind turbines).	Inland location, substantial intervening screening.	No potential for significant effects - scoped out of further assessment.
25.	Urban	35.8km	Widespread area of LCT has high theoretical visibility (41-48 wind turbines).	Developed urban area affords substantial screening from much of LCT. Coastal locations afford open views with limited screening.	Potential for significant visual effects that require further assessment. Effects on urban areas assessed as part of visual effects assessment (settlements) in Appendix 28.4. No potential for significant effects on urban landscape character – scoped out of further assessment.
26.	Valley Meadowlands	40km	No theoretical visibility.	Inland location, substantial intervening screening.	No potential for significant effects - scoped out of further assessment.

Landscape Character Assessment/ Type		Distance from the offshore windfarm site	Theoretical visibility of proposed East Anglia TWO	Actual visibility of proposed East Anglia TWO	Preliminary Assessment
27.	Valley Meadows and Fens	40.1km	Limited area of LCT has low theoretical visibility (1-8 wind turbines). Majority area of LCT has no visibility.	Inland location, substantial intervening screening.	No potential for significant effects - scoped out of further assessment.
29.	Wooded Fens	31.9km	Widespread area of LCT has low to high theoretical visibility (1-48 wind turbines).	Substantial intervening screening provided by wooded fen.	No potential for significant effects - scoped out of further assessment.
31.	Wooded Valley Meadowl ands and Fens	38.8km	Limited area of LCT has low theoretical visibility (1-8 wind turbines). Majority area of LCT has no visibility.	Inland location, substantial intervening screening.	No potential for significant effects - scoped out of further assessment.

*Potential landscape effects of the East Anglia TWO windfarm site on LCTs within Broadland and South Norfolk Districts will be scoped out of the assessment. Significant effects on the landscape character of LCTs within these districts are unlikely due to the long distance of the East Anglia TWO windfarm site from Broadland District (approximately 45km) and South Norfolk (approximately 37km); and the limited visibility to the sea and the East Anglia TWO windfarm site afforded from the landscapes in these districts, which are located further inland, low-lying and partially screened by landforms and intervening vegetation (woodland and hedgerows).

**Only the visual/perceptual characteristics of onshore LCTs in Great Yarmouth with seascape as a defining attribute will be relevant when considering potential effects, given that there will be no alteration to physical features as a result of offshore development.

***Only the visual/perceptual characteristics of onshore LCTs in the Suffolk County Council Landscape Character Assessment that have seascape as a defining attribute are likely to be relevant when considering potential effects, given that there will be no alteration to physical features as a result of offshore developments.

Table A28.2 Landscape Designations

Landscape Designation	Distance from the offshore windfarm site	Theoretical visibility of proposed East Anglia TWO	Actual visibility of proposed East Anglia TWO	Preliminary Assessment
Suffolk				
Suffolk Coast and Heaths Area of Outstanding Natural Beauty (AONB)	29.7km	Widespread area of AONB has high theoretical visibility (41-48 wind turbines). Partial areas of AONB with no theoretical visibility.	Coastal locations of AONB afford open views with limited screening, while inland areas afforded substantial intervening screening.	Potential for significant effects that require further assessment.
Suffolk Heritage Coast	28.6km	Widespread area of Heritage Coast has high theoretical visibility (41-48 wind turbines). Partial areas of Heritage Coast with no theoretical visibility.	Coastal locations of Heritage Coast afford open views with limited screening, while river valleys/marshes extending inland afforded substantial intervening screening.	Potential for significant effects that require further assessment.
Parks & Gardens				
Somerleyton Hall	39.1km	Partial area of Somerleyton Hall has high theoretical visibility (41-48 wind turbines).	Inland location, substantial intervening screening.	No potential for significant effects - scoped out of further assessment.
Belle Vue Park	33.4km	Widespread area of Belle Vue Park has high theoretical visibility (41-48 wind turbines).	Extensively enclosed by mature parkland trees with the park itself. Industrial areas of Lowestoft Harbour/Ness Point influence the setting.	No potential for significant effects - scoped out of further assessment.

Landscape Designation	Distance from the offshore windfarm site	Theoretical visibility of proposed East Anglia TWO	Actual visibility of proposed East Anglia TWO	Preliminary Assessment
Henham	41km	Partial area of Henham has high theoretical visibility (41-48 wind turbines).	Inland location, substantial intervening screening.	No potential for significant effects - scoped out of further assessment.
Heveningham Hall	48.1km	Limited area of Heveningham Hall has low to high theoretical visibility (1-48 wind turbines). Majority area of Heveningham Hall has no visibility.	Inland location, substantial intervening screening.	No potential for significant effects - scoped out of further assessment.
Glemham Hall	47km	Limited area of Glemham Hall has low to high theoretical visibility (1-48 wind turbines). Majority area of Glemham Hall has no visibility.	Inland location, substantial intervening screening.	No potential for significant effects - scoped out of further assessment.
Campsey Ashe Park	46.8km	Limited area of Campsey Ashe Park has low to high theoretical visibility (1-48 wind turbines). Majority area of Campsey Ashe Park has no visibility.	Inland location, substantial intervening screening.	No potential for significant effects - scoped out of further assessment.
Bawdsey Manor		Limited area of Bawdsey Manor has high theoretical visibility (1-48 wind turbines). Majority area of Bawdsey Manor has no visibility.	Although in a coastal location, substantial woodland screening within the grounds of Bawdsey Manor limit visibility. Manor and grounds are aligned obliquely to the south-east.	No potential for significant effects - scoped out of further assessment.

Landscape Designation	Distance from the offshore windfarm site	Theoretical visibility of proposed East Anglia TWO	Actual visibility of proposed East Anglia TWO	Preliminary Assessment
Norfolk				
The Broads National Park	37.6km	Widespread area of The Broads National Park has low theoretical visibility (1-8 wind turbines) or no theoretical visibility.	Inland location, substantial intervening screening.	No potential for significant effects - scoped out of further assessment.
Raveningham Hall	49.4km	Widespread area of Raveningham Hall has low to high theoretical visibility (1-48 wind turbines).	Inland location, substantial intervening screening.	No potential for significant effects - scoped out of further assessment.
The Venetian Waterways	42.8km	Widespread area of The Venetian Waterways has high theoretical visibility (41-48 wind turbines).	Although it is in a coastal location, located at long distance (over 40km) and with oblique views. Views contained by landforms around waterways and boating lake, provide intimate/enclosed experience despite coastal setting.	No potential for significant effects - scoped out of further assessment.

28.2 Potential Impacts during Construction, Operation and Decommissioning – Technical Assessment

2. The following tables set out a detailed technical assessment of the landscape effects of the construction and operation of the offshore infrastructure. This describes, in full technical detail, the likely significant effects of the construction and operation of the offshore infrastructure on each landscape receptor, assessing those landscape receptors that were identified in the preliminary assessment in ***Table A28.1*** and ***Table A28.2*** as having potential to be significantly affected.

28.2.1 Landscape Character Types

LCT 05: Coastal Dunes and Shingle Ridges			
Designations:	Suffolk Coast and Heaths AONB. Heritage Coast.	Viewpoints in LCT:	Viewpoints 2, 3 10, 11, 12, 13, 15, 16 and 18.
Baseline Description			

This LCT is found in narrow bands along the study area coast: short stretches to the north of Lowestoft; at Kessingland; from Southwold to the north side of Dunwich; and a long stretch from the south side of Dunwich Heath through to Bawdsey, including the substantial shingle spit of Orford Ness (***Figure 28.12***).

Key characteristics:

- Flat or gently rolling landform of shingle ridges or coastal dunes, formed by wave action and longshore drift of sand and stones. When forming beaches, shingle creates a long ridge backed by soft cliffs or saltmarsh.
- Apart from on Orford Ness there are no areas of natural transition from beach to saltmarsh because of the presence of sea defences.
- At Orford Ness a succession of shingle ridges has coalesced to form a broad, flat plain, although the long tail of the spit remains a broad ridge.
- Vast, open and uncluttered landscape, with a general lack of familiar points of reference at recognised scale.
- Arid and salty, making it very difficult for plants to colonise, however vegetated shingle, consisting of marram grass and sea kale, does make a contribution to the character.
- On the shingle beaches the intrusion of sea defence structures such as walls and groins is readily apparent.
- In short stretches there is intensive tourist activity, beach huts and piers, however other commercial activity is not very apparent with only a small number of fishing boats now based on the beach.
- The most significant structures in this LCT are those related to military defence. A string of Martello towers were built from Aldeburgh to Felixstowe as a defence against Napoleon. These large towers are prominent features on this stretch of the coast, as can be seen at Bawdsey and Shingle Street.
- The two World Wars have left behind large numbers of structures along the coast, ranging from concrete gun batteries and pillboxes to anti-tank blocks. There is also the complex range of buildings at Orford Ness, from the early lighthouse to the Cobra Mist building and the World Service transmitter array.
- On Orford Ness, the uniqueness of the dynamic landform, remoteness/isolation and lack of familiar points of reference at a recognised scale, together with the presence of military buildings of unfamiliar and stark design, provide a distinctive bleakness and austere scenic quality, with a strong sense of place.

