East Anglia TWO Offshore Windfarm

Appendix 29.3

Landscape Assessment

Environmental Statement
Volume 3

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Table of Contents

Appendix 29.3 is supported by the tables listed below.

Table Number	Title
Table A29.1	Landscape Character Types
Table A29.2	Landscape Designations

Glossary of Acronyms

EIA	Environmental Impact Assessment
ETG	Expert Topic Group
LCT	Landscape Character Types
ZTV	Zone of Theoretical Visibility

Glossary of Terminology

Applicant	East Anglia TWO Limited.
Cable sealing end compound	A compound which allows the safe transition of cables between the overhead lines and underground cables which connect to the National Grid substation.
Cable sealing end (with circuit breaker) compound	A compound (which includes a circuit breaker) which allows the safe transition of cables between the overhead lines and underground cables which connect to the National Grid substation.
Construction consolidation sites	Compounds associated with the onshore works which may include elements such as hard standings, lay down and storage areas for construction materials and equipment, areas for vehicular parking, welfare facilities, wheel washing facilities, workshop facilities and temporary fencing or other means of enclosure.
Development area	The area comprising the onshore development area and the offshore development area (described as the 'order limits' within the Development Consent Order).
East Anglia TWO project	The proposed project consisting of up to 75 wind turbines, up to four offshore electrical platforms, up to one 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.
European site	Sites designated for nature conservation under the Habitats Directive and Birds Directive, as defined in regulation 8 of the Conservation of Habitats and Species Regulations 2017 and regulation 18 of the Conservation of Offshore Marine Habitats and Species Regulations 2017. These include candidate Special Areas of Conservation, Sites of Community Importance, Special Areas of Conservation and Special Protection Areas.
Evidence Plan Process	A voluntary consultation process with specialist stakeholders to agree the approach to the EIA and the information required to support HRA.
Horizontal directional drilling (HDD)	A method of cable installation where the cable is drilled beneath a feature without the need for trenching.
HDD temporary working area	Temporary compounds which will contain laydown, storage and work areas for HDD drilling works.
Jointing bay	Underground structures constructed at intervals along the onshore cable route to join sections of cable and facilitate installation of the cables into the buried ducts.
Landfall	The area (from Mean Low Water Springs) where the offshore export cables would make contact with land, and connect to the onshore cables.
Link boxes	Underground chambers within the onshore cable route housing electrical earthing links.

Mitigation areas	Areas captured within the onshore Development Area specifically for mitigating expected or anticipated impacts.
National electricity grid	The high voltage electricity transmission network in England and Wales owned and maintained by National Grid Electricity Transmission
National Grid infrastructure	A National Grid substation, cable sealing end compounds, cable sealing end (with circuit breaker) compound, underground cabling and National Grid overhead line realignment works to facilitate connection to the national electricity grid, all of which will be consented as part of the proposed East Anglia TWO project Development Consent Order but will be National Grid owned assets.
National Grid overhead line realignment works	Works required to upgrade the existing electricity pylons and overhead lines (including cable sealing end compounds and cable sealing end (with circuit breaker) compound) to transport electricity from the National Grid substation to the national electricity grid.
National Grid overhead line realignment works area	The proposed area for National Grid overhead line realignment works.
National Grid substation	The substation (including all of the electrical equipment within it) necessary to connect the electricity generated by the proposed East Anglia TWO project to the national electricity grid which will be owned by National Grid but is being consented as part of the proposed East Anglia TWO project Development Consent Order.
National Grid substation location	The proposed location of the National Grid substation.
Natura 2000 site	A site forming part of the network of sites made up of Special Areas of Conservation and Special Protection Areas designated respectively under the Habitats Directive and Birds Directive.
Onshore cable corridor	The corridor within which the onshore cable route will be located.
Onshore cable route	This is the construction swathe within the onshore cable corridor which would contain onshore cables as well as temporary ground required for construction which includes cable trenches, haul road and spoil storage areas.
Onshore cables	The cables which would bring electricity from landfall to the onshore substation. The onshore cable is comprised of up to six power cables (which may be laid directly within a trench, or laid in cable ducts or protective covers), up to two fibre optic cables and up to two distributed temperature sensing cables.
Onshore development area	The area in which the landfall, onshore cable corridor, onshore substation, landscaping and ecological mitigation areas, temporary construction facilities (such as access roads and construction consolidation sites), and the National Grid Infrastructure will be located.
Onshore infrastructure	The combined name for all of the onshore infrastructure associated with the proposed East Anglia TWO project from landfall to the connection to the national electricity grid.

Onshore preparation works	Activities to be undertaken prior to formal commencement of onshore construction such as pre–planting of landscaping works, archaeological investigations, environmental and engineering surveys, diversion and laying of services, and highway alterations.
Onshore substation	The East Anglia TWO substation and all of the electrical equipment within the onshore substation and connecting to the National Grid infrastructure.
Onshore substation location	The proposed location of the onshore substation for the proposed East Anglia TWO project.
SuDS – Sustainable Drainage System	Approaches to manage surface water that take account of water quantity (flooding), water quality (pollution) biodiversity (wildlife and plants) and amenity
Transition bay	Underground structures at the landfall that house the joints between the offshore export cables and the onshore cables.

29.3 Landscape Assessment

29.1 Matters scoped out of the EIA

1. The Planning Inspectorate has provided comments in their Scoping Opinion (Planning Inspectorate, 2017) on matters that can be scoped out of the Environmental Impact Assessment (EIA) and has agreed that the following landscape and visual matters can be scoped out of the assessment:

   - Landscape and visual effects of the landfall during operation; and
   - Landscape and visual effect of the onshore cable route during operation (with the exception of the removal of woodland at the Aldeburgh Road crossing (woodland north of Fitches Lane) which is assessed as an operational effect).

2. In both cases, following remediation works, the underground infrastructure at the landfall and within the onshore cable route is unlikely to result in significant effects and these matters can be scoped out of the assessment, as agreed with the Planning Inspectorate. These matters are not assessed any further in the technical assessments in this ***Appendix 29.3 – 29.5*** or in ***Chapter 29 Landscape and Visual Impact Assessment***.

29.2 Preliminary Assessment

29.2.1 Defining Study Area

3. The LVIA study area extends to a 3km buffer beyond the edge of the onshore development area and is shown in ***Figure 29.1***. This study area has been agreed for the LVIA as part of the SLVIA Expert Topic Group (ETG) consultations and submission of the Scoping Report (SPR, 2017). The LVIA study area defines a limit, based on professional judgement, beyond which it is considered unlikely for significant effects of development within the LVIA study area to arise. This judgement is based on knowledge of similar projects, an understanding of the character of the local landscape and the scale of the construction and development proposed within the onshore study area.

29.2.2 Impact Assessment Scenarios

4. This appendix provides a project alone assessment of the landscape impact of the proposed East Anglia TWO project onshore infrastructure i.e. the impact of the onshore substation, National Grid infrastructure and onshore cable route.

5. The detailed technical assessment of the landscape effects of the proposed East Anglia TWO project onshore infrastructure set out in ***section 29.3*** is based upon the assumption that the proposed East Anglia TWO project will use the intended onshore substation location.

6. ***Section 29.4*** provides a detailed technical assessment of the landscape effects of the proposed East Anglia TWO project onshore infrastructure in the eventuality that the proposed East Anglia TWO project uses the alternative substation location, as allowed for in the draft DCO.

7. Cumulative impact assessment scenarios of the proposed East Anglia TWO project and proposed East Anglia ONE North project are assessed separately in ***Appendix 29.5***.

29.2.3 Potential Impacts during Construction and Operation

8. A preliminary assessment of the landscape receptors in the study area has been undertaken using Zone of Theoretical Visibility (ZTV) analysis (***Figure 29.7 and 29.8***) and site survey, to identify which of the landscape receptors are likely to be affected by the proposed East Anglia TWO project onshore infrastructure. This preliminary assessment is presented in ***TableA29.1*** and ***TableA29.2*** below, which identifies the Landscape Character Types (LCTs) and landscape designations that have the potential to undergo significant effects as a result of the proposed East Anglia TWO project onshore 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.

9. The preliminary assessment considers the potential landscape effects of the onshore infrastructure. The technical assessment which follows the preliminary assessment in ***section 29.3***, considers the landscape effects of each of the onshore substation and National Grid substation, onshore cable route and landfall.

29.2.3.1 Landscape Character Types (LCTs)

10. Landscape Character Types (LCTs) defined in the Suffolk County Council Landscape Character Assessment (Suffolk County Council, 2008/2011) define the baseline for the LVIA study area and assessment, as mapped in ***Figure 29.2*** and ***Figure 29.7*** (shown with the ZTV). Key characteristics of landscape character areas from the Suffolk Coastal LCA (Suffolk Coastal District Council, 2018) are also referred to, in order to further describe the sense of place and distinctiveness of the Suffolk County LCTs in which the onshore substation and National Grid substation are located. Geographic units within the Suffolk County LCTs are also identified in the assessment e.g. Area 1a, 1b etc, in order to differentiate between different types/levels of effect occurring within each LCT.

11. A preliminary assessment of the potential landscape effects of the onshore infrastructure on the LCTs within the study area is presented in ***TableA29.1***. LCTs are shown in ***Figure 29.2*** and with the ZTV for the onshore substation and National Grid substation in ***Figure 29.7***.

TableA29.1Landscape Character Types

Landscape Character Assessment/Type		Distance from onshore infrastructure	Potential influence of the proposed East Anglia TWO onshore infrastructure	Preliminary Assessment
Suffolk Landscape Character Assessment, 2011				
1.	Ancient Estate Claylands	0km	East Anglia TWO onshore substation and the onshore cable route will be partly located in this LCT and, therefore, would have direct and indirect influences on landscape character.	Potential for significant effects that require further assessment.
5.	Coastal Dunes and Shingle Ridges	50m	The landfall would be located in the vicinity of this LCT and, therefore, may have an indirect influence on landscape character.	Potential for significant effects that require further assessment.
6.	Coastal Levels	0km at Hundred River	The onshore cable route would be located through, or to the north of the part of this LCT that follows the Hundred River south of Aldringham and therefore would have a direct or indirect influence.	Potential for significant effects that require further assessment.
7.	Estate Sandlands	0km	The landfall and onshore cable route would be located in this LCT and, therefore, would have direct and indirect influences on landscape character.	Potential for significant effects that require further assessment.
14.	Rolling Estate Claylands	2.3km	Located a minimum of 2.3 km from the East Anglia TWO onshore substation and the onshore cable route. Distance and extent of intervening tree cover and rural development would limit the potential influence on landscape character.	No potential for significant effects - scoped out of further assessment.
16.	Rolling Estate Sandlands	0.9km	Located a minimum of 0.9 km from the East Anglia TWO onshore substation and the onshore cable route. Distance and extent of intervening tree cover and rural development would limit the potential influence on landscape character.	No potential for significant effects - scoped out of further assessment.
20.	Saltmarsh and Intertidal Flats	2.9km	Located a minimum of 2.9km from the onshore cable route and 3.2km from the East Anglia TWO onshore substation. Distance and extent of intervening tree cover and rural development would limit the potential influence on landscape character.	No potential for significant effects - scoped out of further assessment.
25.	Urban	400m	Located a minimum of 400m from the onshore cable route and 2.5km from the East Anglia TWO onshore substation. Developed character of urban areas, such as Leiston, is such that further development influences outside urban	No potential for significant effects on landscape character – scoped out of further assessment.

Landscape Character Assessment/Type		Distance from onshore infrastructure	Potential influence of the proposed East Anglia TWO onshore infrastructure	Preliminary Assessment
			areas would not change the existing urban character of this LCT.	Effects on urban areas assessed as part of visual effects assessment (settlements) in ***Appendix 29.4***.
26.	Valley Meadowlands	1.6km	Located a minimum of 1.6km from the onshore cable route and 2.3km from theEast Anglia TWO onshore substation. Distance and extent of intervening tree cover and rural development would limit the potential influence on landscape character.	No potential for significant effects - scoped out of further assessment.

29.2.3.2 Landscape Designations

12. A preliminary assessment of the potential landscape effects of the onshore infrastructure on the landscape designations within the study area is presented in ***TableA29.2***. Landscape designations are shown with the ZTV for the onshore substation and National Grid substation in ***Figure 29.8***.

TableA29.2 Landscape Designations

Landscape Designation	Distance from onshore infrastructure	Potential influence of the proposed East Anglia TWO onshore infrastructure	Preliminary Assessment
Suffolk Coast and Heaths AONB	0km	The landfall and part of the onshore cable route will be located in the AONB and therefore would have direct and indirect influences on the character of this designated area. The East Anglia TWO onshore substation is located 1.6km to the north of the AONB at its closest point.	Potential for significant effects that require further assessment.
Suffolk Heritage Coast*	0km	The landfall and part of the onshore cable route will be located in the Suffolk Heritage Coast and therefore would have direct and indirect influences on the character of this area. The East Anglia TWO onshore substation is located 2.9km to the north of the Heritage Coast at its closest point.	Potential for significant effects that require further assessment.
Hundred River Valley SLA	0km	The onshore cable route will cross the Hundred River Valley SLA and therefore would have direct and indirect influences on the character of this designated area.	Potential for significant effects that require further assessment.
***The Suffolk Heritage Coast is considered as part of this 'landscape designations' section, although it should be noted that the Suffolk Heritage Coast is defined, not designated, and is subject to management agreements between Natural England and Local Authorities'.**			

29.3 Potential Impacts during Construction and Operation – Technical Assessment

13. A detailed technical assessment of the landscape effects of the proposed East Anglia TWO project onshore infrastructure is set out in ***section 29.3***. This describes, in full technical detail, the likely significant effects of the proposed East Anglia TWO project onshore infrastructure on each landscape receptor, assessing those landscape receptors that were identified in the preliminary assessment in ***TableA29.1*** and ***TableA29.2*** as having potential to be significantly affected.

29.3.1 Landscape Character Types

14. An assessment of the landscape effects of the onshore infrastructure on LCTs within the study area is presented in the following technical assessment. LCTs are shown with the ZTV for the onshore substation and National Grid substation in ***Figure 29.7***. The assessment considers both direct effects on physical landscape elements and changes to the physical pattern and perception of LCTs.