	
Value	High

- Located within and forms part of the Suffolk Coast and Heaths AONB. In combination with adjacent coastal LCTs, contributes to the special qualities that define the nationally designated scenic qualities of the AONB.
- Majority of the LCT is also protected for its nature conservation value as a Site of Special Scientific Interest (SSSI)/Special Area of Conservation (SAC)/Special Protection Area (SPA)/National Nature Reserve (NNR) and the aesthetic aspects of these designated areas contributes to the distinct character.
- Relatively widespread coastal landscape character covering narrow band along the majority of the immediate coastal edge of the Suffolk coastline within the study area.
- The substantial shingle spit of Orford Ness is rare in terms of its scale (the 11-mile-long spit is the largest of its type on the east coast of England), its vegetated shingle habitat and its unique character and history.
- The LCT has notable recreational value as the focus for many forms of recreational and visitor activity at the coast, including informal seaside recreation, bathing and walking on the Suffolk Coastal Path.
- The scenic quality and interest of all stretches of the LCT is influenced by the simplicity of the main elements (shingle beach/sea/sky), the direct exposure to the seascape and the dynamic qualities of low-lying landscape adjacent to the powerful forces of the sea.
- Scenic qualities are varied and not always consistent between the different stretches of the LCT in the study area. In close proximity to Lowestoft, Kessingland and Aldeburgh, scenic qualities are influenced by the presence of seafront developments and activities; and lack the natural/remote qualities experienced from stretches between Southwold, Dunwich, Orford Ness and Bawsdey.
- The scenic qualities of the Sizewell to Thorpeness stretch of the LCT is particularly influenced by the presence of Sizewell Nuclear Power Station. Orford Ness is particularly influenced by a perception of remoteness and elemental, desolate, austere scenic qualities.

Sensitivity to change: *Combination of the value and susceptibility of the LCT*

Susceptibility	Medium

- LCT has the potential to be influenced by the construction and operation of the offshore infrastructure due to its coastal location and exposure to the sea, however the potential change occurs far away and separated by vast areas of sea.
- LCT is exposed to the changes arising offshore from the proposed East Anglia TWO project and has highest degree of exposure of the coastal LCTs in the study area, since there is very limited concealment/screening of views out to sea and the offshore waters.
- The perceptual qualities of wildness, remoteness and tranquillity are susceptible to the influence of development, due to the contrast that it would have with the landscape, however the wind turbines

will also relate rationally to the visual exposure and bleakness evident along some stretches of the LCT and to the existing energy generation influences along the coast which influence its baseline character. • Highly dynamic and fragile landscape, which is susceptible to changes arising from human activity, which can damage vegetated shingle structures.	
Sensitivity	Medium-high
The Coastal Dunes and Shingle Ridges LCT is a highly-valued landscape generally, recognised through AONB designation, with special qualities focusing on the simplicity of its main elements (shingle beach/sea/sky), the natural qualities of its vegetated dune and shingle habitats; its relative remoteness/inaccessibility along some stretches and traditional seaside influences of other stretches; the unique character of Orford Ness and the dynamic qualities of the exposed landscape near the powerful forces of the sea. The landscape is highly valued for recreation and the focus of visitor activity at the coast. The LCT is also assessed as having a medium susceptibility to changes arising from the construction and operation of the offshore infrastructure. It has strong associations with the sea and is directly exposed to the offshore waters in which the East Anglia TWO windfarm site is located, with very limited concealment/screening between this LCT and the open sea, however the potential change occurs far away and separated by vast areas of sea. On balance, the LCT is therefore assessed as having a medium-high sensitivity to change (combination of its high value/medium susceptibility).	
Magnitude of change	
Geographic extent:	Regional
Geographically, the area of the LCT that may experience change as a result of visibility of the East Anglia TWO windfarm site is confined to the narrow band of Coastal Dunes and Shingle Ridges along the study area coast. The geographic extent of potential change resulting from the construction and operation of the offshore infrastructure on this LCT is confined in terms of it occurring almost entirely along the coast, within a narrow strip adjacent to the sea, however this LCT also extends along the majority of the coastline in the study area, so there is potential for changes to occur at a regional extent. The ZTV (***Figure 28.17***) shows that there will be high theoretical visibility of 41-48 wind turbines from almost the entirety of this LCT along the coastal edge, and in general this high level of visibility will occur, although the dunes and shingle ridges do provide some visual concealment/screening at the micro-level amongst this landform.	
Size/scale of change (construction, operation and decommissioning):	
Area A: North of Lowestoft	Low
• The character of this stretch of the LCT to the north of Lowestoft is heavily influenced by the developed coast in Lowestoft, consisting of adjacent residential urban areas and extensive commercial/industrial development at Ness Point/Lowestoft Harbour. The construction and operation of the offshore infrastructure results in a low change to the developed characteristics of this stretch of the LCT. • The East Anglia TWO windfarm site is located oblique to the main orientation of this stretch of coast, to the south-east, beyond Gunton Cliff / Lowestoft Harbour, and is located at long distance offshore from this stretch of the LCT (32km) resulting in a small-scale change to its existing character.	
Area B: Kessingland	Medium-low
• The character of this stretch of the LCT near Kessingland/Kessingland Beach is influenced by urban development, with restaurants/cafes and modern housing, forming somewhat discordant features in the immediate setting and the developed coastline of Lowestoft influences the wider context of the LCT. The vegetated shingle of Kessingland Beach SSSI has a 'natural' character that contrasts with immediate urban context. Changes to landscape character resulting from the	

construction and operation of the offshore infrastructure occur in this context and result in a medium-low change to the landscape character of this stretch of the LCT at Kessingland. • The wind turbines within the East Anglia TWO windfarm site will add a new large-scale offshore wind farm element to the sea element of the simply composed character of shingle, sky and sea layers. The vertical height of the wind turbines will be relatively small / moderate in scale, due to their long distance offshore (over 30km) and the large scale of the seascape. • The technological appearance of the wind turbines is likely to contrast with the perceived naturalness of the vegetated shingle, however they will also relate rationally to the exposure and large scale of the landscape.	
Area C: Southwold to the north side of Dunwich	Medium
• Scale of change to the key characteristics of the LCT likely to be increased by the lack of intervening elements between the LCT and East Anglia TWO windfarm site, such that changes in the sea are experienced readily and directly from this LCT. • The construction and operation of the offshore infrastructure will result in a partial loss of open sea skyline due to the lateral spread of wind turbines on the seaward horizon experienced from the LCT. • The construction and operation of the offshore infrastructure results in the addition of elements which may change the 'uncluttered' characteristic of the LCT, with the turbines likely to increase visual clutter/complexity in the pattern of elements and introduce a new wind turbine layer to the simple landscape composition. • The wind turbines will also introduce new focal points of reference at recognised scale and may partially alter the 'vastness' of the seaward aspect of the LCT by curtailing part of the 'limitless' aspect out to sea. • The introduction of wind turbines on the sea skyline located well outside and at distance from the LCT (over 32km) would constitute a new, but relatively moderate alteration to the perceived character, at variance to some characteristics of the LCT, such as its open, vast, uncluttered character, and its perceived natural qualities, but is in keeping with other characteristics such as its large scale, exposure and existing offshore wind energy generation influences.	
Area D: South side of Dunwich Heath through to Orford Ness (including the shingle spit of Orford Ness)	Medium
• Scale of change to the key characteristics of the LCT likely to be increased by the lack of intervening elements between the LCT and East Anglia TWO windfarm site, such that changes in the sea are experienced readily and directly from this LCT. • The construction and operation of the offshore infrastructure will result in a partial loss of open sea skyline due to the lateral spread of wind turbines on the seaward horizon experienced from the LCT. • The construction and operation of the offshore infrastructure results in the addition of elements which may change the 'uncluttered' characteristic of the LCT, with the wind turbines likely to increase visual clutter/complexity in the pattern of elements and introduce a new wind turbine layer to the simple landscape composition. • The wind turbines will also introduce new focal points of reference at recognised scale and may partially alter the 'vastness' of the seaward aspect of the LCT by curtailing part of the 'limitless' aspect out to sea. • The introduction of wind turbines on the sea skyline located well outside and at distance from this stretch of the LCT (35km) would constitute a new, but relatively moderate alteration to the perceived character, at variance to some characteristics of the LCT, such as its open, vast, uncluttered character, and its perceived natural qualities, but is in keeping with other	

characteristics such as its large scale, exposure and existing offshore wind energy generation influences.	
Area E: Shingle Street to Bawdsey	Low
• The increased distance of the East Anglia TWO windfarm site on this stretch of the LCT (over 46km) is such that the wind turbines have a recessive influence on character. • Although the construction and operation of the offshore infrastructure will result in a partial loss of open sea skyline, increase visual clutter/complexity and new focal points in the vast seaward aspect of the LCT, the introduction of wind turbines on the sea skyline located well outside and at long distance from this stretch of the LCT (over 46km) would constitute a minor alteration to the perceived character. • Changes are in keeping with some of the key characteristics of the LCT, such as its large scale and exposure. • Galloper and Greater Gabbard windfarms are more prevalent as characteristics in the baseline, from this stretch of the LCT, therefore changes from the existing wind energy influenced seascape are likely to be lower than areas of this LCT further north (which are less influenced by windfarms in the baseline).	