LCT 01: Ancient Estate Claylands

LCT 01: Ancient Estate Claylands			
Designations:	Suffolk Coast and Heaths AONB. Heritage Coast.	Viewpoints in LCT:	Viewpoints 3, 5, 10 and 11
Baseline Description			
The East Anglia TWO onshore substation is located within the Ancient Estate Claylands LCT (01), in the area to the north of Friston, near its transition with the Estate Sandlands LCT (07). The rivers draining east and south have divided the edge of the plateau into a series of 'fingers' and this Ancient Estate Claylands landscape is found on those residual areas of plateau, inland of the Estate Sandlands. The National Grid substation is located largely within the Ancient Estate Claylands LCT and partially within the adjacent Estate Sandlands LCT. The Ancient Estate Claylands LCT also occurs to the north and west of the onshore cable route between Saxmundham and Leiston, before its transition into the Estate Sandlands LCT nearer the coast. The Suffolk Coastal LCA (Suffolk Coastal District Council, 2018) identifies these landscape character areas, in which the onshore substation and National Grid substation are located, as the *Heveningham and Knodishall Estate Claylands* (L1) and the *Aldringham and Friston Sandlands* (K3). The key characteristics of the LCT are described based on the Suffolk Landscape Assessment (Suffolk County Council, 2011) and are supplemented with a description of the characteristics that are locally distinctive in the Friston area (in the area around the onshore substations), with reference to site survey and the Suffolk Coastal LCA. **Key characteristics of LCT:** • Dissected plateau is composed of glacial till or boulder clay. • Enclosure pattern is generally ancient and organic in appearance, with some estate influence where rationalisation changed the field pattern into larger, more easily managed units, with straighter boundaries. • The fields are medium to large and the hedges vary from taller hedges with a mix of trees and shrubs, to single-species hedges that are more tightly controlled. • Enclosed former greens and common pastures. • The landscape was often utilised for World War II airfields, which has left a legacy of runway remains and buildings, some of which have been converted to modern industrial use.			

LCT 01: Ancient Estate Claylands

- The settlement pattern consists of occasional villages and numerous, dispersed hamlets and farmsteads.
- Vernacular buildings consist of timber-framed structures interspersed with brick ones, though the brick appearance is frequently just a façade added to an earlier timber frame.
- Blocks of ancient semi-natural woodland are scattered throughout the area, made up of oak, ash, field maple, hornbeam and small-leaved lime.
- Hedgerow trees are ubiquitous and in many places this landscape can feel well wooded.
- Despite the reasonably well-wooded landscape, the plateau landform means that the views are open and can be long. However, the comprehensive network of winding lanes and tall hedges means that other areas can be much more intimate.

Locally distinctive characteristics of the Friston area:

- The characteristic arrangement of the parish consisting of Friston village, church, village green and detached parishes, such as Fristonmoor, which is typical in Suffolk.
- The visual relationship between the detached parish of Fristonmoor and the village to the south, which is visually connected in views to Friston church and through the existing public right of way (PRoW) between the village and parish.
- Areas of land that have the appearance of common on the village edge provide texture and interest.
- The network of small-scale fields to the north of Friston, with strong hedgerow field boundaries and scattered mature deciduous field boundary trees are locally distinctive features. The enclosure pattern is generally ancient, but the field patterns tend to be straight and regularised.
- Quiet farmland, with a simple, rural character but a strong sense of agri-business land use evident amongst the medium to large fields towards Fristonmoor and Little Moor Farm.
- A network of historic green lanes, most of which have been lost to agricultural intensification and PRoWs through the field systems.
- Scattered listed farm building buildings, some of which with local vernacular architecture of dark weatherboard and red pantiles, contribute to the sense of place.
- There are several ancient farms with ‘Hall’ or ‘Manor’ in their names, including Friston Hall and Manor Farm. Friston House is a grad II listed building set in mature woodland on the northern edge of the village.
- There are large-scale modern agricultural buildings in the local landscape, particularly those a Redhouse Farm.
- Gently undulating landform, formed by relatively flat fields to the west of Grove Road/north of Friston, which rises gradually to the north towards Fristonmoor.
- Some variety in visual experience, from more open areas around Fristonmoor with views south to Friston, compared to more enclosed areas in and around the edges of Friston and parts of Grove Road, where strong hedgerows and mature woodland provides visual containment.
- Woodland, roadside trees, hedges and field boundary vegetation are often present and form a notable component of the tree cover.
- Woodland blocks are also present and numerous. In particular the ancient woodland at Grove Wood (and the adjoining Laurel Covert) provides a distinctive wooded backdrop in the setting of Friston and the surrounding agricultural fields.
- Double row of overhead pylons and electrical lines crosses the landscape between the village of Friston and Fristonmoor, form notable visual elements in the local setting and due to their larger vertical scale and form tend to distort the sense of scale in the landscape.
- The boundary of Ancient Estate Claylands and Estate Sandlands to the north of Friston is not definitive but suggests a transition in character.

LCT 01: Ancient Estate Claylands	
	
Sensitivity to change: *Combination of the value and the susceptibility of each LCT*	
Value:	Medium
• LCT does not form part of the Suffolk Coast and Heaths AONB (with the exception of a small area near Leiston Abbey) and covers land inland and to the west of the AONB. The absence of designation does not preclude value, as the LCT will be valued as a resource in the local or immediate environment, but it provides some indication that this LCT is of relatively lower landscape value than the coastal landscapes of East Suffolk. • There are no areas of this LCT in the study area protected for their nature conservation value as SSSI/SAC/SPA/NNR/Ramsar, indicated that it also has a reduced natural heritage value compared to the more 'natural' areas of coastline to the east. • Relatively widespread LCT covering the area between Leiston and Saxmundham, and the wider East Suffolk landscape between the main rivers draining east and south. Notable as the largest landscape character area within Suffolk Coastal and as having no villages of any size. • The LCT has limited recreational value, with local recreational walking along PRoW and informal road cycling along country roads being the main forms of recreational activity. • The local landscape in the Friston area has a strong sense of place and local distinctiveness, derived from the characteristic arrangement of Friston parish, the village and outlying farmsteads in the open agricultural setting with a simple, rural character, network of fields with strong hedgerow field boundaries, scattered mature deciduous field boundary trees and distinctive backdrop of ancient woodland (Grove Wood), which contribute to the local landscape quality. • The scenic quality of the LCT has been influenced by the considerable change which has occurred by its relationship to the A12 trunk road and the creation of airfields in the 1940s. There is also some intrusion of suburbanisation, with horse paddocks, barn conversions and ranch-style fencing. Large-scale modern agricultural buildings also influence scenic quality, especially where there is inadequate screening. • The landscape experience has been influenced by the double row of high-voltage overhead pylons and electrical lines between Friston and Fristonmoor, forming a large-scale electrical infrastructure influence in the local landscape.	
Susceptibility:	Medium-high
The relatively undeveloped rural character, setting of semi-natural ancient woodlands and open views from the plateau landform of the LCT are susceptible to the influence of the construction and operation of the onshore substation and National Grid substation, however the visual containment of the LCT by extensive woodland blocks, tree belts and hedges, reduces the susceptibility of this LCT to changes arising from the onshore infrastructure. Woodland blocks increase enclosure in the landscape and reduce the likelihood to experience change as a result of the onshore substations. • The characteristic arrangement and visual relationship of the parish is susceptible to changes arising from the introduction of the construction and operation of the onshore substation and National Grid	

LCT 01: Ancient Estate Claylands	
substation in landscape between Friston village and Fristonmoor. The quiet, rural setting of the open arable farmland in the parish is liable to changes. • The network of hedgerow field boundaries, scattered field boundary vegetation and woodland blocks are susceptible to physical changes arising from the construction and operation of the onshore substation and National Grid substation. • A network of public rights of way which cross the agricultural fields and connect Friston with outlying farms in the parish are liable to being interrupted and diverted during the construction and operation of the onshore substation and National Grid substation. • Susceptibility is reduced where the landscape is influenced by the presence of the double row of high-voltage overhead transmission lines, where changes will be experienced in the context of existing electrical infrastructure and large scale elements. The presence of other large-scale modern agricultural buildings in the local landscape also have also already resulted in changes to its intrinsic qualities. • The LCT is also susceptible to changes resulting from the western extremity of the onshore cable route, where it joins the onshore substation, and may have an influence on the features and character of this small part of the LCT during the construction period. • The LCT does not have any potential to be influenced by the landfall, which is outside the LCT and at a distance to the east of the LCT.	
Sensitivity:	Medium-high
The Ancient Estate Claylands LCT is assessed as having a medium value. It does not form a constituent part of the AONB, which provides some indication that this LCT is of relatively lower landscape value than the coastal landscapes of East Suffolk and that the LCT will be valued as a resource at the local, rather than national level. There are no SSSI/SAC/SPA/NNR/Ramsar designations within the LCT in the LVIA study area and it has relatively limited recreational value, other than for local rural walking and road cycling. As the largest landscape character area within Suffolk Coastal, it has a relatively widespread/common rural landscape character, although there are pockets of locally distinctive landscapes at the parish level. Broadly, the scenic qualities of the LCT relate to its rural character, setting of semi-natural ancient woodlands and open views, however some of its scenic qualities have been influenced by considerable change through transport routes, airfields, suburbanisation, large-scale agricultural buildings and agri-business, and overhead electrical infrastructure. The local landscape in the Friston area has a strong sense of place and local distinctiveness, with value deriving from the setting of the landscape to the parish of Friston, the characteristic arrangement of this parish, the village and outlying farmsteads in the open agricultural setting with a simple, rural character, network of fields with strong hedgerow field boundaries, scattered mature deciduous field boundary trees and distinctive backdrop of ancient woodland (Grove Wood). The LCT is assessed as generally having a medium-high susceptibility to changes arising from the proposed East Anglia TWO onshore infrastructure. The LCT is most susceptible to changes arising from the proposed East Anglia TWO onshore substation and National Grid substation, which are located within this LCT in the area to the north of Friston, and from the construction of the onshore cable route, which is located partially within this LCT between Friston and Knodishall. While the rural character of the LCT is sensitive to changes arising from large scale development, the visual containment of the LCT by extensive woodland blocks, tree belts and hedges, reduces the susceptibility of this LCT to changes arising from the onshore infrastructure. The characteristic arrangement and visual relationship of the parish, the quiet rural setting, network of hedgerow field boundaries and PRoWs are susceptible to changes arising from the construction and operation of the onshore substation and National Grid substation in landscape between Friston village and Fristonmoor. However, susceptibility is reduced where the landscape is influenced by the presence of the double row of high-voltage overhead transmission lines, with changes experienced in the context of existing electrical infrastructure and large scale elements. On balance, the LCT is assessed as having a medium-high sensitivity to changes arising from the proposed East Anglia TWO onshore infrastructure. The sensitivity of landscape elements (agricultural land, woodland and hedgerows) within this LCT to physical changes resulting from the onshore infrastructure are assessed as follows.	

LCT 01: Ancient Estate Claylands	
Landscape elements within LCT:	
Sensitivity of agricultural land within LCT:	Low
Sensitivity of mature woodlands within LCT:	High
Sensitivity of hedgerows within LCT:	Medium
Magnitude of change	
Geographic extent:	Local
Geographically, there is potential for changes to occur at a local to regional extent within the area of Ancient Estate Claylands LCT in the LVIA study area. The area of the LCT that may experience change as a result of the proposed East Anglia TWO onshore infrastructure is the area North of Friston, between Grove Road, Fristonmoor and Saxmundham Road (Area A), area East of Saxmundham (Area B) and East of Grove Wood, Knodishall (Areas C) (***Figure 29.7***).	
Area A: North of Friston, between Grove Road, Fristonmoor and Saxmundham Road	
Magnitude of change (construction):	High

- **Landfall** – No direct or perceived changes in character of this area of the LCT as the landfall is not located within this LCT and is located at long distance to the east at the coast and its construction will not be visible.
- **Onshore cable route** –the onshore cable route is not located within this area A of the LCT, and is assessed as having a low magnitude of change to the character of this area of the LCT during the construction period.
- **Onshore substation** – this area of the Ancient Estate Claylands LCT, to the north of Friston, is likely to be the main area where changes to landscape character will take place as a result of the construction of the onshore substation and National Grid substation. There is potential for both physical changes to landscape elements and changes in character resulting from the alteration/loss of these features; as well as potential for the introduction of new features associated with the construction of the onshore substation and National Grid substation during the construction period, which will temporarily change the character of the landscape and pattern of elements within a localised area of approximately 1.0km around the onshore substation location during the construction period.
- The magnitude of physical changes to landscape elements within this area of the Ancient Estate Claylands LCT as a result of the construction of the onshore substation and National Grid substation are assessed as follows:
  - Agricultural land: **high**, where physical changes to agricultural land result within the footprint occupied by the onshore substation, National Grid substation, access tracks and construction consolidation sites (CCS).
  - Woodland: **low**, with a small area of Laurel Covert requiring to be felled to accommodate construction of the onshore substation.
  - Hedgerows: **medium-low**, due to a section of hedgerow running the length of the National Grid substation (approximately 335m) requiring to be felled to accommodate the construction of the National Grid substation.
- The construction of the proposed East Anglia TWO onshore substation and National Grid substation will result in a large-scale change to the local character of this area of the LCT during the construction of the onshore substation, CCS and access roads, together with the increased activity of vehicles, machinery, cranes and the stockpiling of materials that will be needed during construction. The construction works will result in changes in ground conditions/profiles, installation of substation platforms on agricultural land, and the addition of CCS, fencing and installation of electrical infrastructure, which contrast with the quiet rural setting and will change the network of hedgerow field boundaries and PRoWs that allow people to experience the character of the rural local landscape. As the onshore substation and National Grid substation are constructed, the form of the buildings and external electrical infrastructure will take shape during the construction period and influence the existing landscape character, particularly resulting in changes to the local characteristic relationship of the parish between Friston and Fristonmoor. The built forms will