Significance of effect		
Geographic area of LCT	Significance of effect (construction and decommissioning)	Significance of effect (operation)
Area A: North of Lowestoft	**Not significant**, short-term, temporary	**Not significant**, long-term, reversible
Area B: Kessingland	**Not significant**, short-term, temporary	**Not significant**, long-term, reversible
Area C: Southwold to the north side of Dunwich	**Significant**, short-term, temporary	**Significant**, long-term, reversible
Area D: South side of Dunwich Heath through to Orford Ness (including the shingle spit of Orford Ness)	**Significant**, short-term, temporary	**Significant**, long-term, reversible
Area E: Shingle Street to Bawdsey	**Not significant**, short-term, temporary	**Not significant**, long-term, reversible

LCT 06: Coastal Levels			
Designations:	Suffolk Coast and Heaths AONB. Heritage Coast.	Viewpoints in LCT:	Viewpoint 9 (Minsmere Nature Reserve). Viewpoints 10 and 12 on edge of LCT.

Baseline Description

This LCT is found in a number of areas along the Suffolk coast in the study area, however those which are of most relevance for the assessment, from north to south, are: Marshes flanking the Hundred River from Kessingland Beach westward through the Kessingland Levels up to Henstead; Marshes flanking the River Blyth and Buss Creek from Walberswick westward up to Wolsey Bridge; Marshes of the Minsmere Level extending westward to Eastbridge in Theberton; The area of a former large mere lying to the south of the existing Meare at Thorpeness and the northern outskirts of Aldeburgh; Marshes flanking the sides of the Rivers Alde, Ore and Butley from Aldeburgh south past Orford, to East Lane in Bawdsey; Marshes flanking the Deben estuary, from Bawdsey to Ramsholt on the north side (***Figure 28.12***).

Key characteristics:

- Low-lying, flat marshland beside estuaries and the coast. Underlying the marshes are alluvial deposits of marine origin.
- Most of the marshland within this landscape has been reclaimed for farming at some time but some areas, such as the Minsmere Levels, have been allowed to revert in the 20th century as wildlife reserves.
- Marshland reclamation began in the Middle Ages, leaving a sinuous complex of dyke networks. The rate and scale of marshland reclamation increased in the 18th and 19th centuries, with former open areas of marsh divided up by straight drainage ditches into geometric layouts of new fields.
- Ancient settlement in this wet environment is limited to the edges of the marshes and to the islands within it. There are virtually no domestic buildings actually within the landscape.
- The presence of livestock on the marshes that are still grassland is an important part of the experience.
- Although tree cover is not widespread within this landscape, the small amount that is present can have a notable visual impact because the land is so flat. The woodland plantations of the Estate Sandlands often for a backdrop on the rising ground of the inland fringes of this LCT.
- Views are generally open and wide, and there is usually a profound sense of exposure, enhanced when the sea or estuaries are near. On the inland side, the rising land and woodlands tend to confine the views.

Value	High
• Located within and forms part of the Suffolk Coast and Heaths AONB. In combination with adjacent coastal LCTs, contributes to the special qualities that define the nationally designated scenic qualities of the AONB. • Majority of the LCT is also protected for its nature conservation value as SSSI/SAC/SPA/NNR and the aesthetic aspects of these designated areas contributes to the distinct character. • Relatively widespread coastal LCT covering extensive areas of marshland beside the coast and along river estuaries that extend inland at several different locations along the coast. • LCT has recognised value for recreational activity, particularly with the marshes being the location for several RSPB nature reserves at Minsmere, Havergate Island, Boyton and Hollesley Marshes. The Suffolk Coastal Path taking a route through many areas of the LCT, one of the few ways of crossing this marshy landscape. • Relative lack of access, challenging ground conditions and exposed position by the sea results in some perceptual qualities of wildness, remoteness and tranquillity. • Consistent, intact, well defined and distinctive attributes with scenic qualities relating to natural qualities of the marshland habitats; and dynamic qualities of low-lying exposed landscape adjacent to the powerful force of the sea and major rivers. • Areas of the LCT have been converted to arable, which has also led to some degradation of the cultural pattern with the simplification of the dyke network.	
Sensitivity to change: *Combination of the value and susceptibility of the LCT*	
Susceptibility	Low
• LCT has the potential to be influenced by the construction and operation of the offshore infrastructure due to its coastal location and potential exposure to changes occurring in the visible seascape backdrop. • The perceptual qualities of wildness, remoteness and tranquillity are susceptible to the influence of development, due to the contrast that it would have with the landscape, however the visual containment of the LCT by the dunes/shingle landform along its eastern edge, weakens the association between this low-lying marshland landscape and the East Anglia TWO windfarm site. • While strong associations exist between the LCT and the sea, the LCT is not directly exposed to the offshore waters in which the East Anglia TWO windfarm site is located and has a notable degree of concealment/screening by the dunes/shingle ridges between this LCT and the sea.	
Sensitivity:	Medium
The Coastal Levels LCT is a highly-valued landscape, recognised through AONB designation, with special qualities focusing on the natural qualities of its marshland habitats; its relative remoteness/inaccessibility; profound sense of exposure and the dynamic qualities of the low-lying exposed landscape near the powerful forces of the sea and major rivers. Although it is of high value, the LCT is assessed as having a low susceptibility to changes arising from the construction and operation of the offshore infrastructure. While the LCT has strong associations with the sea, the LCT is not directly exposed to the offshore waters in which the East Anglia TWO windfarm site is located and has a notable degree of concealment/screening by the dunes/shingle ridges between this LCT and the sea. On balance, the LCT is therefore assessed as having a medium sensitivity to change (combination of its high value/low susceptibility).	
Magnitude of change	
Geographic extent:	Regional
Geographically, the area of the LCT that may experience change as a result of visibility of the East Anglia TWO windfarm site tends to be restricted to the areas of the LCT that are closest to the coast, with visibility becoming limited as these marshlands extend inland along river valleys/estuaries.	

Although the geographic extent of potential change is restricted to areas of the LCT closest to the coast, this LCT occurs in multiple separate locations along the coastline in the study area, where the main rivers meet the coast, so there is potential for changes to occur at a regional extent. The ZTV (***Figure 28.17***) shows that there will be areas of high theoretical visibility of 41-48 wind turbines from parts of this LCT near to the coast, but that visibility becomes low (1-8 wind turbines) or negligible further inland along each of the main river valleys/estuaries. The magnitude of change on each main area of this LCT is assessed as follows.	
Size/scale of change (construction, operation and decommissioning):	
Area A: Marshes flanking the Hundred River from Kessingland Beach westward through the Kessingland Levels up to Henstead	Low
• Area A extends along the Hundred River from the coast at Kessingland Beach, forming a narrow area that lies perpendicular to the coast. The eastern end of this area of the LCT is located closest to the coast and most likely to experience change, however there is a notable degree of concealment/screening by the dunes/shingle ridges and holiday parks at Kessingland Beach between this LCT and the sea. • The sea/coast and East Anglia TWO windfarm site will be intermittently visible from the LCT, due to the long shingle ridge running along at the edge of the LCT which obscures views, such that there is limited visibility of the East Anglia TWO windfarm site. • The LCT extends several kilometres inland along the Hundred River, where coastal characteristics/experience of the sea and the potential changes resulting from the East Anglia TWO windfarm site become limited moving further inland. • The construction and operation of the offshore infrastructure will have a limited change to the key characteristics of the immediate marshland surroundings that define the landscape character.	
Area B: Marshes flanking the River Blyth and Buss Creek from Walberswick westward up to Wolsey Bridge	Havenbeach and Busscreek Marshes, inland across Reydon Marshes to Wangford: Low or negligible Southwold Harbour and mouth of the River Blyth: Medium
• Negligible change to the existing landscape character of the LCT in the area between Southwold and Reydon, where there is a notable degree of concealment/screening by the urban areas of Southwold between this part of the LCT and the sea. • Negligible change to the character of Havenbeach Marshes, where the ZTV shows that there will be no visibility due to the concealment/screening by the intervening dunes/shingle beach landform between the marshes and the sea. • The LCT extends approximately 9km inland along the River Blyth and River Wang. Rising land and woodlands in adjacent landscapes around the marshes tend to confine views. Coastal characteristics/experience of the sea and the potential changes resulting from the construction and operation of the offshore infrastructure become limited moving further inland across Reydon Marshes, Hen Reedbeds NNR and Priory Marshes. • The eastern end of this area of the LCT, around Southwold Harbour and the mouth of the River Blyth is located closest to the coast and most likely to experience changes resulting from the construction and operation of the offshore infrastructure. In this localised area, the construction and operation of the offshore infrastructure will result in some changes to the open, wide, exposed characteristics near the sea, resulting from a partial loss of open sea skyline on the seaward backdrop and the addition of distant vertical elements, which may change the wide/horizontal emphasis of the LCT. The introduction of wind turbines on the sea skyline located well outside and at distance from the LCT (over 32km) would constitute a new, but relatively moderate alteration to the perceived character, at variance to some characteristics of the LCT but relating rationally to the sense of exposure.	

Area C: Marshes of the Minsmere Level extending westward to Eastbridge in Theberton	The Scrape: Negligible Island Mere and North Levels: Low
• The Scrape: negligible change to the existing landscape character of the LCT in the area around 'the Scrape' due to negligible/no visibility of the East Anglia TWO windfarm site from this low-lying area. Views are concealed/screened by intervening dunes/shingle landform rising between this LCT and the sea. • Island Mere and North Levels: minor alteration to the pattern of landscape elements/perception of landscape pattern, with some visibility of the East Anglia TWO windfarm site located at long distance outside the LCT (over 35km). The East Anglia TWO windfarm site is likely to result in change through the introduction of a distant array of wind turbines beyond the horizon formed by dunes/shingle ridges in the eastern, coastal backdrop to the marshland/coastal levels. The introduction of wind turbines in the coastal backdrop located well outside and at long distance from the LCT would constitute a new, but relatively minor alteration to the perceived character, at variance to the relatively undeveloped, flat, open and exposed character of the LCT, but removed from and in the background to the main elements that define character.	
Area D: The area of a former large meare lying to the south of the existing Meare at Thorpeness and the northern outskirts of Aldeburgh	Low
• Low change to the existing landscape character of this area of the LCT due to the limited visibility of the East Anglia TWO windfarm site from this area. Views are largely concealed/screened by a combination of the intervening dune/shingle landform between this LCT and the sea; the extensive areas of woodland around the Meare at Thorpeness and lining Thorpe Road; and intervening built-up areas of Thorpeness.	
Area E: Marshes flanking the sides of the Rivers Alde, Ore and Butley from Aldeburgh south past Orford, to East Lane in Bawdsey	Low
• Low change to the existing landscape character of this area of the LCT due to the limited visibility of the East Anglia TWO windfarm site from this area. Direct views of the sea and the East Anglia TWO windfarm site are largely concealed/screened by the extensive intervening dune/shingle landform of Orford Ness, which lies between this LCT and the sea. • The construction and operation of the offshore infrastructure will result in some changes to the open, wide, exposed characteristics near the sea, resulting from a partial loss of open sea skyline on the seaward backdrop and the addition of distant vertical elements, intermittently appearing above the intervening shingle landform, which may change the wide/horizontal emphasis of the LCT. The introduction of wind turbines on the sea skyline located well outside and at distance from the LCT (over 36km) would constitute a new, but relatively minor alteration to the perceived character, at variance to some characteristics of the LCT but relating rationally to the sense of exposure.	
Area F: Marshes flanking the Deben estuary, from Bawdsey to Ramsholt on the north side	Negligible
• Negligible change to the existing landscape character of this area of the LCT due to negligible/no visibility of the East Anglia TWO windfarm site from this low-lying area. Views are concealed/screened by intervening landform rising between this LCT and the sea.	
Significance of effect	

Geographic area of LCT	Significance of effect (construction and decommissioning)	Significance of effect (operation)

Area A: Marshes flanking the Hundred River from Kessingland Beach westward through the Kessingland Levels up to Henstead	**Not significant**, short-term, temporary	**Not significant**, long-term, reversible
Area B: Marshes flanking the River Blyth and Buss Creek from Walberswick westward up to Wolsey Bridge	**Not significant**, short-term, temporary	**Not significant**, long-term, reversible
Area C: Marshes of the Minsmere Level extending westward to Eastbridge in Theberton	**Not significant**, short-term, temporary	**Not significant**, long-term, reversible
Area D: The area of a former large mere lying to the south of the existing Meare at Thorpeness and the northern outskirts of Aldeburgh	**Not significant**, short-term, temporary	**Not significant**, long-term, reversible
Area E: Marshes flanking the sides of the Rivers Alde, Ore and Butley from Aldeburgh south past Orford, to East Lane in Bawdsey	**Not significant**, short-term, temporary	**Not significant**, long-term, reversible
Area F: Marshes flanking the Deben estuary, from Bawdsey to Ramsholt on the north side	**Not significant**, short-term, temporary	**Not significant**, long-term, reversible

LCT 07: Estate Sandlands			
Designations:	Suffolk Coast and Heaths AONB. Heritage Coast.	Viewpoints in LCT:	Viewpoint 8 (Dunwich Heath) Viewpoint 9 (Minsmere) Viewpoint 11 (Coastal Path)

Baseline Description

This LCT is found in a slightly interrupted series along the coast, taking in a large part of the area known as the Sandlings. The landscape includes a series of almost contiguous areas stretching eastward from Rushmere to Martlesham and Waldringfield, from Sutton on the east side of the Deben northwards to Leiston, from Westleton and Dunwich to Southwold and Reydon, and from Covehithe to Benacre (***Figure 28.12***).

Key characteristics:

- Consists of flat or very gently rolling plateaux of freely-draining sandy soils, overlying drift deposits.
- The dry mineral soils of this LCT and general absence of watercourses gave rise to extensive areas of heathland or acid grassland that, historically, were used sheep grazing. The sheep-grazed heaths were known as 'sheepwalks', the term surviving at 'The Walks' in Aldringham and Westleton Walks.
- Historically, the low land prices and sparse population gave opportunities for formation of parks and estates, with an abundance of game shooting amongst the gentry. Large estates are still a feature of the LCT.
- After WW1, the newly-established Forestry Commission bought land for forestry plantations, which now form a distinctive, dark wooded backdrop to the surrounding arable land and heaths.
- Where there was late enclosure, the field pattern is one of straight-sided, relatively large geometric units.
- Irrigation changed the agricultural potential of the land and irrigated vegetable crops are now characteristic.
- The settlement is sparse, consisting mainly of isolated lodges and post-enclosure farmsteads.
- The relative sparseness of settlement and the flat nature of the land made it easy to establish a number of WWII airfields, some of which remain active as RAF bases.
- Some specialised settlements or activities have also been developed in the Sandlings: including Thorpeness, developed from 1910 onwards as probably the country's first holiday village.
- Communication lines are prominent. The A12 and A14 figure strongly in the south-east, while the railway line from Ipswich to Felixstowe runs alongside one of the areas.
- Generally, a landscape without ancient woodland, but there are isolated and notable exceptions. The creation of farmland from former heaths resulted in widespread planting of tree belts and plantations.
- The area around Sizewell and Leiston is influenced by Sizewell Nuclear Power Station, which forms a distinct feature in the backdrop, with a double row of high-voltage transmission lines extending west.
- Despite the presence of so much forestry, the views in this landscape are often long and there can be a sense of isolation, although there is little variation in the views.
- The coastal edges of the LCT are defined by low cliffs, such as Covehithe and Sizewell Cliffs, which contrast to gently rolling Sandlings heaths and farmland and provide opportunities for long

distance and panoramic views out to sea and along the coast. Striking expressions of geology on faces of crumbling coastal cliffs.

Value	Medium-high

Forms much of the inland areas of the Suffolk Coast and Heaths AONB, generally away from the immediate coastal edges of the AONB with the exception of Coverhithe Cliffs, Easton Bavents and Sizewell Cliffs. In combination with adjacent coastal LCTs, contributes to the special qualities that define the nationally designated scenic qualities of the AONB.

Parts of the LCT, particularly heaths and Sandlings Forests, are protected for their nature conservation value as SSSI/SAC/SPA The aesthetic aspects of these designated areas contributes to the distinct character.

Relatively widespread landscape character covering extensive areas on the inland side of the majority of the Suffolk coastline within the study area and dissected by river valleys/marshland extending from to the coast.

The LCT has some recreational value as the focus in particular for recreational walking on the network of public rights of way across the heaths, which link to the Suffolk Coastal Path crossing this LCT.

The scenic quality and interest of the LCT is influenced by extensive areas of heathland/acid grassland within the backdrop of extensive coniferous forestry (Sandlings Forests), which often distinguish the change into the Suffolk Coast and Heaths AONB from the inland agricultural landscapes.

Scenic qualities are varied and **not** always consistent between the different areas of the LCT in the study area. The scenic qualities of the Southwold and Reydon area (Area B) are influenced by adjacent urban development; the Leiston/Aldringham area (Area D) is particularly influenced by the presence of Sizewell Nuclear Power Station, high-voltage transmission lines and intensive farming; while the extensive Rendlesham and Tunstall Forests dominate the character to the south of the study area.

Sensitivity to change: *Combination of the value and susceptibility of the LCT*	
Susceptibility:	Locally medium at coast, but generally low over most of the LCT

- LCT has the potential to be influenced by the construction and operation of the offshore infrastructure in localised areas where it extends to the coast, with potential exposure to changes occurring in the visible seascape backdrop.
- The sense of isolation and perceived remoteness/natural qualities evident in some parts of the LCT are susceptible to the influence of development, due to the contrast that it would have with the landscape, however the visual containment of the LCT by extensive plantation forestry, tree belts and hedges, weakens the association between this landscape and the East Anglia TWO windfarm site.
- In some localised areas of this LCT where it extends near to the coast, such as Dunwich Heath/Cliffs and areas between Sizewell and Thorpeness, there are strong associations with the