LCT 01: Ancient Estate Claylands	
increase the prominence of development components in the landscape through the introduction of uncharacteristically large-scale buildings and introduce complex electrical infrastructure, increasing the influence of electrical infrastructure on the character of this area. The undulating agricultural land and large woodland blocks at Grove Wood and Laurel Covert provide visual containment of the onshore substation and National Grid substation in the landscape. o The overall change to landscape character of this area of the LCT resulting from the physical changes in landscape elements and the addition of new elements during construction is assessed as **high** during construction period.	
Magnitude of change (operation, first year of operational phase):	High within a localised area of approximately 1.0km around the onshore substation
• **Onshore substation** – this area of the Ancient Estate Claylands LCT, to the north of Friston, is likely to be the main area where changes to landscape character will take place as a result of the operation of the onshore substation and National Grid substation. There is potential for new features associated with the operation of the onshore substation and National Grid substation during the operational period to have long-term changes to the character of the landscape and its pattern of elements. The operation of the proposed East Anglia TWO onshore substation and National Grid substation will result in a large-scale change to the local character of this area of the LCT, to the north of the village of Friston, during the operational period of the onshore substation and National Grid substation. The operation of the onshore substation and National Grid substation will result in long-term changes in ground conditions/profiles from the substation platforms and the presence of large-scale buildings, electrical infrastructure and fencing, which will increase the developed character of the local landscape in the area to the north of Friston. The built forms will increase the prominence of development components in the landscape through the introduction of uncharacteristically large-scale buildings and introduce complex electrical infrastructure, increasing the influence of electrical infrastructure on the character of this area. The principal change to the local character will result from the contrast of the electrical infrastructure and buildings within the onshore substation and National Grid substation within the predominantly agricultural and wooded setting and the scale/complexity of built forms compared to the existing rural character within the area. The characteristic arrangement and visual relationship of the parish, the rural setting, network of hedgerow field boundaries and PRoWs in the local landscape between Friston and Fristonmoor will all be permanently changed as a result of the operation of the onshore substation and National Grid substation. The magnitude of change is mitigated, to some degree by the location of the onshore substation and National Grid substation next to the double row of high-voltage overhead transmission lines, with the changes experienced in the context of this large scale existing electrical infrastructure. The undulating agricultural land and large woodland blocks at Grove Wood and Laurel Covert also provide visual containment of the onshore substation and National Grid substation in the landscape, particularly from the north-east and east. Woodland and hedgerows will have been planted as part of the pre-construction planting and during the first year of the operational phase, which will provide progressive screening over time, from initial limited level of screening when first planted, to partial screening during their establishment period. o The overall change to landscape character of this area of the LCT resulting from the physical changes in landscape elements and the addition of new elements during the operation of the onshore substation and National Grid substation is assessed as **high** during the operational period within a localised area of approximately 1.0km around the onshore substation.	
Magnitude of change (operation, 15 years post construction):	Medium-high within a localised area of approximately 1.0km around the onshore substation
• **Onshore substation** – the landscape mitigation planting is predicted, after 15 years into the operational period, to deliver effective mitigation of the landscape impacts of the onshore substation and National Grid substation in the form of new woodland and hedgerow planting (***Figure 29.11a-b and Figure 29.12***). Areas of native woodland planted around the onshore substation and National Grid substation will be well established and maturing between 10-15 years, comprising areas of core native woodland, native edge, wet woodland, screening woodland and mixed native hedgerow around the perimeter of the onshore substation and National Grid substation. The influence of the	

LCT 01: Ancient Estate Claylands	
onshore substation and National Grid substation on landscape character will be influenced by the establishment and growth of these areas of woodland planting over time. In the early years of growth, young recently planted cell-grown trees will be establishing, and may have good vigour, initially with limited screening effects, but progressively providing partial screening during establishment. Woodland planted areas are assumed to be well established between 5 to 10 years post-planting, with young trees coming into early maturity and growing in height, and between 10 to 15 years post-planting, fully established trees will be maturing, and are predicted to be generally retaining good vigour and starting to achieve full height with tree crowns spreading. • Historic field boundary hedgerows/tree lines and tree blocks will be established, set back from villages in the form of locally characteristic 'Covert' woods, in order to retain, insofar as possible, the open setting of existing farms and villages, while providing additional visual screening in the landscape. New hedgerows will combine with the woodland planting areas to integrate the substations into the landscape, both in terms of providing screening of the onshore infrastructure and as an extension of an element that is characteristic in the local landscape. Screening will be provided through multiple lines of planting, with a mix of blocks, belts, tree lines and hedges. The reinstatement of gappy hedges and new field trees to north of Friston will provide layered screening in views from this village. • Although the woodland planted areas are expected to provide substantial integration of the onshore substation and National Grid substation in the local landscape after 15 years into the operational period, the magnitude of change to the landscape character within the localised area of approximately 1.0km around the onshore substation location is assessed as medium-high, with the onshore substation and National Grid substation having notable influence on the local landscape character and the setting of the local area to the north of Friston within a landscape framework of woodland blocks, tree lines and hedges.	
Area B: East of Saxmundham	
Magnitude of change (construction):	Low
• **Landfall, onshore cable route and onshore substation** - no direct changes in character of this area of the LCT as the landfall, onshore cable route and onshore substation are not located within this area of the LCT. Potential temporary changes in perceived character of LCT arising from visibility of the onshore substation construction will be of low magnitude, due to geographic separation and screening between this area of LCT and the onshore substation location. Perceived changes in the character of this area of the LCT during construction of the onshore infrastructure are assessed as low.	
Magnitude of change (operation, first year of operational phase):	Low
• **Onshore substation** – no direct changes in character of this area of the LCT as the onshore substation is not located within this area of the LCT. Low perceived changes in character because the onshore substation is located at distance (1.0 km at its closest point) to the north-west and there is limited visibility of the onshore substation due to intervening screening by landform, woodland/hedgerows and built development. Perceived changes in the character of this area of the LCT during operation of the onshore substation are assessed as low.	
Area C: East of Grove Wood, Knodishall	
Magnitude of change (construction):	Medium
• **Landfall** – No direct or perceived changes in character of this area of the LCT as the landfall is not located within this LCT and is located at long distance to the east at the coast and its construction will not be visible. • **Onshore cable route** – potential for direct changes to physical landscape elements within a very small area of the LCT, to the east of Grove Road and south of Grove Wood, where a short stretch of Section 4 of the onshore cable route passes through the southern extremity of this LCT. The onshore cable route within this area includes areas of agricultural land and a hedgerow within the footprint of the onshore cable route. Within this very limited area on the southern edge of the LCT, the perceived character is likely to be changed at a local level due to the onshore cable route construction activity, including a period of fencing, topsoil strip and storage, haul road construction	

LCT 01: Ancient Estate Claylands	
and usage; a period of trench construction, cable/duct installation and trench backfilling; and a period of jointing bay and (in the event of ducting having been laid) cable installation. There will be no physical changes to area of ancient woodland at Grove Wood, which will therefore not be physically impacted upon as a result of the onshore infrastructure. o The magnitude of change to agricultural land within this area of the Ancient Estate Claylands LCT as a result of the construction of the onshore cable route is assessed as **low**. o The magnitude of change to woodland within this area of the Ancient Estate Claylands LCT as a result of the construction of the onshore cable route is assessed as **none** (ancient woodland at Grove Wood will not be physically impacted as a result of the onshore infrastructure). o The magnitude of change to hedgerows within this area of the Ancient Estate Claylands LCT as a result of the construction of the onshore cable route is assessed as **low**. • The changes to the character of the Ancient Estate Claylands would be highly localised within the most southerly part of the LCT, which is largely separated from the other parts of the LCT by Grove Wood. The changes will be most notable from close range during short periods of peak construction activity when there have been changes to the landcover and there are works occurring on Section 4 of the onshore cable route. Between these periods of peak construction activity, there will be times when there is very little activity except for the HGVs using the haul road. The key, ongoing changes would be to the landform as a result of topsoil mounds, which would be seeded, covered or fenced and the landcover, through the removal of vegetation and the replacement of a section of it with the haul road. Such changes would only be distinguishable from the arable land use at very close range. Vehicular movements through this LCT are not an unusual occurrence due to the prevalence and usage of roads. Potential changes are assessed to be of low magnitude to the pattern of landscape elements/perceived character of this LCT and occur only within and in close proximity to the onshore cable route, during periods of peak construction activity during the construction period. o The overall change to landscape character of this area of the LCT resulting from the construction of the onshore infrastructure is assessed as **low**, with the magnitude of change on the remaining areas of the LCT to the north/north-east of Grove Wood decreasing with distance from the onshore cable route. • **Onshore substation** – no direct changes in character of this area of the LCT as the onshore substation is not located within this area of the LCT. Negligible perceived changes in character because the onshore substation is substantially screened by Grove Wood and Laurel Covert in views from the east/north-east such that perceived changes in the character of this area of the LCT during construction of the onshore substation are assessed as negligible.	
Magnitude of change (operation, first year of operational phase):	Negligible
• **Onshore substation** – no direct changes in character of this area of the LCT as the onshore substation is not located within this area of the LCT. Negligible perceived changes in character because the onshore substation is substantially screened by Grove Wood and Laurel Covert in views from the east/north-east such that perceived changes in the character of this area of the LCT during operation of the onshore substation are assessed as negligible.	
Area D: Leiston and Theberton	
Magnitude of change (construction):	Negligible
• **Landfall, onshore cable route and onshore substation** - no direct changes in character of this area of the LCT as the landfall, onshore cable route and onshore substation are not located within this area of the LCT. Potential temporary changes in perceived character of LCT arising from visibility of the onshore substation construction will be of negligible magnitude, due to geographic separation and screening between this area of LCT and the onshore substation location. Perceived changes in the character of this area of the LCT during construction of the onshore infrastructure are assessed as negligible.	
Magnitude of change (operation, first year of operational phase):	Negligible

LCT 01: Ancient Estate Claylands			
• **Onshore substation** – no direct changes in character of this area of the LCT as the onshore substation is not located within this area of the LCT. Negligible perceived changes in character because the onshore substation is located at distance (2.2km at its closest point) to the north-east and there is limited visibility of the onshore substation due to intervening screening by landform, woodland/hedgerows and built development. Grove Wood and Laurel Covert provide substantial screening in views from the east/north-east such that perceived changes in the character of this area of the LCT during operation of the onshore substation are assessed as negligible.			
Significance of effect			
Geographic area of LCT	Significance of effect (construction)	Significance of effect (operation, first year of operational phase)	Significance of effect (operation, 15 years post construction)
Area A: North of Friston, between Grove Road, Fristonmoor and Saxmundham Road	**Significant**, short-term, temporary within a localised area of approximately 1.0km around the onshore substation location.	**Significant**, long-term, temporary within a localised area of approximately 1.0km around the onshore substation location. **Not significant**, long-term and temporary on the wider landscape character of the Ancient Estate Claylands LCT.	**Significant**, long-term, permanent within a localised area of approximately 1.0km around the onshore substation location. **Not significant**, long-term and permanent on the wider landscape character of the Ancient Estate Claylands LCT.
Agricultural land within this area of LCT:	**Not significant**, short-term, temporary	n/a	n/a
Mature woodlands within this area of LCT:	**Not significant**, short-term, temporary	n/a	n/a
Hedgerows within this area LCT:	**Not significant**, short-term, temporary	n/a	n/a
Area B: East of Saxmundham	**Not significant**, short-term, temporary	**Not significant**, long-term, temporary	**Not significant**, long-term, permanent
Area C: East of Grove Wood, Knodishall	**Not significant**, short-term, temporary	**Not significant**, long-term, temporary	**Not significant**, long-term, permanent

LCT 05: Coastal Dunes and Shingle Ridges

LCT 05: Coastal Dunes and Shingle Ridges			
Designations:	Suffolk Coast and Heaths AONB. Heritage Coast.	Viewpoints in LCT:	No onshore LVIA viewpoints
Baseline Description			
This LCT is found in a narrow band along the study area coast, extending from Minsmere in the north to Aldeburgh in the south, and is part of the wider stretch of this LCT that extends from Dunwich Heath through to Bawdsey (***Figure 29.2***). **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.			

LCT 05: Coastal Dunes and Shingle Ridges

- 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 was 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.

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

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 contribute 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 17.7km-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.

LCT 05: Coastal Dunes and Shingle Ridges	
• 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.	
Susceptibility:	Medium
• LCT has the potential to be influenced by the proposed East Anglia TWO onshore infrastructure due to its coastal location and exposure to the landfall (the area on the coast where the offshore export cable corridor meets the land) and the proximity of the coastal section of the onshore cable route. • LCT has no potential to be influenced by the East Anglia TWO onshore substation. • The perceptual qualities of wildness, remoteness and tranquillity are susceptible to the influence of the proposed East Anglia TWO onshore infrastructure, due to the contrast that it would have with the undeveloped landscape 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 proposed East Anglia TWO offshore development area. Due to its coastal location, it has potential to be influenced by the landfall and coastal part of the onshore cable route, however it has no potential to be influenced by the East Anglia TWO onshore substation. 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:	Local
Geographically, the area of the LCT that may experience change as a result of visibility of the proposed East Anglia TWO onshore infrastructure is confined to the narrow band of Coastal Dunes and Shingle Ridges along the coast between Thorpeness and Sizewell (Area A). The geographic extent of potential change resulting from the proposed East Anglia TWO onshore infrastructure on this LCT is confined in terms of it occurring almost entirely along the coast, within a narrow strip adjacent to the sea, and by the influence of the landfall. Areas of the LCT north of Sizewell and to the south of Thorpeness (Area B) have limited visibility of the proposed East Anglia TWO onshore infrastructure, due to their distance and orientation relative to intervening headlands.	
Area A: Thorpeness to Sizewell	
Magnitude of change (construction):	Low (landfall only)
• **Landfall** – no direct changes to the physical landscape elements of dunes and shingle ridges which define this area of the LCT, as the Horizontal Directional Drilling (HDD) temporary working area and two transition bays will be constructed to the west/inland of these physical landscape features, with cables installed to the transition bays by HDD from land to sea (underneath this LCT). Potential	