sea and the character will be exposed to the seascape in which the East Anglia TWO windfarm site is located. • The majority of the LCT, however, has weak and limited associations with the sea, where it covers extensive inland areas away from the coast and is often influenced primarily by the presence of plantation forestry or agricultural landscapes with no exposure to the seascape in which the East Anglia TWO windfarm site is located.	
Sensitivity:	Locally medium at coast, but generally low over most of the LCT
The Estate Sandlands LCT is assessed as having a medium-high value, with its value recognised in some of areas through AONB and natural heritage designations (such as SSSI/SPA), but with other areas not being designated and having been subject to changes in the inherent character through extensive plantation forestry, suburbanisation and/or modern energy generation and transmission infrastructure. The main scenic qualities of the LCT are influenced by areas of heathland/acid grassland within the backdrop of extensive coniferous forestry (Sandlings Forests). The scenic qualities are varied and not always consistent between the different areas of the LCT in the study area. While it is of medium-high value, the LCT is assessed as generally having a low susceptibility to changes arising from the construction and operation of the offshore infrastructure. The majority of the LCT has limited association with the sea, where it covers extensive inland areas away from the coast and is often influenced primarily by the presence of plantation forestry or agricultural landscapes with no exposure to the seascape in which the East Anglia TWO windfarm site is located. In some localised areas of this LCT, where it extends near to the coast, such as Dunwich Heath/Cliffs and areas between Sizewell and Thorpeness, there are stronger associations with the sea and the character will be exposed to the seascape and is assessed as having a medium susceptibility to change. On balance, the LCT is assessed as having a generally low sensitivity over most of the LCT, with a locally medium sensitivity where it forms the coastal edge (such as at Dunwich Cliffs, Sizewell Cliffs, Easton Bavents and Thorpeness).	
Magnitude of change:	
Geographic extent:	Regional
Geographically, the area of the LCT that may experience change as a result of visibility of the construction and operation of the offshore infrastructure tends to be restricted to the areas of the LCT that are closest to the coast, with visibility becoming limited as the Estate Sandlands extend inland. Although the geographic extent of potential change is restricted to areas of the LCT closest to the coast, this LCT occurs in multiple separate locations along the coastline in the study area, so there is potential for changes to occur at a regional extent. The ZTV (***Figure 28.17***) shows that there will be areas of high theoretical visibility of 41-48 wind turbines from parts of this LCT near to the coast, but that the extent of visibility becomes much more intermittent further inland, with areas of low or no visibility. The magnitude of change on each main area of this LCT is assessed as follows.	
Size/scale of change (construction, operation and decommissioning):	
Area A: Covehithe to Benacre and Easton Bavents	Medium
• The LCT extends to meet the sea at Covehithe Cliffs, on either side of Benacre Broad, and at Easton Bavents where the coastal edges of the LCT are influenced by the open sea and exposed to changes resulting from the construction and operation of the offshore infrastructure. • The construction and operation of the offshore infrastructure will introduce new elements that will change the perception of the seascape in the setting of the low coastal cliffs on the edges of this area of the LCT. • The long distance and panoramic views out to sea and along the coast from the cliffs on the coastal edges of this area of the LCT will be altered through a partial loss of open sea skyline occupied by the East Anglia TWO windfarm site and the addition of elements which will change the simple landscape composition and result in some changes to the sense of isolation at the coastal edges of the LCT.	

• The introduction of wind turbines on the sea skyline located well outside and at distance from the LCT (over 30km) would constitute a new, but relatively moderate alteration to the perceived character, at variance to some characteristics of the coastal edges of the LCT such as its natural qualities, remoteness/isolation and panoramic views, but is in keeping with other characteristics such as its large scale and exposure.	
Area B: Southwold Common	Negligible
• Negligible change to the existing landscape character of this area of the LCT due to the limited visibility of the East Anglia TWO windfarm site from this area. Views from Southwold Common to the East Anglia TWO windfarm site are entirely concealed/screened by the intervening urban area of Southwold (Illustrative Viewpoint A).	
Area C: Walberswick to Westleton and Dunwich	Areas between Walberswick and Westlon: Negligible Localised area at Dunwich Heath/Cliffs: Medium-low
• Walberswick and Westlon: Negligible change to the existing landscape character of this area of the LCT due to the limited visibility of the East Anglia TWO windfarm site from this area. Views of the East Anglia TWO windfarm site are almost entirely concealed/screened by the intervening plantation forests (Dunwich Forest), tree belts and hedgerows in the landscape. • Dunwich Heath/Cliffs: localised area with a medium-low change to existing landscape character around Dunwich Heath, Dunwich and Minsmere Cliffs where this area of the LCT extends to meet the sea and its coastal edges are influenced by the open sea and exposed to changes resulting from the East Anglia TWO windfarm site. The construction and operation of the offshore infrastructure will introduce new elements that will change the perception of the seascape in the setting of the low coastal cliffs on the edges of this area of the LCT. The long distance and panoramic views out to sea and along the coast from the cliffs on the coastal edges of this area of the LCT will be altered through a partial loss of open sea skyline occupied by the East Anglia TWO windfarm site and the addition of elements which will change the simple landscape composition and result in some changes to the sense of isolation at the coastal edges of the LCT. The introduction of wind turbines on the sea skyline located well outside and at distance from the LCT (over 35km) would constitute a medium-low alteration to the perceived character, at variance to some characteristics of the coastal edges of the LCT, but is in keeping with other characteristics such as its large scale, exposure and existing energy generation influences in the offshore waters (Galloper/Greater Gabbard) and along the coast to the south (Sizewell Power Station).	
Area D: Leiston and Aldringham to Snape, Thorpeness and Aldeborough	Areas between Leiston, Aldringham, Friston, Snape and Aldeburgh: Negligible Localised area at Sizewell Cliffs to Thorpe Ness: Medium-low
• Inland areas of LCT between Leiston, Aldringham, Friston, Snape and Aldeburgh: Negligible change to the existing landscape character of this area of the LCT due to the limited visibility of the East Anglia TWO windfarm site from this area. Views of the East Anglia TWO windfarm site are almost entirely screened by intervening plantation forests, tree belts and hedgerows. • Localised area at Sizewell Cliffs to Thorpe Ness: localised area with a medium-low change to existing landscape character around Sizewell Cliffs to Thorpe Ness where this area of the LCT extends to meet the sea and its coastal edges are influenced by the open sea and exposed to changes resulting from the construction and operation of the offshore infrastructure. The construction and operation of the offshore infrastructure will introduce new elements that will change the perception of the seascape in the setting of the low coastal cliffs on the edges of this area of the LCT. The long distance and panoramic views out to sea and along the coast from the cliffs on the coastal edges of this area of the LCT will be altered through a partial loss of open sea skyline occupied by the East Anglia TWO windfarm site and the addition of elements which will change the simple landscape composition and result in some changes to the sense of isolation at	

the coastal edges of the LCT. The introduction of wind turbines on the sea skyline located well outside and at distance from the LCT (over 35km) would constitute a medium-low alteration to the perceived character, at variance to some characteristics of the coastal edges of the LCT, but is in keeping with other characteristics such as its large scale, exposure and existing energy generation influences in the offshore waters (Galloper/Greater Gabbard) and along the coast to the north (Sizewell Power Station).		
Area E: Hollesley, Rendlesham and Tunstall Forests to Sudbourne	Negligible	
• Negligible change to the existing landscape character of this area of the LCT due to the limited visibility of the East Anglia TWO windfarm site from this area and its distance inland away from the coast. Views of the East Anglia TWO windfarm site are almost entirely concealed/screened by the intervening plantation forests (Tunstall and Rendlesham Forests), tree belts and hedgerows in the landscape.		
Significance of effect		
Geographic area of LCT	Significance of effect (construction and decommissioning)	Significance of effect (operation)
Area A: Covehithe to Benacre and Easton Bavents	**Significant**, short-term, reversible	**Significant**, long-term, reversible
Area B: Southwold Common	**Not significant**, short-term, reversible	**Not significant**, long-term, reversible
Area C: Walberswick to Westleton and Dunwich	**Not significant**, short-term, reversible	**Not significant**, long-term, reversible
Area D: Leiston and Aldringham to Snape, Thorpeness and Aldeborough	**Not significant**, short-term, reversible	**Not significant**, long-term, reversible
Area E: Hollesley, Rendlesham and Tunstall Forests to Sudbourne	**Not significant**, short-term, reversible	**Not significant**, long-term, reversible

LCT 08: Open Coastal Fens			
Designations:	Suffolk Coast and Heaths AONB. Heritage Coast.	Viewpoints in LCT:	Viewpoint 6 (Walberswick) Viewpoint 7 (Dunwich)

Baseline Description

The one example of this LCT in the study area is located on the coast between Walberswick and Dunwich and includes Dingle, Reedland, Westwood, Corporation and Oldtown Marshes, as well as the Dunwich River valley (***Figure 28.12***).

Key characteristics:

- Flat valley floors and coastal flats with deep peat deposits that overlie river and marine alluvium.
- Heavily affected by marine erosion and the movement of coastal sediments.
- Dunwich River exits at the mouth of the Blyth, but coastal erosion has moved the course westward, leaving fragments of the old course in the coastal marshes and flats.
- The marshes in the area have a mixture of sinuous and straight drains and dykes, suggesting drainage works and attempts to reclaim the land over an extended period of time.
- The current landscape is dominated by grazing of cattle on low intensity wet grassland, dissected by a network of dykes, with scrub and reedbeds in the north of the LCT, managed for habitat conservation.
- Due to the wet ground conditions, there is an absence of permanent settlements.
- Dingle and Reedland marshes, with low vegetation, are mostly treeless although the landscape is framed on the landward side by wet alder woodland that grades into dry woodland.
- Although a flat open and uncluttered landscape, it is contained by woodland and rising ground that surrounds it and by the dunes/shingle landform on its eastern, coastal side. Views are therefore generally limited to within the LCT.
- The open landscape provides an impression of depth and distance, with the occasional thin horizontal strip of sea visible having a limited role as an element in the landscape, despite its perceptual association.

Value	High

- Relatively rare/scarce landscape character, with only one example of this LCT in Suffolk - the area between Walberswick and Dunwich.

• Located within and forms part of the Suffolk Coast and Heaths AONB. In combination with adjacent coastal LCTs, contributes to the special qualities that define the nationally designated scenic qualities of the AONB. • Majority of the LCT is also protected for its nature conservation value as SSSI/SAC/SPA/NNR and the aesthetic aspects of these designated areas contributes to the distinct character. • LCT has some value for recreational activity as the Suffolk Coastal Path takes a route through the LCT, one of the few ways of crossing this marshy landscape. • Relative lack of access, challenging ground conditions and exposed position by the sea results in some perceptual qualities of wildness, remoteness and tranquillity. • Consistent, intact, well defined and distinctive attributes with scenic qualities relating to natural qualities of the saltmarsh, dune habitats and reedbeds; and dynamic qualities of low-lying exposed landscape adjacent to the powerful force of the sea and Dunwich River.	
Sensitivity to change: *Combination of the value and susceptibility of the LCT*	
Susceptibility:	Low
• LCT has the potential to be influenced by the construction and operation of the offshore infrastructure due to its coastal location. • The perceptual qualities of wildness, remoteness and tranquillity are susceptible to the influence of development, due to the contrast that it would have with the landscape, however the visual containment of the LCT by the dunes/shingle landform along its eastern edge, weakens the association between this low-lying landscape and the East Anglia TWO windfarm site. • While strong associations exist between the LCT and the sea, the LCT is not directly exposed to the offshore waters in which the East Anglia TWO windfarm site is located and has a notable degree of concealment/screening by the dunes/shingle ridges between this LCT and the sea.	
Sensitivity:	Medium
The Open Coastal Fens LCT is a highly-valued landscape, recognised through AONB designation, with special qualities focusing on the natural qualities of its saltmarshes and reedbed habitats; its relative remoteness/inaccessibility; and the dynamic qualities of the low-lying exposed landscape near the powerful forces of the sea. Although it is of high value, the LCT is assessed as having a low susceptibility to changes arising from the construction and operation of the offshore infrastructure. While the LCT has strong associations with the sea, the LCT is not directly exposed to the offshore waters in which the East Anglia TWO windfarm site is located and has a notable degree of concealment/screening by the dunes/shingle ridges between this LCT and the sea. On balance, the LCT is therefore assessed as having a medium sensitivity to change (combination of its high value/low susceptibility).	
Magnitude of change:	
Geographic extent:	Local
Geographically, the area of the LCT that may experience change as a result of visibility of the construction and operation of the offshore infrastructure is contained to Corporation Marshes between Walberswick and Dingle Great Hill; and potentially from Dingle Marshes. The ZTV (***Figures 28.17***) shows that there will be limited theoretical visibility from Westwood Marshes and views from this area are screened by Dunwich Forest. The ZTV also shows no visibility from Reedland Marshes, where the intervening dunes/shingle ridges screen views. The magnitude of change on each main area of this LCT is assessed as follows.	
Size/scale of change (construction, operation and decommissioning):	
Area 1: Corporation and Dingle Marshes:	Low

• The sea/coast and the East Anglia TWO windfarm site will be intermittently visible from the LCT, due to the long shingle ridge running along at the edge of the LCT which obscures views. • The construction and operation of the offshore infrastructure is likely to result in change through the introduction of a distant array of wind turbines beyond the horizon formed by dunes/shingle ridges in the eastern, coastal backdrop to the marshland/open fens. • The introduction of wind turbines in the coastal backdrop located well outside and at distance from the LCT (over 32km) would constitute a new, but relatively minor alteration to the perceived character, at variance to the relatively undeveloped, flat, open and uncluttered character of the LCT, but removed from and in the background to the main elements that define character. • The construction and operation of the offshore infrastructure will have a limited change to the key characteristics of the immediate marshland/fen surroundings that define the landscape character. • The technological appearance of the wind turbines is likely to contrast with the perceived natural qualities associated with the habitats of the LCT, however their appearance will relate rationally to the visual exposure and large scale. • There will be some aesthetic sensibility between modern wind turbines and the derelict Westwood Marshes Windmill, as a representation of the historic exploitation of the exposure of the landscape.		
Area 2: Westwood Marshes:	Negligible – the construction and operation of the offshore infrastructure will have a negligible change to the key characteristics of this area.	
Area 3: Reedland Marshes:	Negligible – the construction and operation of the offshore infrastructure will have a negligible change to the key characteristics of this area.	
Significance of effect:		
Geographic area of LCT	Significance of effect (construction and decommissioning)	Significance of effect (operation)
Area 1: Corporation and Dingle Marshes:	**Not significant**, short-term, temporary	**Not significant**, long-term, reversible
Area 2: Westwood Marshes:	**Not significant**, short-term, temporary	**Not significant**, long-term, reversible
Area 3: Reedland Marshes:	**Not significant**, short-term, temporary	**Not significant**, long-term, reversible

28.2.2 Landscape Designations

Suffolk Coast and Heaths AONB (including Suffolk Heritage Coast)

3. The Suffolk Coast and Heaths AONB (the AONB) is located approximately 29.7km from the East Anglia TWO windfarm site (***Figure 28.13***). It covers approximately 403km^2 stretching from Kessingland in the north to the River Stour in the south. The unique character of the AONB is a product of its underlying geology, shaped by the effects of the sea and the interaction of people with the landscape. It is a mainly flat or gently rolling landscape, often open but with few commanding viewpoints. In many places, and especially near the coast, habitats and landscape features lie in an intimate mosaic, providing great diversity in a small area.

4. The AONB comprises mainly farmland. Other main components of the landscape are forestry plantations, low-lying freshwater marshes, intertidal estuaries, heathland, the coast, small villages and iconic coastal market towns. The area is probably best known for the particularly distinctive features of the coast and lowland heath which give the AONB its name. Where it joins the sea, the AONB consists of predominantly shingle beaches, often extensive in nature, and backed in places by sandy cliffs. The coastline is interrupted by five river estuaries (Blyth, Alde/Ore, Deben, Orwell and Stour) with extensive wildlife-rich intertidal areas of mudflat and saltmarsh. In some places, old estuary mouths have become blocked, creating large areas of brackish or freshwater marshland of significant wildlife value. Centuries old river walls were created to reclaim intertidal areas from the estuaries. These areas claimed from the sea are now important for agriculture.

5. The area's heathland, known locally as the Sandlings and now much fragmented, follows the line of the coast. Large areas that were once Sandlings heath have been converted to farmland, planted as coniferous forests or developed for housing or military airfields, particularly during the 20th century. The Suffolk Coast & Heaths AONB remains a lightly populated, undeveloped area, popular for outdoor recreation and tourism. The area is valued for its tranquillity, the quality of the environment and culture and for its wildlife.

6. The Suffolk Heritage Coast is largely contained within the AONB. It runs from Kessingland to Felixstowe and incorporates the Blyth, Alde/Ore and lower Deben estuaries. The purpose of Heritage Coast designation is similar to that of an AONB. As its geographic area is largely within the AONB and its protection policies are now incorporated into the AONB Management Plan, the effects on the Suffolk Heritage Coast designation are considered as integral to this assessment of the AONB.

7. The main LCTs that make up the Suffolk Coast & Heaths AONB are:

- Coastal Dunes and Shingle Ridges (LCT 05).
- Coastal Levels (LCT 06).
- Open Coastal (LCT 08) and Wooded Fens (LCT 29).
- Estate Sandlands (LCT 07).
- Estate Farmlands (LCT 11 and 15).
- Rolling Estate Sandlands (LCT 16).
- Saltmarsh and Intertidal Flats (LCT 20).
- Valley Meadowlands (LCT 26).

8. Several of these LCTs (LCTs 11, 15, 16, 20, 26 and 29) have been identified in the preliminary assessment in ***Table 28.3.1***, as having no potential to be significantly affected by the construction and operation of the offshore infrastructure, due to their inland locations, long distance and/or substantial amount of intervening screening between these areas and the East Anglia TWO windfarm site. The potential for significant effects on these areas of the AONB is scoped out of further assessment, with no significant effects assessed on areas of the AONB within LCTs 11, 15, 16, 20, 26 and 29.

9. The LCTs that define the coastal areas of the AONB, where it joins the sea and has a seascape setting, are those which are susceptible to the influence of the construction and operation of the offshore infrastructure. These are identified as the Coastal Dunes and Shingle Ridges (LCT 05); Coastal Levels (LCT 06); Estate Sandlands (LCT07) and Open Coastal Fens (LCT 08). The effects of the East Anglia TWO windfarm site on the character of these LCTs, within the coastal areas of the AONB, is assessed in full in the technical assessment in this appendix.

10. The assessment of effects on the AONB is informed by these assessments of the LCTs that define its coastal character; but is also based upon published citations that describe the 'special qualities' of the AONB. The landscape of the AONB is described and characterised within the Suffolk Coast and Heaths AONB Management Plan (Suffolk Coast and Heaths AONB Partnership, 2013 - 2018), however the management plan does not set out detailed citations of the special qualities of the AONB.

11. Special qualities are set out in the Suffolk Coast and Heaths AONB Natural Beauty and Special Qualities Indicators report (November 2016), produced by LDA Design following discussions between the AONB Partnership, Suffolk County Council, Suffolk Coastal District Council and EDF Energy with the purpose of establishing what constitutes the natural beauty and special qualities of the AONB. The findings of these discussions are contained in tables within the

'Special Qualities Report' in Section 2.0 (Natural Beauty Indicators) and 3.0 (Special Qualities Indicators).

12. The 'Special Qualities' of the AONB identified in Section 3.0 of this document are considered somewhat intangible for the purpose of assessment of seascape, landscape and visual effects, often considering factors which are related to, but are not specifically 'landscape' quality criteria, such as health and well-being, family heritage, food culture and tourism.