LCT 05: Coastal Dunes and Shingle Ridges		
temporary changes in perceived character of limited area of LCT of low magnitude, as a result of landfall construction works taking place near to LCT during construction phase. • **Onshore cable route** – no direct changes to the physical landscape elements of dunes and shingle ridges which define this area of the LCT, as the onshore cable route is not located within this LCT. Potential temporary changes in perceived character of LCT arising from onshore cable route construction works will be of negligible magnitude, due to intervening screening between LCT and onshore cable route. • **Onshore substation** – no direct or perceived changes in character of this area of the LCT as the onshore substation is not located within this LCT and is located at long distance (6.1km at its closest point) inland to the west and its construction will not be visible.		
Magnitude of change (operation)	None	
• **Onshore substation** – no direct or perceived changes in character of this area of the LCT as the onshore substation is not located within this LCT and is located at long distance (6.1 km at its closest point) inland to the west and will not visible.		
Area B: North of Sizewell Power Station and South of Thorpeness		
Magnitude of change (construction):	Negligible	
• **Landfall** – no direct changes to the physical landscape elements of dunes and shingle ridges which define this area of the LCT, as the HDD temporary working area and two transition bays are not located within this LCT. Potential temporary changes in perceived character of limited area of LCT of negligible magnitude, due to geographic separation and screening between these areas of the LCT and the landfall. • **Onshore cable route** – no direct changes to the physical landscape elements of dunes and shingle ridges which define this area of the LCT, as the onshore cable route is not located within this LCT. Potential temporary changes in perceived character of LCT arising from onshore cable route construction works will be of negligible magnitude, due to geographic separation and screening between LCT and onshore cable route. • **Onshore substation** – no direct or perceived changes in character of this area of the LCT as the onshore substation is not located within this LCT and is located at long distance (5.8km at its closest point) inland to the west and its construction will not visible.		
Magnitude of change (operation):	Negligible	
• **Onshore substation** – no direct or perceived changes in character of this area of the LCT as the onshore substation is not located within this LCT and is located at long distance (5.8km at its closest point) inland to the west and will not visible.		
Significance of effect		
Geographic area of LCT	Significance of effect (construction)	Significance of effect (operation)
Area A: Thorpeness to Sizewell	**Not significant**, short-term, temporary	**Not significant**, long-term
Area B: North of Sizewell Power Station and south of Thorpeness	**Not significant**, short-term, temporary	**Not significant**, long-term

LCT 06: Coastal Levels

LCT 06: Coastal Levels			
Designations:	Suffolk Coast and Heaths AONB. Heritage Coast.	Viewpoints in LCT:	No onshore LVIA viewpoints

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, are: the Marshes of the Minsmere Level extending westward to Eastbridge in Theberton (Area C); and the area of a former large mere lying to the south of the existing Meare at Thorpeness and the northern outskirts of Aldeburgh (Area B) and extending inland along the Hundred River Valley to Aldringham (Area A) (***Figure 29.7***).

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 form 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.

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

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.

LCT 06: Coastal Levels	
• Between Aldringham Common and Coldfair Green there is an area designated as the Hundred River Valley Special Landscape Area. • 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.	
Susceptibility:	Low
• LCT has the potential to be influenced by the onshore cable route, which crosses the LCT at Hundred River Valley south of Aldringham and therefore would have a direct influence, but only on a relatively small and isolated area of the LCT. • The majority of the LCT will not be subject to the influence of the proposed East Anglia TWO onshore infrastructure, including the main mere landscapes at Minsmere Level and to the south of the existing Meare at Thorpeness. • The visual containment of this LCT weakens the association between this low-lying marshland landscape and the proposed East Anglia TWO onshore infrastructure. • The LCT has no potential to be influence by the East Anglia TWO onshore substation.	
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 proposed East Anglia TWO onshore infrastructure. The large majority of the LCT is not directly exposed to the proposed East Anglia TWO onshore infrastructure and has a notable degree of concealment/screening by surrounding landscapes. Only a small part of the LCT has the potential to be influenced by the onshore cable route, which crosses the LCT at Hundred River Valley south of Aldringham. 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 proposed East Anglia TWO onshore infrastructure is restricted to a small part of the LCT that is crossed by the onshore cable route at the Hundred River Valley, south of Aldringham (Area A) (***Figure 29.7***). Area A extends along the Hundred River, forming a narrow area several kilometres inland from the main areas of the LCTs marshland at the coast. There is limited visibility and limited potential for change to the landscape character of the area of a former large mere lying to the south of the existing Meare at Thorpeness (Area B) and marshes of the Minsmere Level (Area C) (***Figure 29.7***).	
Area A: Hundred River Valley, south of Aldringham	
Magnitude of change (construction):	Medium (onshore cable route only)

LCT 06: Coastal Levels		
• **Landfall** – no direct or perceived changes in character of this area of the LCT as the HDD temporary working area and transition bays are not located within this LCT and their construction will not be visible. • **Onshore cable route** – potential for direct changes to the physical landscape elements of the Hundred River and riverside scrub vegetation, through the construction of trenched crossing of the Hundred River, assessed as medium magnitude on the local area. Potential temporary changes in perceived character of this area of the LCT arising from these onshore cable route construction works of medium magnitude. Localised changes in pattern of landscape elements/perceived character during construction period. • **Onshore substation** – no direct or perceived changes in character of this area of the LCT as the onshore substation is not located within this LCT and is located at long distance (3.0km at its closest point) to the west and its construction will not be visible.		
Magnitude of change (operation):	None	
• **Onshore substation** – no direct or perceived changes in character of this area of the LCT as the onshore substation is not located within this LCT and is located at long distance (3.0km at its closest point) to the west and will not be visible.		
Area B: Former large meare to the south of Thorpeness and northern outskirts of Aldeburgh		
Magnitude of change (construction):	None	
• **Landfall, onshore cable route and onshore substation** - no direct or perceived changes in character of this area of the LCT as the landfall, onshore cable route and onshore substation are not located within this area of the LCT and their construction will not be visible. Views are concealed/screened by a combination of the landform and the extensive areas of woodland around the Meare at Thorpeness and intervening built-up areas of Thorpeness between this LCT and the onshore infrastructure. No change to the key characteristics of the immediate marshland surroundings that define the character of this area of the LCT.		
Magnitude of change (operation):	None	
• **Onshore substation** – no direct or perceived changes in character of this area of the LCT as the onshore substation is not located within this LCT and is located at long distance (4.0km at its closest point) to the north-west and will not visible.		
Area C: Marshes of the Minsmere Level		
Magnitude of change (construction):	None	
• **Landfall, onshore cable route and onshore substation** - no direct or perceived changes in character of this area of the LCT as the landfall, onshore cable route and onshore substation are not located within this area of the LCT and their construction will not be visible. Views are concealed/screened by intervening landform and vegetation between this LCT and the onshore infrastructure. No change to the key characteristics of the immediate marshland surroundings that define the character of this area of the LCT.		
Magnitude of change (operation):	None	
• **Onshore substation** – no direct or perceived changes in character of this area of the LCT as the onshore substation is not located within this LCT and is located at long distance (4.2km at its closest point) to the north-west and will not visible.		
Significance of effect		
Geographic area of LCT	Significance of effect (construction)	Significance of effect (operation)
Area A: Hundred River Valley, south of Aldringham	**Not significant**, short-term, temporary	**Not significant**, long-term

LCT 06: Coastal Levels		
Area B: Former large meare to the south of Thorpeness and northern outskirts of Aldeburgh	**Not significant**, short-term, temporary	**Not significant**, long-term
Area C: Marshes of the Minsmere Levels and Sizewell Bents	**Not significant**, short-term, temporary	**Not significant**, long-term

LCT 07: Estate Sandlands

LCT 07: Estate Sandlands			
Designations:	Suffolk Coast and Heaths AONB, Heritage Coast, Hundred River Valley SLA.	Viewpoints in LCT:	Viewpoints 1, 2, 4, 6, 7, 8, 9, 12 and 13

Baseline Description

This LCT is found in a slightly interrupted series along the coast and its inland edge, taking in a large part of the area known as the Sandlings. In the onshore LVIA study area, the LCT includes a series of almost contiguous areas stretching from Dunwich Forest in the north, to Leiston, and Aldeburgh in the south to Friston and Snape in the west (***Figure 29.7***). The National Grid substation is located partially within the Estate Sandlands LCT (07), although it is primarily within the adjacent Ancient Estate Claylands LCT (01) to the north of Friston. The Suffolk Coastal LCA (Suffolk Coastal District Council, 2018) identifies this landscape character area as the Aldringham and Friston Sandlands (K3) LCA.

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 for 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 still feature in 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 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.

LCT 07: Estate Sandlands

- 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 over the sea and coast. Striking expressions of geology on faces of crumbling cliffs.

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

Value:	Medium-high

- The Suffolk Coast and Heaths AONB covers much of the eastern and southern parts of this LCT. In combination with adjacent coastal LCTs partly contributes to the special qualities that define the nationally designated scenic qualities of the AONB.
- Between Aldringham Common and Coldfair Green there is an area designated as the Hundred River Valley Special Landscape Area.
- Parts of the LCT, particularly heaths and Sandlings Forests to the east, 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 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 undesignated, inland agricultural landscapes.
- Scenic qualities are varied and not always consistent between the different areas of the LCT. The Leiston/Aldringham area is particularly influenced by the presence of Sizewell Nuclear Power Station, high-voltage transmission lines and intensive farming.

Susceptibility:	Medium

- The LCT has the potential to be influenced by the landfall, which is located within this LCT between Thorpeness and Sizewell.
- The LCT is most susceptible to changes resulting from the onshore cable route, which is almost entirely within the Estate Sandlands LCT on its route between Thorpeness, Sizewell, Aldringham and

LCT 07: Estate Sandlands	
Friston and therefore would have a direct influence on the features and character of the LCT during the construction period. • The proposed East Anglia TWO onshore substation is located just outside this LCT (within the Ancient Estate Sandlands LCT) and the National Grid substation is located partially within this LCT (although mainly within the Ancient Estate Claylands). The LCT is susceptible to changes arising from the construction and operation of the onshore substation and National Grid substation. • 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, reduces the susceptibility of this LCT to changes arising from the onshore infrastructure. • The area around Sizewell and Leiston is locally influenced by Sizewell Nuclear Power Station, which forms a distinct feature in this LCT backdrop. The LCT is also influenced by the presence of the double row of high-voltage transmission lines extending west across the LCT between Sizewell and Friston.	
Overall sensitivity of LCT:	Medium-high
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. The LCT is assessed as generally having a medium susceptibility to changes arising from the proposed East Anglia TWO onshore infrastructure. The LCT is susceptible to changes arising from the landfall, which is located within this LCT and is most susceptible to changes resulting from the onshore cable route, which is almost entirely within this LCT between Thorpeness, Sizewell, Aldringham and Friston and would have a direct influence on the features and character of the LCT during the construction period. The LCT is also susceptible to changes arising from the construction of the onshore substation and National Grid substation, located partially within the LCT. The sense of isolation and perceived remoteness/natural qualities evident in the most easterly 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, and the influence of existing energy generation and transmission infrastructure reduces the susceptibility of this LCT to changes arising from the onshore infrastructure. On balance, the LCT is assessed as having a generally medium-high sensitivity to changes arising from the proposed East Anglia TWO onshore infrastructure. The sensitivity of landscape elements within this LCT (agricultural land, woodland, hedgerows and scrub/heathland habitat) to physical changes resulting from the onshore infrastructure are assessed as follows.	
Landscape elements within LCT:	
Sensitivity of agricultural land within LCT:	Low
Sensitivity of mature woodlands within LCT:	High
Sensitivity of hedgerows within LCT:	Medium
Sensitivity of scrub/heathland habitat within LCT:	High
Magnitude of change	
Geographic extent:	Local
Geographically, there is potential for changes to occur at a local to regional extent within the area of Estate Sandlands LCT in the onshore study area. The area of the LCT that may experience change as a result of the proposed East Anglia TWO onshore infrastructure is the area between the landfall north of Thorpeness, extending along the onshore cable route to Sizewell, Aldringham, Coldfair Green and Friston; and in the area to the north of Friston as a result of the onshore substation (***Figure 29.7***).	

LCT 07: Estate Sandlands	
Area A: Thorpeness to Aldringham and Friston	
Magnitude of change (construction):	**Landfall**: Medium-high on localised area to the north of Thorpeness within landfall. **Onshore cable route**: medium-low within and immediately adjacent to the onshore cable route over sections 2 and 3; medium within and immediately adjacent to the onshore cable route over sections 1 and 4. **Onshore substation**: high on the local area within approximately 1.0km. Wider area of LCT: Low

- **Landfall** – Potential for direct changes to the physical landscape elements and character of the LCT resulting from the HDD temporary working area and construction of transition bays within the landfall search area of this LCT. Potential loss of hedgerows within footprint of HDD temporary working area and transition bays. The HDD temporary (12 months) working area and construction of transition bays will introduce new elements that will change the perception of the landscape in the setting of the low coastal cliffs in the landfall within the LCT and the addition of elements (temporarily during the construction period) which will change the simple landscape composition and result in some changes to the sense of isolation at the coastal edges of the LCT. Potential changes of medium-high magnitude to the pattern of landscape elements/perceived character of localised area of LCT to the north of Thorpeness (within landfall), during construction period.
- **Onshore cable route** – potential for direct changes to physical landscape elements within the onshore cable route within this LCT. This will include the clearance of agricultural landcover and other vegetation within the footprint of the onshore cable route, which is located almost entirely within this area of the LCT. Physical changes result in direct effects to landscape elements in their own right and changes to the character of the LCT's pattern of elements. Potential physical effects from felling/clearance of vegetation will occur within the footprint of the onshore cable route, at hedgerow crossings along field/road boundaries, scrub vegetation within the Sandlings SPA and a section of woodland north of Fitches Lane, on land to the south of Aldringham Court, where up to 0.9ha of mature woodland will be felled to facilitate the construction of the onshore cable route crossing Aldeburgh Road. The existing landcover will be cleared and in some places excavated over a short period. A haul road will be created along the length of the onshore cable route and topsoil mounds will be apparent. The areas will be seeded, covered or fenced or will be allowed to naturally regenerate following the changes and excavations.
  - The magnitude of change to agricultural land within the onshore cable route through the Estate Sandlands LCT as a result of the construction of the onshore cable route is assessed as **medium**.
  - The magnitude of change to woodland within a localised area of the onshore cable route woodland north of Fitches Lane within the Estate Sandlands LCT as a result of the construction of the onshore cable route is assessed as **medium-high**.
  - The magnitude of change to hedgerows along onshore cable route where it runs through the Estate Sandlands LCT as a result of the construction of the onshore cable route is assessed as **medium**.
  - The magnitude of change to scrub vegetation within this area of the Estate Sandlands LCT as a result of the construction of the onshore cable route is assessed as **medium-low**.
- The construction of the onshore cable route will introduce new elements during peak construction periods during the construction phase, which will temporarily change the character of the landscape and pattern of elements within the onshore cable route. Within and immediately adjacent to the onshore cable route within the LCT, the perceived character is likely to be changed at a local level due to the onshore cable route construction activity, including a period of fencing, topsoil strip and storage, haul road construction and usage; a period of trench construction, cable/duct installation and trench backfilling; and a period of jointing bay and (in the event of ducting having been laid) cable installation. The changes to the character of the Estate Sandlands LCT would, in the most part, be highly localised through the LCT. The changes will be most notable from close range during

LCT 07: Estate Sandlands

short periods of peak construction activity when there have been changes to the landcover and there are works occurring on this section of the route. Between these short periods of peak construction activity of the onshore cable route construction, there will be periods when there is very little construction activity except for the HGVs using the haul road in section 4 of the onshore cable route to the west of Snape Road during the substation construction, or during the 12 months landfall construction in section 1 of the onshore cable route. The CCSs and the HDD proposed to take the cable under the areas of SPA designated heath, would be more prominent over their 24 or 12 month deployment respectively. If the onshore cable route were to be trench cut through the heath rather than undergrounded through HDD processes this would have less change on landscape character and would occur over a shorter period. The key, ongoing changes along the onshore cable route would be to the landform, as a result of topsoil mounds which would be seeded, covered or fenced; and the landcover, through the removal of vegetation and the replacement of a section of it with the haul road. Such changes would only be distinguishable from the arable land use at very close range. Vehicular movements through this LCT are not an unusual occurrence due to the prevalence of roads.