13. The approach of the assessment of the effects on landscape character of the AONB undertaken in the SLVIA, has been to base the assessment on the more tangible and clearly landscape focused 'natural beauty' indicators, identified in Section 2.0 of the 'Special Qualities Report', as indicators of the landscape qualities of the AONB. This is consistent with other recent assessments of AONB qualities, such as that undertaken by Natural England for the AONB Boundary Variation Project (Natural England, September 2017). These natural beauty indictors define the landscape qualities of the AONB, which inform its special qualities.

14. The assessment presented here, utilises the table of natural beauty indicators from the AONB special qualities report and assesses:

- the magnitude of change to the AONB special qualities indicator resulting from the East Anglia TWO windfarm site (high / medium / low/ negligible / none); and
- the significance of effect on the AONB special qualities indicator resulting from the East Anglia TWO windfarm site (significant / not significant). Determined by combining the sensitivity of the AONB and magnitude of change to the AONB special qualities indicator.

15. This assessment of the overall effects of the construction and operation of the offshore infrastructure on the special qualities of the AONB is set out as follows.

Suffolk Coast and Heaths AONB (including Suffolk Heritage Coast)			
Designations:	Suffolk Coast and Heaths AONB. Heritage Coast.	Viewpoints in AONB:	Representative viewpoints 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16 Illustrative viewpoints A, D, F
Baseline Description of Special Qualities (extracted from AONB Special Qualities Report):			
Landscape Quality:			
• 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. The AONB contains important areas of heath and acid grassland, and it supports a high number of protected species populations. As such it has importance in a national context for biodiversity. • Strong overall character, albeit that the evolving nature of intensively farmed arable land with agricultural fleece/polythene and outdoor pig rearing can divide opinion on landscape condition in visually sensitive locations such as on valley sides. • 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 Offshore Windfarms are visible from some stretches of the coastline. These create a cluttered horizon and, like the large-scale elements onshore, also divide opinion.			
Scenic Quality			
• 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 of elements in a relatively small area. • Sea cliffs and shingle beaches contrasting to flat and gently rolling Sandlings heaths and farmland. 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. Landscape displays a 'rhythm' dictated by a series of east-west rivers and estuaries, and the interfluves that lie between them. • Coastal cliffs, shingle spits, estuaries and beaches are striking landform features. • Varied habitats and land cover in intricate mosaic corresponding to natural geography (landform, geology, soils & climate) and displaying seasonal differences, either as a result of natural processes or past and current farming and land management regimes. 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. • Close-knit interrelationship of constituent features creates a juxtaposition of colours and textures (such as coniferous forests, reedbeds, intertidal mud flats and heathland, sand dunes and shingle beaches) that is further enhanced by seasonal changes. 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.			

- 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).

Relative Wildness

- 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.
- Pockets of relative wildness associated with coast, estuary and forests in this largely farmed and settled landscape.
- Semi-natural habitats evident, notably on the Sandlings heaths, marshes, reedbeds, estuaries and along the coastline.
- Largely undeveloped coastline and offshore areas and areas of semi-natural habitat including Sandlings heath, forests, reedbeds, estuaries and marshland. Landscape interspersed with isolated villages, and built heritage assets such as Martello towers, pill boxes, river walls that contribute to character. 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 Offshore Windfarms 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.
- Forestry plantations create sense of enclosure and isolation contrasting to open and more exposed areas along the coast 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.

Relative Tranquillity

- Areas of semi natural habitat, where there is a general absence of development and apparent human activity, contribute to a sense of relative tranquillity. Further enhanced by sounds (bird calls, the wind through reeds in estuaries, waves on shingle) and relatively dark skies.
- Some local detractors from tranquillity include the seasonal influx of visitors to coastal towns, low flying aircraft noise and urban development on fringes of the AONB.

Natural Heritage Features

- Boundary of the AONB is broadly geological marking the border between the inland boulder clay and the coastal fringe. Visible and striking expressions of geology and sedimentation on faces of crumbling coastal cliffs. Use of flint, local crag and Aldeburgh brick for building are indicators of local geology.
- Low crumbling cliffs and steep banks of pebbles on shingle beaches contribute to a landscape of constant change. Striking and memorable geomorphological features include the vast cuspate foreland shingle spit of Orford Ness and river estuaries such as the estuary of the River Alde.

Cultural Heritage

- Villages and small towns, particularly at 'end of the road' coastal and estuary locations, such as Pin Mill, Ramsolt and Walberswick and built heritage assets such as military structures (e.g. Martello towers, castle at Orford and pillboxes); Low Countries influence on architecture (as at Aldeburgh); and use of soft hued red brick and pink render with thatch or pantiles contribute to sense of place.

- Archaeological and historic sites and features include prehistoric and later burial monuments (including the Anglo-Saxon burial ground at Sutton Hoo); early medieval churches (many of which pre-date the Domesday survey); historic field and settlement patterns; and evidence of land reclamation dating back to the 12th century. Distinctive vernacular use of flint, clunch and brick. Designed landscapes are important notably along southern estuaries and in the northern part of the AONB, including Thorpeness Model Village.
- 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 features and areas of more remote coastal landscape character. Power stations are still cited by some as visual detractors in the landscape, despite the test of time.
- Rural landscape and smaller settlements (notably using vernacular building materials) display a harmonious balance between natural and cultural elements in the landscape, some of which date back several hundreds of years. Association between reedbeds and thatched roofs and local crag and flint where used as building materials. History of river use with Thames barges indicating links to past maritime heritage, and contemporary recreational use of the estuaries and coast, with many boatyards and in-river moorings.
- Landscape character and diversity of habitat types dependent on wide range of land management practices, several of which date back many centuries. Examples include pasturing; grazing on coastal marshes; forestry; extensive grazing to maintain heathland; reed cutting; and ditch/marshland and hydrological management. Small scale fishing industry results in boats, nets, pots and storage buildings on some stretches of coastline.

Value	High

- Much of the AONB coast is designated as of European importance for its habitat and for the birds and other species associated with it. Some of these are further recognised on a world stage as 'wetlands of international importance' (Ramsar sites).
- AONB landscape acts as a major tourist destination contributing significantly to the local economy, especially Southwold, Aldeburgh and Thorpeness.
- Natural landscape with varied coastal habitats and rare birds are valued as an attraction for walkers and wildlife enthusiasts, especially birdwatchers. Amenity value for tourism and leisure activities, especially the extensive network of coastal nature reserves, coastal paths and lowland heaths with open access.
- Scenic qualities have been influenced by the presence of modern energy generation and transmission infrastructure, particularly Sizewell Nuclear Power Station, which forms a distinctive feature on the coast and in the backdrop to views across the nearby Sandlings Forest and Heaths.
- Recognised cultural heritage value through Heritage Coast designation. Distinctive built heritage in the landscape such as Martello towers and Cold War buildings on Orford Ness, which add a sense of history to the landscape.
- Scenic qualities and interest particularly defined by the coast and views out to sea; shingle features of the coast, some vegetated, notably Orford Ness; prominence of short sections of crumbling soft cliffs, such as at Dunwich and Covehithe; bodies of water (broads/saline lagoons) Shingle Street, Benacre and Easton Broads; and seascape setting of the coastal areas of the AONB.
- Nearshore waters and inland waterways are valued sailing/boating areas, especially the Orwell and Deben estuaries with extensive moorings and boatyards.

Sensitivity to change: *Combination of the value and susceptibility of the AONB*

Susceptibility (defined by LCT):

Coastal Dunes and Shingle Ridges (LCT 05):	Medium-high*
Coastal Levels (LCT 06):	Low*
Estate Sandlands (LCT 07):	Locally medium-high at coast, but generally low over most of the LCT*
Open Coastal Fens (LCT 08):	Low*
Sensitivity to change (defined by LCT):	
Coastal Dunes and Shingle Ridges (05):	Medium-high*
Coastal Levels (06):	Low*
Estate Sandlands (07):	Locally medium-high at coast, but generally low over most of the LCT*
Open Coastal Fens (08):	Low*
* Full narrative assessment of susceptibility and sensitivity to change of LCTs within the AONB contained within technical assessment of LCTs in Section 28.2.1 of this of this appendix.	
Magnitude of change (construction, operation and decommissioning) to AONB special qualities:	
Landscape quality:	Medium change to landscape quality of Coastal Dunes and Shingle Beaches LCT (05) between Southwold and Orford Ness (Areas C and D); and the coastal edges of the Estate Sandlands LCT (07) between Covehithe to Benacre and Easton Bavents area (Area A). Low change to landscape quality of Open Coastal Fens (08) LCT, Coastal Levels LCT (06) and inland areas of Estate Sandlands LCT (07) within AONB.
• The East Anglia TWO windfarm site will introduce a further element into the seascape setting of the coastal areas of the AONB, adding to the juxtaposition of different elements and landscape character across a relatively small area. • The construction and operation of the offshore infrastructure will have a relatively limited influence on the strong overall character of the AONB, with its varied and distinctive landscapes continuing to define its overall character. • The East Anglia TWO windfarm site will add a further large-scale energy generation element influencing the coast and its seascape setting, in addition to other long-established elements such as Sizewell Nuclear Power Station and more recent offshore windfarms (Greater Gabbard and Galloper), adding to the cluttered seascape horizon.	
Scenic quality:	Medium change to scenic quality of Coastal Dunes and Shingle Beaches LCT (05) between Southwold and Orford Ness (Areas C and D); and the coastal edges of the Estate Sandlands LCT (07) between Covehithe to Benacre and Easton Bavents area (Area A).