- The introduction of the onshore cable route construction works would constitute a new, but relatively moderate alteration to the perceived character, with the increase in construction/development influence at variance to some of the key characteristics in parts of the LCT (such as its natural qualities, remoteness/isolation and open views). Potential changes are assessed to be of **medium-low** magnitude to the pattern of landscape elements/perceived character of the Estate Sandlands LCT within and immediately adjacent to the onshore cable route during the construction period over sections 2 and 3 of the onshore cable route between Snape Road and the western edge of the AONB.
- The magnitude of change to the landscape character of the Estate Sandlands LCT resulting from the construction of the onshore cable route is assessed as **medium** within and immediately adjacent to the onshore cable route over section 4 to the west of Snape Road, where the construction activity is likely to be more intensive and of longer duration due to the HGV access along the substation haul road during the substation construction period.
- The magnitude of change to the landscape character of the Estate Sandlands LCT resulting from the construction of the onshore cable route is assessed as **medium** within and immediately adjacent to the onshore cable route over section 1 and parts of section 2, where the onshore cable route is within the AONB and to the east of the dismantled railway, due to the increase in construction/development influence being at variance to some of the key characteristics in these parts of the LCT (such as its scenic qualities, backdrop of Sandlings Heaths and Forest, and open views) as well as the nature of the construction activities which may include a HDD crossing of the Sandlings SPA with a prolonged construction period; and landfall construction access in section 1 of the onshore cable route with increased vehicular access to the landfall.
- The magnitude of change drops notably with increasing distance from the onshore cable route, such that the magnitude of change on the wider landscape character of the Estate Sandlands LCT, resulting from the onshore cable route construction, is assessed as **low**.
- **Onshore substation** – the area of the Estate Sandlands LCT around to Friston is likely to be the main area where changes to landscape character will take place as a result of the construction of the onshore substation and National Grid substation. There is potential for both physical changes to landscape elements and changes in character resulting from the alteration/loss of these features; as well as potential for the introduction of new features associated with the construction of the onshore substation and National Grid substation during the construction period, which will temporarily change the character of the landscape and pattern of elements.
- The magnitude of physical changes to landscape elements within this area of the Estate Sandlands LCT as a result of the construction of the onshore substation and National Grid substation are assessed as follows:
  - Agricultural land: **low**, where physical changes to agricultural land occur over a small area of the National Grid substation footprint within this LCT and access road.
  - Woodland: **none**, no woodland requires to be felled within this LCT to accommodate construction of the onshore substation or National Grid substation.

LCT 07: Estate Sandlands	
o Hedgerows: **low**, due to short sections of hedgerow requiring to be felled to accommodate the construction of the National Grid substation and access road. • The construction of the proposed East Anglia TWO onshore substation and National Grid substation will result in a large-scale change to the local character of this area of the LCT in the area around Friston and particularly to the north of Friston, near the transition of this LCT with the adjacent Ancient Estate Claylands LCT. In the area north of Friston, changes will result during the construction of the onshore substation, CCS and access roads, together with the increased activity of vehicles, machinery, cranes and the stockpiling of materials that will be needed during construction. The construction works will result in changes in ground conditions/profiles, installation of substation platforms on agricultural land, and the addition of CCSs, fencing and installation of electrical infrastructure. As the onshore substation and National Grid substation are constructed, the form of the buildings and external electrical infrastructure will take shape during the construction period and influence the existing landscape character. The built forms will increase the prominence of development components in the landscape through the introduction of uncharacteristically large-scale buildings and introduce complex electrical infrastructure, increasing the influence of electrical infrastructure on the character of this area. The undulating agricultural land and large woodland blocks at Grove Wood and Laurel Covert provide visual containment of the onshore substation and National Grid substation in the landscape. These large-scale changes occur only over a localised part of this LCT, in the area north of Friston. Wider changes to the landscape character of this LCT to the east of Grove Wood become low to negligible, with increasing distance and screening provided by Grove Wood. o The magnitude of change to landscape character of the Estate Sandlands LCT resulting from the physical changes in landscape elements and the addition of new elements during construction of the onshore substation and National Grid substation is assessed as **high** during the construction period on the local area within approximately 1.0km of the onshore substation location. The magnitude of change to the wider landscape character of the LCT to becomes low to negligible, with increasing distance and screening provided by Grove Wood.	
Magnitude of change (operation, first year of operational phase)	**Onshore cable route:** medium-high on local area at woodland north of Fitches Lane **Onshore substation**: high on the local area within approximately 1.0km. Wider area of LCT: Low
• **Onshore substation** – the area of the Estate Sandlands LCT around and particularly to the north of Friston, is likely to be the main area where changes to landscape character will take place as a result of the operation of the onshore substation and National Grid substation. There is potential for new features associated with the operation of the onshore substation and National Grid substation during the operational period to have long-term changes to the character of the landscape and its pattern of elements. The operation of the proposed East Anglia TWO onshore substation and National Grid substation will result in a large-scale change to the local character of this area of the LCT, in the area around and north of Friston, during the operational period of the onshore substation, National Grid substation and associated access road, together with the increased activity of vehicles accessing the onshore substation during the operational period. In the localised area around and to the north of Friston, the operation of the onshore substation and National Grid substation will result in long-term changes in ground conditions/profiles from the substation platforms and the presence of large-scale buildings, electrical infrastructure and fencing, which will increase the developed character of the local landscape. The built forms will increase the prominence of development components in the landscape through the introduction of uncharacteristically large-scale buildings and introduce complex electrical infrastructure, increasing the influence of electrical infrastructure on the character of this area. The principal change to the local character in the area around and to the north of Friston, will result from the contrast of the electrical infrastructure and buildings within the onshore substation and National Grid substation within the predominantly agricultural and wooded setting and the scale/complexity of built forms compared to existing development influences within the area. The undulating agricultural land and large woodland blocks at Grove Wood and Laurel Covert provide visual containment of the onshore substation and National Grid substation in the landscape. Woodland and hedgerows will have been planted as part of the landscape mitigation	

LCT 07: Estate Sandlands	
scheme, which will provide progressive screening over time, from initial limited level of screening when first planted, to partial screening during their establishment period. These large-scale changes occur only over a localised part of this LCT, in the area north of Friston. Wider changes to the landscape character of this LCT to the east of Grove Wood become low to negligible, with increasing distance and screening provided by Grove Wood. • The overall change to landscape character of the area of the Estate Sandlands LCT around and to the north of Friston, resulting from the physical changes in landscape elements and the addition of new elements is assessed as **high** during the operational period. The overall change to the wider landscape character of the LCT to the east of Grove Wood becomes low to negligible, with increasing distance and screening provided by Grove Wood. • **Onshore cable route –** the removal of 0.9ha of woodland north of Fitches Lane, to facilitate the Aldeburgh Road crossing, will result in an operational effect as part of the onshore cable route (in close proximity to the cables) cannot be re-planted with woodland, since it requires to be kept clear of woodland vegetation during the operational period over the long-term. This section of onshore cable route, north of Fitches Lane, will be reinstated, potentially by of establishing heathland over the onshore cables, with the potential for woodland to be retained or further established along the outer edges of the onshore cable route, outside a minimum offset distance from the onshore cables. The change to the perceived character in the vicinity of this woodland, within a localised area of the SLA is assessed as being medium, due the physical loss of this woodland landscape element and the enclosure and character it provides at a local level, as part of the local landscape character of the LCT.	
Magnitude of change (operation, 15 years post construction):	**Onshore substation**: Medium-high on the local area within approximately 1.0km.
• **Onshore substation** – the landscape mitigation is predicted to deliver effective mitigation of the landscape impacts of the onshore substation and National Grid substation in the form of new woodland and hedgerow planting (***Figure 29.11a-b and Figure 29.12***). Areas of native woodland planted around the onshore substation and National Grid substation will be well established between 10-15 years, comprising areas of core native woodland, native edge, wet woodland, screening woodland and mixed native hedgerow around the perimeter of the onshore substation. The influence of the onshore substation and National Grid substation on landscape character will be influenced by the establishment and growth of these areas of woodland planting over time. In the early years of growth, young recently planted cell-grown trees will be establishing, and may have good vigour, initially with limited screening effects, but progressively providing partial screening during establishment. Woodland planted areas are assumed to be well established between 5 to 10 years post-planting, with young trees coming into early maturity and growing in height, and between 10 to 15 years post-planting, fully established trees will be coming into maturity, and are predicted to be generally retaining good vigour and starting to achieve full height with tree crowns spreading. Although the woodland planted areas are expected to provide substantial integration of the onshore substation and National Grid substation in the local landscape by this time, the magnitude of change to the landscape character within the localised area of approximately 1.0km around the onshore substation is expected to be medium-high, with the electrical infrastructure and components of the onshore substation still having notable influence locally, within well-wooded landscape context. • **Onshore cable route –** The largest physical loss of mature woodland as a result of the onshore cable route occurs north of Fitches Lane to facilitate the onshore cable route crossing of Aldeburgh Road (B1122), where up to 0.9ha of woodland north of Fitches Lane will be felled. The Applicant has committed to reducing the onshore cable route to 16.1m for the proposed East Anglia TWO project alone, to retain as many trees as possible at this location. The onshore development area has been refined so that woodland is retained acting as screening between residential properties on Fitches Lane and the onshore cable route and also between the onshore cable route and Aldringham Court Nursing Home. The change to the perceived character in the vicinity of this woodland, within a localised area of the Estate Sandlands LCT, will be mitigated through reinstatement. This section of onshore cable route, north of Fitches Lane, will be reinstated, through the establishment of heathland over the onshore cables and further woodland planting along the outer edges of the onshore cable route, outside a minimum offset distance from the onshore cables. The magnitude of	

LCT 07: Estate Sandlands			
change to the perceived character in the vicinity of this woodland, at 5 years post construction, once the replanted areas have established, is therefore assessed as being low within a localised area of the Estate Sandlands LCT.			
Area B: Sizewell and north of Leiston to Dunwich Forest			
Magnitude of change (construction):	Low		
• **Landfall and onshore substation** - no direct or perceived changes in character of this area of the LCT as the landfall and onshore substation are not located within this area of the LCT and their construction will not be visible. Views are concealed/screened by a combination of the landform, woodland and intervening built-up areas of Leiston between this area of the LCT and the onshore infrastructure. Negligible change to the key characteristics of this area of the LCT. • **Onshore cable route** – no direct changes to the physical landscape elements of this area of the LCT as the onshore cable route is not located within this part of the LCT. Potential changes in perceived character of LCT arising from visibility of onshore cable route construction works will be of low magnitude, due to geographic separation and screening between this area of LCT and onshore cable route.			
Magnitude of change (operation):	Negligible		
• **Onshore substation** – no direct changes in character of this area of the LCT as the onshore substation is not located within this LCT. Negligible perceived changes in character because the onshore substation is located at long distance (3.2km at its closest point) to the south-west and there is negligible visibility of the onshore substation due to intervening screening by landform, woodland/hedgerows and intervening built development around Leiston.			
Area C: Aldeburgh to Snape			
Magnitude of change (construction):	Low		
• **Landfall, onshore cable route and onshore substation** - no direct changes in character of this area of the LCT as the landfall, onshore cable route and onshore substation are not located within this area of the LCT. Potential temporary changes in perceived character of LCT arising from visibility of onshore cable route construction works and onshore substation construction will be of low magnitude, due to geographic separation and screening between this area of LCT and onshore infrastructure. Low change to the key characteristics of the Estate Sandlands that define the character of this area of the LCT.			
Magnitude of change (operation):	Low		
• **Onshore substation** – no direct changes in character of this area of the LCT as the onshore substation is not located within this LCT. Low perceived changes in character because the onshore substation is located at distance (1.5km at its closest point) to the south-west and there is limited visibility of the onshore substation due to intervening screening by landform, woodland/hedgerows and intervening built development around Friston.			
Significance of effect:			
Geographic area of LCT	Significance of effect (construction)	Significance of effect (operation, first year of operational phase)	Significance of effect (operation, 15 years post-construction)
Area A: Thorpeness to Aldringham and Friston	**Significant**, short-term, temporary within and immediately adjacent to the onshore cable route sections 1 and 2 within the AONB and section 4 to the west of Snape Road; and within 1km of the onshore substation.	**Significant**, long-term, temporary within and immediately adjacent to the onshore substation (within 1km). **Not significant**, long-term and temporary on the wider landscape	**Significant**, long-term, permanent within and immediately adjacent to the onshore substation (within 1km). **Not significant**, long-term and permanent on the wider landscape

LCT 07: Estate Sandlands			
	Not significant, short-term and temporary within and immediately adjacent to the onshore cable route sections 2 and 3 between Snape Road and the boundary of the AONB, and on the wider landscape character of the Estate Sandlands LCT.	character of the Estate Sandlands LCT.	character of the Estate Sandlands LCT.
Agricultural land within this area of the LCT:	**Not significant**, short-term, temporary	n/a	n/a
Mature woodlands within this area of the LCT (at woodland north of Fitches Lane):	**Significant,** short-term, permanent	**Significant,** short-term, temporary	**Not significant,** long-term, permanent (once replanted woodland has established after 5 years)
Hedgerows within this area of the LCT:	**Not significant**, short-term, temporary	n/a	n/a
Scrub vegetation within this area of the LCT:	**Not significant**, short-term, temporary	n/a	n/a
Area B: Sizewell and north of Leiston to Dunwich Forest	**Not significant**, short-term, temporary	**Not significant**, long-term, temporary	**Not significant**, long-term, permanent
Area C: Aldeburgh to Snape	**Not significant**, short-term, temporary	**Not significant**, long-term, temporary	**Not significant**, long-term, permanent

29.3.2 Landscape Designations

15. An assessment of the landscape effects of the onshore infrastructure on LCTs within the study area is presented in the following technical assessment. Landscape designations are shown with the ZTV for the onshore substation and National Grid substation in ***Figure 29.8***.

29.3.2.1 Suffolk Coast and Heaths AONB (including Suffolk Heritage Coast)

16. The Suffolk Coast and Heaths AONB (the AONB) is located approximately 1.6km to the south of the proposed East Anglia TWO project onshore substation at its closest point (***Figure 29.8***) and generally located over 3km to the east of the onshore substation where it covers the Suffolk coast. The AONB 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.

17. 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.

18. 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 and 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.

19. 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 are considered as integral to this assessment of the AONB.

20. 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 Fens (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); and
- Valley Meadowlands (LCT 26).

21. Several of these LCTs (LCTs 16, 20 and 26) have been identified in the preliminary assessment in ***Table 29.2.1***, as having no potential to be significantly affected by the proposed East Anglia TWO project onshore infrastructure, due to their distance and/or substantial amount of intervening screening between these LCTs and the proposed East Anglia TWO project onshore infrastructure. 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 16, 20 and 26. A number of other LCTs that are within the AONB are not within the onshore LVIA study area, as they are located over 3km from the onshore infrastructure – LCTs 08, 11, 15 and 29. 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 08, 11, 15 and 29.

22. The LCTs that define the areas of the AONB where the landfall and onshore cable route are located, are those which are susceptible to the influence of the proposed East Anglia TWO project onshore infrastructure. These are identified as the Coastal Dunes and Shingle Ridges (05); Coastal Levels (06) and Estate Sandlands (07). The effects of the onshore infrastructure on the character of these LCTs, is assessed in full in the technical assessment in ***section 29.3.1*** of this appendix. The assessment of the effects on these LCTs found that there would be no significant effects on the character of LCTs 05 and 06 as a result of the proposed East Anglia TWO project onshore infrastructure.

23. The assessment of effects on the AONB is informed by these assessments of the LCTs that define its 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.

24. Special qualities are set out in the Suffolk Coast and Heaths AONB Natural Beauty and Special Qualities Indicators report (SCDC, 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).

25. 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. A separate AONB special qualities assessment has been undertaken in this ES and incorporates findings from the SLVIA, as well as other assessments such as socio-economic impacts.

26. The approach of this chapter to the assessment of the effects on landscape character of the AONB, 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, 2017). These natural beauty indictors define the landscape qualities of the AONB, which inform its special qualities.

27. The assessment presented here, utilises the table of natural beauty indicators from the AONB special qualities report and assess, for each of the onshore substation, onshore cable route and landfall:

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

28. This assessment of the overall effects of the onshore infrastructure on the special qualities of the AONB is set out as follows. The landscape and visual impacts on the AONB of the landfall and onshore cable route during operation have been scoped out of the assessment, as agreed with PINS during scoping, as following reinstatement works, the largely underground infrastructure at the landfall and within the onshore cable route is unlikely to result in significant effects on the special qualities of the AONB.

29. The effects of the onshore substation on landscape character have been assessed as being not significant at distances of greater than 1km. Therefore, there is very limited potential for an effect on a Special Quality of the AONB to be significant at distances of more than 1.6km between the AONB and the onshore substation.

30. The effects of the onshore cable route and landfall construction are considered in relation to areas of the AONB that are defined as follows and shown in ***Figure 29.8:***

- Area A - AONB between Thorpeness, Sizewell and Leiston;
- Area B - AONB between Thorpeness, Aldeburgh and Snape; and
- Area C – AONB between Sizewell and Dunwich Forest.

31. The onshore cable route is located entirely within Area A, between Thorpeness, Sizewell and Leiston, with no sections of the onshore cable route located in Areas B and C. The potential effects of the onshore cable route and landfall on areas B and C of the AONB would therefore not occur as a result of any direct changes to these areas but would only be as a result of the potential visibility of their construction as part of the wider context of these areas.

32. To the south of Aldringham, the onshore cable route extends west inland, away from the coastal areas of the AONB towards the onshore substation, becoming increasingly distant from the coastal part of the AONB, while running parallel to, and approximately 1km north of the area of AONB covering the River Alde estuary.

33. The onshore cable route, CCS and HDD underground cabling (if required at the SPA crossing) are located in relatively close proximity to the southern edge of Area C, however the susceptibility of this area (and therefore its sensitivity to the proposed change) is considered to be lower along this edge due to the localised effects on character of the Sizewell Power Station, pylon lines and substations in the vicinity.

34. It is assessed that as a result of these factors the effects of the onshore cable route construction on the landscape character of areas identified as B and C of the AONB ***(Figure 29.8***) will be **not significant**.

Suffolk Coast and Heaths AONB (including Suffolk Heritage Coast)
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, particularly 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 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.

Suffolk Coast and Heaths AONB (including Suffolk Heritage Coast)
• 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 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

Suffolk Coast and Heaths AONB (including Suffolk Heritage Coast)	
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.	
Susceptibility (defined by area of the AONB, ***Figure 29.8***):	
Area A AONB between Thorpeness, Sizewell and Leiston:	High
Area B AONB between Thorpeness, Aldeburgh and Snape:	Medium-high
Area C AONB Sizewell and Dunwich Forest:	Medium
Sensitivity to change (defined by area of the AONB, ***Figure 29.8***): *Combination of the value and susceptibility of the AONB*	
Area A AONB between Thorpeness, Sizewell and Leiston:	High. AONB is of high value and Area A has high susceptibility to the changes resulting from the construction and operation of the onshore infrastructure, since the onshore cable route and landfall are within Area A, it is more susceptible and therefore more sensitive to the changes than Areas B and C where no development is taking place during the construction period.
Area B AONB between Thorpeness, Aldeburgh and Snape:	Medium-high. AONB is of high value and Area B has medium-high susceptibility to the changes resulting from the construction and operation of the onshore infrastructure, since the onshore cable route is not within Area B and no development occurs within Area B, it is less susceptible and therefore less sensitive to the changes than Area A.
Area C AONB Sizewell and Dunwich Forest:	Medium. AONB is of high value and Area C has medium susceptibility to the changes resulting from the construction and

Suffolk Coast and Heaths AONB (including Suffolk Heritage Coast)		
	operation of the onshore infrastructure, since the onshore cable route is not within Area C, no development occurs within Area C and its baseline is notably influenced by Sizewell Nuclear Power Station, it is less susceptible and therefore less sensitive to the changes than Areas A and B.	
Onshore substation and National Grid substation		
Magnitude of change to AONB special qualities (construction):		Significance of effect (construction):
Magnitude of change on landscape quality:	Low	**Not significant**, short-term, temporary
• The construction of the onshore substation and National Grid substation is located outside the AONB and its immediate setting. The qualities of the AONB cited in this indicator will not be subject to change as a result of the construction of the onshore substation. • Although there is some potential for direct effects on the condition of landscape elements such as hedgerows in the local landscape at the onshore substation, the construction of the onshore substation and National Grid substation is located outside the AONB and would result in no changes to the physical condition of landscape features and elements within the AONB. • The construction of further electrical influences near to the existing overhead transmission line will increase the prominence of man-made features in the local landscape but will result in low or no change to the landscape quality of the AONB, primarily due the distance of the construction of the onshore substation from the AONB and limited visibility from within the AONB.		
Magnitude of change on scenic quality:	Low	**Not significant**, short-term, temporary
• Although there is potential for high changes to the sense of place of the landscape in the localised area to the north of Friston, the qualities of the AONB cited in this indicator will be subject to low levels of change, primarily due the distance of the construction of the onshore substation and National Grid substation from the AONB and their limited visibility from within the AONB. • Although there is potential for some change to the landform within the onshore substation outside the AONB, the qualities of the striking coastal landforms within the AONB cited in this indicator will not be subject to change. • Although there is potential for change to the appealing pattern/composition of the farmed fields, hedgerows and woodland belts in the local landscape near the onshore substation during construction, the visual interest of the AONB created by the varied land cover within the AONB cited in this indicator will not be subject to change. • There is potential for change to some aesthetic factors that appeal to the senses, particularly resulting from changes to enclosed farmland areas to the north of Friston, however the relationship of the key constituent features within the coastal areas of the AONB (forests, reedbeds, intertidal mud-flats, heathland, sand dunes and shingle beaches) cited in this indicator will not be subject to change; nor will the contrast between open and exposed areas on the coast. • There will be no change to the memorable/unusual views cited in this indicator 'across heaths and along the coast, out to sea', since views to the coast from the onshore substation are prevented by landform and forestry; and there will be no changes to views of historic coastal landmarks. The construction of the onshore substation and National Grid substation will be viewed in the context of other modern structures including the overhead transmission line. • Although there is potential for change to these indicators of scenic quality, the experience of these scenic qualities within the AONB cited in this indicator will not be subject to change due to the distance and limited visibility of the construction of the onshore substation and National Grid substation outside the AONB.		
Magnitude of change on relative wildness:	Negligible	**Not significant**, short-term, temporary

Suffolk Coast and Heaths AONB (including Suffolk Heritage Coast)		
• Due to the introduction of built development features and access tracks, the onshore substation and National Grid substation will further reduce any sense of remoteness in the local landscape to the north of Friston, however there would be limited change to the 'relatively undeveloped character of the Suffolk coast' and the sense of remoteness in the AONB, due to the position of the onshore substation outside the AONB and its very limited intervisibilty with the Suffolk coast. • Changes to the perceived wildness of the AONB are considered to be negligible due to the distance of the onshore substation and National Grid substation outside the AONB and the limited intervisibility. • There will be no physical changes to the semi-natural habitats present within the AONB as a result of the onshore substation and National Grid substation, as they are located well outside the AONB. • Although the onshore substation and National Grid substation would further 'interrupt' and develop farmland in the local landscape of the Estate Sandlands/Ancient Estate Claylands to the north of Friston, they will result in little or no changes to the undeveloped landscape of the AONB since they are located well outside the AONB. • The addition of onshore substation and National Grid substation will reduce openness within the local landscape to the north of Friston, due to presence of large scale built features, however, due to the location of the onshore substation at distance outside the AONB, it will not result in changes to the exposure/openness of the coastline and heaths within the AONB. • The contrasts between areas of enclosed forestry and open coastline that are present in the AONB, will not be changed as a result of the onshore substation, outside the AONB. • The onshore substation and National Grid substation will result in no changes to areas of semi natural landscape along the coastline/estuaries of the AONB.		
Magnitude of change on relative tranquillity:	Negligible	**Not significant**, short-term, temporary
• Although there will be potential changes of high magnitude to the perceived tranquillity of the rural landscape within the locality of the onshore substation and National Grid substation, arising from the construction of large scale electrical infrastructure, there will be limited/no change to the relative tranquillity of the AONB itself, due to the geographic separation and distance of the onshore substation outside the AONB landscape.		
Magnitude of change on natural heritage features:	None	**Not significant**, short-term, temporary
• The onshore substation and National Grid substation will not change the visible expression of the current land use relationship/ transition that is evident on the inland edge of the AONB, as it is located at distance, well outside the AONB. • The onshore substation and National Grid substation will not change the appearance or qualities of striking geo-morphological features within the AONB that are cited in this indicator, which are largely associated with the coast. • As the onshore substation and National Grid substation are located outside the AONB, there will be no change to the physical condition of designated habitats within the AONB, or to the scenic quality/character that these habitats provide to the AONB.		
Magnitude of change on cultural heritage:	Negligible	**Not significant**, short-term, temporary
• There will be no direct changes to archaeological remains, parklands or designed landscapes within the AONB, as a result of the onshore substation and National Grid substation (outside the AONB). • Although there is potential for change to the enclosed arable fields in the local landscape to the north of Friston near to the onshore substation, the qualities of the visible historic landscape experienced primarily around the coastal landscapes within the AONB cited in this indicator will not be subject to change. • Potential addition of further electrical infrastructure influences in the landscape near to existing overhead transmission line, will increase prominence of man-made features, however due to the distance from Sizewell and the AONB, would not affect the scenic quality of the AONB. Associations with Sizewell Power Station and pylons may extend perceived link to energy coast further inland		

Suffolk Coast and Heaths AONB (including Suffolk Heritage Coast)		
and would be different to the current perception that these developments are currently in remote coastal landscapes. • There is potential for the onshore substation and National Grid substation to result in high change locally within the local landscape around the onshore substation, due to contrasts in scale with existing building materials and scale, however, the onshore substation will result in low change to cultural heritage qualities of the AONB cited in this indicator • The onshore substation and National Grid substation will result in no changes to the characteristic land management practices of the AONB.		
Magnitude of change to AONB special qualities (operation):		Significance of effect (operation):
Magnitude of change on landscape quality:	Low	**Not significant**, long-term
• The onshore substation and National Grid substation are located outside the AONB and its immediate setting. The qualities of the AONB cited in this indicator will not be subject to change as a result of the operation of the onshore substation. • Although there is some potential for direct effects on the condition of landscape elements such as hedgerows in the local landscape at the onshore substation, the onshore substation and National Grid substation are located outside the AONB and would result in no changes to the physical condition of landscape features and elements within the AONB. • The operation of further electrical influences near to the existing overhead transmission line will increase the prominence of man-made features in the local landscape but will result in low or no change to the landscape quality of the AONB, primarily due the distance of the onshore substation from the AONB and limited visibility from within the AONB.		
Magnitude of change on scenic quality:	Low	**Not significant**, long-term
• Although there is potential for high changes to the sense of place of the landscape in the localised area to the north of Friston, the qualities of the AONB cited in this indicator will be subject to low levels of change, primarily due the distance of the operational onshore substation and National Grid substation from the AONB and their limited visibility from within the AONB. • Although there is potential for some change to the landform within the onshore substation outside the AONB, the qualities of the striking coastal landforms within the AONB cited in this indicator will not be subject to change. • Although there is potential for change to the appealing pattern/composition of the farmed fields, hedgerows and woodland belts in the local landscape near the onshore substation, the visual interest of the AONB created by the varied land cover within the AONB cited in this indicator will not be subject to change. • There is potential for change to some aesthetic factors that appeal to the senses, particularly resulting from changes to enclosed farmland areas to the north of Friston, however the relationship of the key constituent features within the coastal areas of the AONB (forests, reedbeds, intertidal mud-flats, heathland, sand dunes and shingle beaches) cited in this indicator will not be subject to change; nor will the contrast between open and exposed areas on the coast. • There will be no change to the memorable/unusual views cited in this indicator 'across heaths and along the coast, out to sea', since views to the coast from the onshore substation are prevented by landform and forestry; and there will be no changes to views of historic coastal landmarks. The operational onshore substation and National Grid substation will be viewed in the context of other modern structures including the overhead transmission line. • Although there is potential for change to these indicators of scenic quality, the experience of these scenic qualities within the AONB cited in this indicator will not be subject to change due to the distance and limited visibility of the onshore substation and National Grid substation outside the AONB.		
Magnitude of change on relative wildness:	Negligible	**Not significant**, long-term