	Low change to scenic quality of Open Coastal Fens (08) LCT, Coastal Levels LCT (06) and inland areas of Estate Sandlands LCT (07) within AONB.
• The East Anglia TWO windfarm site will introduce a further element into the seascape setting of the coastal areas of the AONB, adding to the juxtaposition of different elements and landscape character across a relatively small area. • The construction and operation of the offshore infrastructure will result in a partial loss of open sea skyline in long distance and panoramic views out to sea and along the Heritage Coast, from elevated vantage points, due to the lateral spread of wind turbines on the seaward horizon experienced from the AONB coastline. Addition of elements which may change the 'uncluttered' characteristic of the seascape, with the wind turbines likely to increase visual clutter/complexity in the pattern of elements and introduce a new wind turbine 'layer' to the simple seascape composition. The wind turbines may partially alter the 'vastness' of the seaward aspect of the AONB coastline, by curtailing part of the 'limitless' aspect out to sea, but due to its long distance offshore, would not interrupt the 'rhythm' dictated by river and estuaries along the coast. • The East Anglia TWO windfarm site will introduce further wind energy development influence in the offshore backdrop to the coastal cliffs, shingle spits, estuaries and beaches that define the coastal landform of the AONB. • Some changes to the juxtaposition of colours and textures in coastal areas, with the introduction of modern white/grey wind turbines in the seascape backdrop, contrasting to the natural colours/textures of sand dunes, shingle beaches, reedbeds, mud flats and heathland at the coast. • The technological appearance of the wind turbines is likely to contrast with the perceived naturalness of the vegetated shingle habitat/reedbeds/marshes/low cliffs that define the character of the coast, however they will also relate rationally to the exposure, large scale and austere character of parts of the coastal landscape. • The wind turbines within the East Anglia TWO windfarm site will add a new large-scale offshore wind farm element to the sea element of the simply composed character of sea and big 'Suffolk skies', however the vertical height of the wind turbines relatively to the vast skies will be relatively small / moderate in scale, due to their long distance offshore (over 30km) and the large scale of the seascape.	
Relative wildness:	Medium-low change to relative wildness of Coastal Dunes and Shingle Beaches LCT (05) and the coastal edges of the Estate Sandlands LCT (07). Low change to relative wildness of Open Coastal Fens (08) LCT, Coastal Levels LCT (06) and inland areas of Estate Sandlands LCT (07) within AONB.
• Introduction of further development influence on the relatively undeveloped character of the Suffolk coast, although occurring at long distance offshore in the seascape setting of the AONB and in the context of existing energy generation influences in the sea and on the coast. • Introduction of modern, man-made structures and increase in evidence of apparent human activity may change the perceived wildness attributes from pockets of coastal AONB landscapes which have relative wildness associated with coast. While on the one hand wind energy development influence may contrast with this perception of wildness, wind turbines may also relate legibly to the coastal exposure and inclement conditions experienced. • The construction and operation of the offshore infrastructure will have no direct effects on the semi-natural habitats evident along the coastline (Sandlings heaths, marshes, reedbeds, estuaries), but its technological appearance may contrast with the perceived naturalness of these habitats evident in the least developed parts of the AONB coastline.	

• The changes arising from the construction and operation of the offshore infrastructure occur in the context of existing energy generation developments, which already influence the perceived wildness of the AONB, including operational offshore windfarms (Greater Gabbard and Galloper) and the Sizewell A and B Nuclear Power Station. In this context, it represents an increase in energy development influence/an increase in an existing characteristic of the AONB coastline, rather than an entirely new influence. • The vertical height of the wind turbines relative to the vast skies will be relatively small / moderate in scale, due to their long distance offshore (over 30km) and the large scale of the seascape and will relate rationally to the sense of openness and exposure along the AONB coastline.	
Relative tranquillity:	Negligible change to relative tranquility of Coastal Dunes and Shingle Beaches LCT (05), Estate Sandlands LCT (07), Open Coastal Fens (08) LCT and Coastal Levels LCT (06) within AONB.
• Although forming further development and increasing the presence of apparent human activity, the construction and operation of the offshore infrastructure will result in no audible changes to the existing sounds of tranquil areas of the AONB and have negligible changes to the sense of relative tranquillity experienced in the AONB and its coastline. • Appearance of the East Anglia TWO windfarm site relates rationally to the sounds of the wind and exposure along the AONB coastline. • Although the introduction of the wind turbines of the East Anglia TWO windfarm site will introduce further visual movement, their relatively low speed and long distance offshore would ensure that they have negligible changes to the perceived calmness in the landscape (during good weather). • Night time lighting of the wind turbines will introduce further lighting in the relatively dark night skies, however will be viewed at long distance offshore, in the context of existing wind turbine lighting (Galloper and Greater Gabbard) and other lighting of cardinal buoys and vessels in the waters off the AONB coastline. • The construction and operation of the offshore infrastructure will result in negligible changes to areas of the AONB which have low levels of tranquillity in the baseline, such as the busy coastal towns with large numbers of seasonal tourist visitors and urban development/road traffic being prevalent.	
Natural Heritage Features:	Negligible change to natural heritage features of Coastal Dunes and Shingle Beaches LCT (05), Estate Sandlands LCT (07), Open Coastal Fens (08) LCT and Coastal Levels LCT (06) within AONB.
The construction and operation of the offshore infrastructure will result in no direct changes to the characteristic expressions of geology which mark the boundary of the AONB or the striking expressions of geology and sedimentation that defines the crumbling coastal cliffs. The construction and operation of the offshore infrastructure may only result in some perceived changes to the skyline of offshore waters that form the backdrop to the low crumbling cliffs and banks of shingle beaches, but the appearance of a distant offshore wind farm influence would not change the fundamental characteristic of the dynamic coastline and geomorphological features of Orford Ness.	

Significance of effect		
Special qualities of AONB:	Significance of effect (construction and decommissioning)	Significance of effect (operation)
Landscape quality:	**Significant**, short-term, temporary effects on landscape quality of	**Significant**, long-term, reversible effects on landscape quality of

	Coastal Dunes and Shingle Beaches LCT (05) between Southwold and Orford Ness (Areas C and D); and the coastal edges of the Estate Sandlands LCT (07) between Covehithe to Benacre and Easton Bavents area (Area A). **Not significant**, short-term, temporary effects on landscape quality of Open Coastal Fens (08) LCT, Coastal Levels LCT (06) and inland areas of Estate Sandlands LCT (07) within AONB.	Coastal Dunes and Shingle Beaches LCT (05) between Southwold and Orford Ness (Areas C and D); and the coastal edges of the Estate Sandlands LCT (07) between Covehithe to Benacre and Easton Bavents area (Area A). **Not significant**, long-term, reversible effects on landscape quality of Open Coastal Fens (08) LCT, Coastal Levels LCT (06) and inland areas of Estate Sandlands LCT (07) within AONB.
Scenic quality:	**Significant**, short-term, temporary effects on scenic quality of Coastal Dunes and Shingle Beaches LCT (05) between Southwold and Orford Ness (Areas C and D); and the coastal edges of the Estate Sandlands LCT (07) between Covehithe to Benacre and Easton Bavents area (Area A). **Not significant**, short-term, temporary effects on scenic quality of Open Coastal Fens (08) LCT, Coastal Levels LCT (06) and inland areas of Estate Sandlands LCT (07) within AONB.	**Significant**, long-term, reversible effects on scenic quality of Coastal Dunes and Shingle Beaches LCT (05) between Southwold and Orford Ness (Areas C and D); and the coastal edges of the Estate Sandlands LCT (07) between Covehithe to Benacre and Easton Bavents area (Area A). **Not significant**, long-term, reversible effects on scenic quality of Open Coastal Fens (08) LCT, Coastal Levels LCT (06) and inland areas of Estate Sandlands LCT (07) within AONB.
Relative wildness:	**Not significant**, short-term, temporary effects on relative wildness of Coastal Dunes and Shingle Beaches LCT (05), Coastal Levels LCT (06) Estate Sandlands LCT (07) and Open Coastal Fens (08) LCT within AONB.	**Not significant**, long-term, reversible effects on relative wildness of Coastal Dunes and Shingle Beaches LCT (05), Coastal Levels LCT (06) Estate Sandlands LCT (07) and Open Coastal Fens (08) LCT within AONB.
Relative tranquillity:	**Not significant**, short-term, temporary effects on relative tranquillity of Coastal Dunes and Shingle Beaches LCT (05), Coastal Levels LCT (06) Estate Sandlands LCT (07) and Open Coastal Fens (08) LCT within AONB.	**Not significant**, long-term, reversible effects on relative tranquillity of Coastal Dunes and Shingle Beaches LCT (05), Coastal Levels LCT (06) Estate Sandlands LCT (07) and Open Coastal Fens (08) LCT within AONB.
Natural Heritage Features:	**Not significant**, short-term, temporary effects on natural heritage features of Coastal Dunes and Shingle Beaches LCT (05), Coastal Levels LCT (06) Estate Sandlands LCT (07) and Open Coastal Fens (08) LCT within AONB.	**Not significant**, long-term, reversible effects on natural heritage features of Coastal Dunes and Shingle Beaches LCT (05), Coastal Levels LCT (06) Estate Sandlands LCT (07) and Open Coastal Fens (08) LCT within AONB.