Suffolk Coast and Heaths AONB (including Suffolk Heritage Coast)		
• Due to the introduction of built development features and access tracks, the onshore substation and National Grid substation will further reduce any sense of remoteness in the local landscape to the north of Friston, however there would be limited change to the 'relatively undeveloped character of the Suffolk coast' and the sense of remoteness in the AONB, due to the position of the onshore substation outside the AONB and its very limited intervisibilty with the Suffolk coast. • Changes to the perceived wildness of the AONB are considered to be negligible due to the distance of the onshore substation and National Grid substation outside the AONB and the limited intervisibility. • There will be no physical changes to the semi-natural habitats present within the AONB as a result of the onshore substation and National Grid substation, as they are located well outside the AONB. • Although the onshore substation and National Grid substation would further 'interrupt' and develop farmland in the local landscape of the Estate Sandlands/Ancient Estate Claylands to the north of Friston, they will result in little or no changes to the undeveloped landscape of the AONB since they are located well outside the AONB. • The addition of onshore substation and National Grid substation will reduce openness within the local landscape to the north of Friston, due to presence of large scale built features, however, due to the location of the onshore substation at distance outside the AONB, it will not result in changes to the exposure/openness of the coastline and heaths within the AONB. • The contrasts between areas of enclosed forestry and open coastline that are present in the AONB, will not be changed as a result of the onshore substation, outside the AONB. • The onshore substation and National Grid substation will result in no changes to areas of semi natural landscape along the coastline/estuaries of the AONB.		
Magnitude of change on relative tranquillity:	Negligible	**Not significant**, long-term
• Although there will be potential changes of high magnitude to the perceived tranquillity of the rural landscape within the locality of the onshore substation and National Grid substation, arising from the construction of large scale electrical infrastructure, there will be limited/no change to the relative tranquillity of the AONB itself, due to the geographic separation and distance of the onshore substation outside the AONB landscape.		
Magnitude of change on natural heritage features:	None	**Not significant**, long-term
• The onshore substation and National Grid substation will not change the visible expression of the current land use relationship/ transition that is evident on the inland edge of the AONB, as it located at distance, well outside the AONB. • The onshore substation and National Grid substation will not change the appearance or qualities of striking geo-morphological features within the AONB that are cited in this indicator, which are largely associated with the coast. • As the onshore substation and National Grid substation are located outside the AONB, there will be no change to the physical condition of designated habitats within the AONB, or to the scenic quality/character that these habitats provide to the AONB.		
Magnitude of change on cultural heritage:	Negligible	**Not significant**, long-term
• There will be no direct changes to archaeological remains, parklands or designed landscapes within the AONB, as a result of the onshore substation and National Grid substation (outside the AONB). • Although there is potential for change to the enclosed arable fields in the local landscape to the north of Friston near to the onshore substation, the qualities of the visible historic landscape experienced primarily around the coastal landscapes within the AONB cited in this indicator will not be subject to change. • Potential addition of further electrical infrastructure influences in the landscape near to existing overhead transmission line, will increase prominence of man-made features, however due to the distance from Sizewell and the AONB, would not affect the scenic quality of the AONB. Associations with Sizewell Power Station and pylons may extend perceived link to energy coast further inland		

Suffolk Coast and Heaths AONB (including Suffolk Heritage Coast)	
and would be different to the current perception that these developments are currently in remote coastal landscapes. • There is potential for the onshore substation and National Grid substation to result in high change locally within the local landscape around the onshore substation, due to contrasts in scale with existing building materials and scale, however, the onshore substation will result in low change to cultural heritage qualities of the AONB cited in this indicator. • The onshore substation and National Grid substation will result in no changes to the characteristic land management practices of the AONB.	
Onshore cable route	
Geographic extent:	Local
The eastern-most section of the onshore cable route (section 1 and part of section 2) is located within Area A of the AONB ***(Figure 29.8)***, extending for approximately 3km in a dog-leg between the landfall to the north of Thorpeness, Sizewell Gap Road and the western edge of the AONB, which follows the route of the dismantled railway near Leiston. There is potential for the onshore cable route to result in direct changes to the landscape character of the AONB along this section 1 and part of section 2 of the onshore cable route that is within Area A of the AONB (***Figure 28.9***) during the construction period. After exiting the AONB, the onshore cable route then takes a route which runs parallel to the western edge of the AONB between Leiston and Aldringham. In this area outside the AONB, there will be no direct effects from construction of the onshore cable route on the landscape elements/physical features of the AONB. There is however, some potential for effects on the setting of Area A of the AONB (***Figure 29.8***) as a result of visibility of the construction of the onshore cable route, when it is in close proximity to the AONB boundary, such as at section 2. To the south of Aldringham, the onshore cable route extends west away from the coastal areas of the AONB towards the onshore substation, becoming increasingly distant from the coastal part of the AONB, while running parallel to, and approximately 1km north of the area of AONB covering the River Alde estuary. The area of the AONB covering the River Alde Estuary and surrounding land between Aldeburgh and Snape is identified as Area B (***Figure 29.8***). The area of the AONB to the north of Sizewell Gap road, which is defined by Sizewell Nuclear Power Station and land at Sizewell Belts and Dunwich Forest, is identified as Area C (***Figure 29.8***). The effects of the onshore cable route construction on the landscape character of areas identified as B and C of the AONB (***Figure 29.8***) will be not significant. The magnitude of change and significance of effects resulting from the construction of the onshore cable route on Area A of the AONB is assessed as follows.	
Area A: AONB between Thorpeness, Sizewell and Leiston (***Figure 29.8***)	
Magnitude of change on landscape quality (construction):	Medium
• Physical changes to the pattern of landscape elements are likely to occur in Area A of the AONB, due to the clearance of agricultural land-cover, hedgerow field boundaries and scrub vegetation within the onshore cable route. Direct changes to areas of heath and woodland within this area of the AONB will be avoided. • The construction of the onshore cable route within this area of the AONB will generally occur within intensively farmed arable land within the AONB, where active farming practices including agricultural fleece/polythene and outdoor pig rearing already influence the perceived landscape quality of the AONB. • The construction of the onshore cable route within this area of the AONB will to lead to changes in the perception of semi-natural and cultural landscapes (notably Sandlings Heath, forest and farmland within the AONB) through changes in the juxtaposition of elements during the construction period. The construction of the onshore cable route will increase the influence of construction works on the character of this relatively contained area of the AONB, within and immediately adjacent to the onshore cable route due to the onshore cable route construction activity, including a period of fencing, topsoil strip and storage, haul road construction and usage; a period of trench construction, cable/duct installation and trench backfilling; and a period of jointing bay and (in the event of ducting having been laid) cable installation, during certain periods of peak construction activity during the construction phase and within the less sensitive areas of this section of the AONB. The construction	

Suffolk Coast and Heaths AONB (including Suffolk Heritage Coast)	
of further electrical influences near to the existing National Grid overhead transmission line through this area of the AONB will increase the prominence and clutter of man-made features in the local landscape character, resulting in changes to the landscape quality of this area of the AONB. • The construction of the onshore cable route will temporarily change the appealing pattern/composition of the farmed arable land and Sandlings Forests on the edge/in the setting of this area of the AONB, which is visible from vantage points on local PRoW and B1353 gateway to the AONB/Thorpeness. The qualities of the views over coastal landscapes within the AONB will not be subject to change.	
Significance of effect on landscape quality (construction):	**Significant**, short-term, temporary construction stage effects on the landscape quality of area A of the AONB will primarily be experienced over several separate short 2-3 month periods of peak construction activity and not continuously throughout the construction phase. Over the majority of the construction stage, the relevant section of the onshore cable route will not be subject to these key construction works and the onshore cable route will primarily consist of installed infrastructure and stripped topsoil to be reinstated, during which time the effects on landscape quality are considered **not significant** due to the limited construction activity.
Magnitude of change on scenic quality (construction):	Medium
• Physical changes to the pattern of landscape elements are likely to occur in Area A of the AONB, due to the clearance of agricultural land-cover, hedgerow field boundaries and scrub vegetation within the onshore cable route. Direct changes to areas of heath and woodland within this area of the AONB will be avoided. • The construction of the onshore cable route within this area of the AONB will generally occur within intensively farmed arable land within the AONB, where active farming practices including agricultural fleece/polythene and outdoor pig rearing already influenced the perceived landscape quality of the AONB. • The construction of the onshore cable route within this area of the AONB will lead to changes in the scenic quality of semi-natural and cultural landscapes (notably Sandlings Heath, forest and farmland within the AONB) through changes in the juxtaposition of elements during the construction period. The construction of the onshore cable route will increase the influence of construction works on the scenic quality of this relatively contained area of AONB, within and immediately adjacent to the onshore cable route due to the onshore cable route construction activity, including a period of fencing, topsoil strip and storage, haul road construction and usage; a period of trench construction, cable/duct installation and trench backfilling; and a period of jointing bay and (in the event of ducting having been laid) cable installation, during certain periods of peak construction activity during the construction phase. • Although there is potential for some change to the landform within this area of the AONB due to the construction of the onshore cable route, the scenic qualities of the striking coastal landforms and estuaries within the AONB cited in this indicator will not be subject to change and there will be low levels of change to the overall landform of the gently rolling Sandlings heaths and farmland arising primarily from topsoil storage areas within the onshore cable route. • The construction of the onshore cable route within this area of the AONB is likely to lead to changes in the visual interest of the AONB created by the varied land cover where farming fields are likely to be interrupted by the construction of the onshore cable route. There will be limited changes to views over the coast and out to sea as the onshore cable route takes a route that extends inland from the coastal edge. • There is potential for change to some aesthetic factors that appeal to the senses in this area of the AONB, particularly resulting from changes to the views to and from the enclosed Sandlings heath and forest areas as a result of the construction of the onshore cable route, however the relationship of the key constituent features within the coastal areas of the AONB (reedbeds, intertidal mud-flats, heathland, sand dunes and shingle beaches) cited in this indicator will not be subject to change; nor will the contrast between open and exposed areas on the coast.	

Suffolk Coast and Heaths AONB (including Suffolk Heritage Coast)	
Significance of effect on scenic quality (construction):	**Significant**, short-term, temporary construction stage effects on the scenic quality of area A of the AONB will primarily be experienced over several separate short 2-3 month periods of peak construction activity and not continuously throughout the construction phase. Over the majority of the construction stage, the relevant section of the onshore cable route will not be subject to these key construction works and the onshore cable route will primarily consist of installed infrastructure and stripped topsoil to be reinstated, during which time the effects on scenic quality are considered **not significant** due to the limited construction activity.
Magnitude of change on relative wildness (construction:	Medium
• The construction of the onshore cable route within this area A of the AONB will introduce development influences during the construction period in a relatively undeveloped landscape, including cable trenching, installation of jointing bays, HDD, CCS, fencing and vehicles/machinery, during certain periods of peak construction activity during the construction phase. A haul road will also be constructed in an area where road routes are absent although these and other forms of development do influence the wider landscape context • The construction of the onshore cable route within this area of the AONB will generally occur within intensively farmed arable land within the AONB, where active farming practices including agricultural fleece/polythene and outdoor pig rearing already influence the perceived relative wildness of the AONB, whilst avoiding the more natural landcover of heathland and woodland. If HDD underground cabling is undertaken in relation to the Sandlings SPA crossing, on balance the effects on relative wildness would be of greater magnitude than the potential alternative of open cut trenching due to the more widespread influence and longer duration of the HDD compared with the open cut trench alternative through this area. The increase in these development influences during periods of peak construction activity, will reduce the relative wildness and sense of enclosure and isolation associated with the Sandlings forests in this area of the AONB, however outside these periods of peak construction activity, changes to the perceived wildness will be relatively low. • Areas of semi-natural habitat notably on the Sandlings heaths will not be physically impacted by the construction of the onshore cable route. • The construction of further electrical influences will occur in parts of the AONB where the character is influenced to the existing National Grid overhead transmission line and Sizewell Nuclear Power Station, providing some rationale to the construction of further electrical transmission infrastructure, while increasing the influence and clutter of man-made features in the local landscape character.	
Significance of effect on relative wildness (construction):	**Significant**, short-term, temporary construction stage effects on the relative wildness of area A of the AONB will primarily be experienced over several separate short 2-3 month periods of peak construction activity and not continuously throughout the construction phase. Over the majority of the construction stage, the relevant section of the onshore cable route will not be subject to these key construction works and the onshore cable route will primarily consist of installed infrastructure and stripped topsoil to be reinstated, during which time the effects on relative wildness are considered **not significant** due to the limited construction activity.
Magnitude of change on relative tranquillity (construction):	Medium
• The construction of the onshore cable route will result in an increase in development influence and apparent human activity in area A of the AONB with a general absence of development, although these and other forms of development do influence the wider landscape context. • The construction of the onshore cable route within this area A of the AONB will generally occur within intensively farmed arable land within the AONB, where active agricultural practices already	

Suffolk Coast and Heaths AONB (including Suffolk Heritage Coast)	
influence the perceived tranquillity of the AONB, whilst avoiding the more natural landcover of heath and woodland. • If HDD underground cabling is undertaken in relation to the SPA crossing on a balance the effects on relative tranquillity would be of greater magnitude than the potential alternative of open cut trenching due to the more widespread influence (both visually and audibly) and longer duration of the HDD compared with the open cut trench alternative through the area. • Edges of the AONB near Leiston have more urban development influences near the fringes of the AONB and are less impacted by changes resulting from the onshore cable route construction. Potential changes of medium magnitude to perceived tranquillity of rural landscape and areas of semi-natural habitat present in this area of the AONB, arising from the construction of onshore cable route construction activities, vehicle traffic and noise in an area with a relatively tranquil baseline. Relative reduction in the influence of other sounds in close proximity to construction of onshore cable route.	
Significance of effect on relative tranquillity (construction):	**Significant**, short-term, temporary construction stage effects on the relative tranquillity of area A of the AONB will primarily be experienced over several separate short 2-3 month periods of peak construction activity and not continuously throughout the construction phase. Over the majority of the construction stage, the relevant section of the onshore cable route will not be subject to these key construction works and the onshore cable route will primarily consist of installed infrastructure and stripped topsoil to be reinstated, during which time the effects on relative tranquillity are considered **not significant** due to the limited construction activity.
Magnitude of change on natural heritage features (construction):	Low
• The construction of the onshore cable route within this area of the AONB has the potential to change the visible expression of the current land use relationship/transition that is evident in the AONB but would not change the striking impressions of geology/geomorphological features present at the coast. • The construction of the onshore cable route through area A of the AONB primarily takes a route through agricultural fields and avoids natural heritage features. • The construction of the onshore cable route is likely to result in some low changes to the physical condition/quality of farmland, hedgerow field boundaries and scrub vegetation within the AONB, where clearance of short sections of hedgerow/scrub vegetation is required within the onshore cable route, with some localised changes to landscape character likely to occur as a result of these physical changes to the pattern of landscape elements whilst avoiding the more natural landcover of heath and woodland.	
Significance of effect on natural heritage features (construction):	**Not significant**, short-term, temporary construction stage effects on the natural heritage features of area A of the AONB, primarily experienced over several separate short 2-3 month periods of peak construction activity.
Magnitude of change on cultural heritage (construction):	Low
• The construction of the onshore cable route will result in no changes to the main built environment/cultural heritage features in this area of the AONB and there will be no direct changes to parklands or designed landscapes within the AONB. Although there is potential for change to the arable fields within this area of the AONB, the qualities of the visible historic landscape experienced primarily around the coastal landscapes within the AONB cited in this indicator will not be subject to change. • The construction of further electrical infrastructure influences in the landscape near to existing National Grid overhead transmission line, will increase the prominence of man-made features and influence the scenic quality in this relatively contained area of the AONB. The associations with	

Suffolk Coast and Heaths AONB (including Suffolk Heritage Coast)		
other substations, power stations and pylons may extend perceived link to energy coast further inland. • There is potential for the construction of the onshore cable route through this area of the AONB due to contrasts in scale and appearance with existing cottages/building materials, albeit being in keeping with other large-scale energy infrastructure in the landscape. • The construction of the onshore cable route will temporarily change the character of the B1353 gateway into this area of the AONB leading to the village of Thorpeness but would not directly affect the village of Thorpeness itself, which is separated from the zone by extensive coniferous woodland.		
Significance of effect on cultural heritage (construction):	**Not significant**, short-term, temporary construction stage effects on the cultural heritage of area A of the AONB will primarily be experienced over several separate short 2-3 month periods of peak construction activity and not continuously throughout the construction phase. Over the majority of the construction stage, the relevant section of the onshore cable route will not be subject to these key construction works and the onshore cable route will primarily consist of installed infrastructure and stripped topsoil to be reinstated, during which time the effects on cultural heritage are considered **not significant** due to the limited construction activity.	
Landfall		
Geographic extent:	Local	
The landfall is located within the AONB to the immediate north of Thorpeness. There is potential for the landfall to result in direct changes to the landscape character of the AONB within the landfall in a relatively small part of the south-eastern sector (set back from the coast) of Area A of the AONB (***Figure 29.8***) during the construction period. In all other areas outside the landfall within the AONB, there will be no direct effects from construction of the landfall on the landscape elements/physical features of the AONB and negligible perceived changes to the landscape character of the AONB resulting from the construction of the landfall.		
Area A: AONB between Thorpeness, Sizewell and Leiston (***Figure 29.8***)		
Magnitude of change to AONB special qualities (construction):		Significance of effect (construction):
Magnitude of change on landscape quality:	High	**Significant**, short-term, temporary during construction period
• The construction of the landfall will increase the influence of construction works on the character of a localised area of the AONB to the north of Thorpeness, in a relatively limited area, through the transition bay construction, HDD temporary working area , CCS, fencing and vehicles/machinery in use temporarily, during the construction period. The construction of landfall within the AONB is likely to lead to changes in the perception of semi-natural and cultural landscapes (notably Sandlings Heath, forest and farmland in the AONB) through changes in the juxtaposition of elements during construction. Physical changes to the pattern of landscape elements are also likely to occur due to the clearance of scrub vegetation and hedgerow field boundaries within the onshore cable route. • The majority of the change will occur as a result of the HDD infrastructure which will be located within the landfall area for a maximum of 12 months. The CCS areas would be removed after 24 months thus reducing the apparent change to the landscape quality beyond these periods. • The construction of landfall will generally occur within intensively farmed arable land within the AONB, where agricultural fleece/polythene and outdoor pig rearing has already influenced the perceived landscape quality of the AONB. • The construction of the landfall will increase the prominence and clutter of man-made features in the local landscape character, resulting in changes to the landscape quality of this small area of the AONB.		

Suffolk Coast and Heaths AONB (including Suffolk Heritage Coast)		
Magnitude of change on scenic quality:	High	**Significant**, short-term, temporary during construction period
• The construction of the landfall will increase the influence of construction works on the scenic quality of a localised area of the AONB to the north of Thorpeness, in a relatively limited area, through the transition bay construction, HDD temporary working area, CCS, fencing and vehicles/machinery in use temporarily, during the construction period. The construction of landfall within the AONB is likely to lead to changes in the perception of semi-natural and cultural landscapes (notably Sandlings Heath, forest and farmland within the AONB) through changes in the juxtaposition of elements during the construction period. Physical changes to the pattern of landscape elements are also likely to occur due to the clearance of scrub vegetation and hedgerow field boundaries within the onshore cable route. • Although there is potential for some change to the landform within the landfall, due to the construction of the HDD temporary working area and transition bays, the scenic qualities of the striking coastal landforms and estuaries within the AONB cited in this indicator will not be subject to change and there will be low levels of change to the overall landform due to the use of HDD. • The construction of the cable landfall within the AONB is likely to lead to changes in the visual interest of the area within the landfall, created by the varied land cover and mosaic of habitats (forest, heaths and farmland), which are likely to be interrupted by the construction works. There will be some changes to views over the coast and out to sea due to the landfall being viewed at the coastal edge. • The majority of the change will occur as a result of the HDD infrastructure which will be located within the landfall area for a maximum of 12 months. The CCS areas would be removed after 24 months thus reducing the apparent change to the scenic quality beyond these periods. • The construction of landfall will generally occur within intensively farmed arable land within the AONB, where agricultural fleece/polythene and outdoor pig rearing has already influenced the perceived landscape quality of the AONB.There is potential for change to some aesthetic factors that appeal to the senses, particularly resulting from changes to enclosed Sandlings heath and forest areas, and the open exposure to the sea, as a result of the construction of the onshore cable route, however the relationship of the key constituent features within the coastal areas of the AONB (reedbeds, intertidal mud-flats, heathland, sand dunes and shingle beaches) cited in this indicator will not be subject to change.		
Magnitude of change on relative wildness:	Medium-high	**Significant**, short-term, temporary during construction period
• The construction of the landfall will introduce development influences during the construction period in a relatively undeveloped landscape near the coastal headland at Thorpeness, including installation of transition bays, HDD temporary working area, CCS, fencing and vehicles/machinery. • The majority of the change will occur as a result of the HDD infrastructure which will be located within the landfall area for a maximum of 12 months. The CCS areas would be removed after 24 months thus reducing the apparent change to the relative wildness beyond these periods. • The increase in these development influences during the construction period, will reduce the relative wildness and sense of enclosure and isolation associated with the coastal areas around the headland at Thorpeness and the adjacent Sandlings Forests on the inland edges of the landfall • The construction of the landfall will occur in parts of the AONB where the character is relatively undeveloped, increasing the influence and clutter of man-made features in the local landscape character.		
Magnitude of change on relative tranquillity:	Medium (High during HDD phase)	**Significant**, short-term, temporary during construction period
• Increase in development influence and apparent human activity in a small area of the AONB within the landfall with a general absence of development. Potential changes of medium magnitude to perceived tranquillity of rural landscape and areas of semi-natural habitat present in this small area of the AONB near Thorpeness, arising from the construction of the landfall, vehicle traffic and noise		

Suffolk Coast and Heaths AONB (including Suffolk Heritage Coast)		
in an area with a relatively tranquil baseline. Relative reduction in the influence of other sounds in close proximity to landfall. • The majority of the change will occur as a result of the HDD infrastructure which will be located within the landfall area for a maximum of 12 months. The CCS areas would be removed after 24 months thus reducing the apparent change to the relative tranquillity beyond these periods.		
Magnitude of change on natural heritage features:	Medium	**Significant**, short-term, temporary during construction period
• The construction of the onshore cable route within the zone has the potential to change the visible expression of the current land use relationship/transition that is evident in this small area of the AONB within the landfall but would not change the striking impressions of geology/geomorphological features present at the coast. • The construction of the landfall is likely to result in some changes to the physical condition/quality of habitats within the AONB, including areas of scrub vegetation and hedgerow field boundaries within the AONB, with some localised changes to landscape character likely to occur as a result of these physical changes to the pattern of landscape elements.		
Magnitude of change on cultural heritage:	Low	**Not significant**, short-term, temporary during construction period
• The construction of the landfall will result in no changes to the main built environment/cultural heritage features in the AONB and there will be no direct changes to parklands or designed landscapes within the AONB. Although there is potential for change to the arable fields within the landfall in the AONB, the qualities of the visible historic landscape experienced primarily around the coastal landscapes within the AONB cited in this indicator will not be subject to change. • There is potential for the construction of the onshore cable route through this area of the AONB to contrasts in scale and appearance with existing built environment features/building materials.		

Hundred River Valley SLA

Hundred River Valley SLA			
Designations:	Local landscape designation	Viewpoints in LCT:	No onshore LVIA viewpoints
Baseline Description:			
Within Suffolk Coastal District, the valleys of the Rivers Alde, Blyth, Deben, Fynn, Hundred, Mill, Minsmere, Ore and Yox together with their tributaries have been identified as SLA. Some of these include river valleys which still possess traditional grazing meadows and marshes with their hedgerows, dykes and associated flora and fauna and Historic Parklands. The special attributes of the Hundred River Valley area have not been defined in any citation, but the SLA covers the area between the edge of the AONB to the south of the B1353 Thorpeness Road and extends west along the valley through Aldringham to Coldfair Green (***Figure 29.3***). There are a variety of land use influences within the SLA, including primarily agricultural arable land, areas of woodland to north of Fitches Lane and the urban areas of Aldringham and Coldfair Green. The Hundred River between Aldringham and Coldfair Green defines the centre of the SLA, but this river is formed by a narrow channel that it is not readily apparent in the landscape. Land to the west of the SLA is defined by Knodishall Common, an area of remnant heathland and semi-natural woodland on the western edge of Coldfair Green. The SLA is crossed by the National Grid overhead transmission which traverses Aldringham and land to the north of Coldfair Green.			

Hundred River Valley SLA	
Sensitivity to change: *Combination of the value and susceptibility of the LCT*	
Value:	Medium
• The Hundred River Valley SLA is a local landscape designation, which is identified as having special landscape attributes that are vulnerable to change and is afforded policy protection in the local plan.	
Susceptibility:	Medium
• The SLA has the potential to be influenced by the onshore cable route, which crosses the SLA at the Hundred River Valley to the south of Aldringham and therefore would have a direct influence, but only on a relatively small and isolated area of the SLA. • The onshore cable route crosses woodland to the north of Fitches Lane, to the south of Aldringham Court, which is within the SLA and is susceptible to changes resulting from the constriction of the onshore cable route. • The majority of the SLA to the west of Aldringham/north of Coldfair Green will not be subject to the influence of the onshore infrastructure, due to the presence of intervening mature woodland and urban areas between the SLA and the onshore cable route. • The LCT has no potential to be influence by the onshore substation, National Grid substation or landfall.	
Sensitivity:	Medium
• The SLA is assessed as having a medium susceptibility to changes arising from the proposed East Anglia TWO onshore infrastructure.	
Magnitude of change:	
Geographic extent:	Local
Area A: Hundred River Valley, south of Aldringham	
Magnitude of change (construction):	Medium-high over a local area at woodland north of Fitches Lane, south of Aldringham due to the felling of mature woodland. Low on the majority of the of the SLA.
• **Landfall** – no direct or perceived changes in character of this area of the SLA as the HDD temporary working area and transition bays are not located within this SLA and their construction will not be visible. • **Onshore cable route** – potential for direct changes to the physical landscape elements of the Hundred River and riverside scrub vegetation, through the construction of trenched crossing of the Hundred River, assessed as low magnitude. Potential temporary changes in perceived character of this area of the LCT arising from these onshore cable route construction works of low magnitude. Localised changes in pattern of landscape elements/perceived character during the construction period. The largest physical loss of mature woodland occurs at woodland north of Fitches Lane, on land to the south of Aldringham Court, where up to approximately 0.9ha of mature woodland will be felled to facilitate the construction of the onshore cable route crossing Aldeburgh Road. The felling of an area of woodland north of Fitches Lane, to the south of Aldringham Court, on either side of the B1122 will be visible in local views of the SLA and will change the visual amenity experienced in the locality, creating more open views in an area that has a relatively enclosed character. The changes to the landscape character of the SLA in this localised area from the construction of the onshore cable route are assessed as medium-high magnitude of change. • **Onshore substation** – no direct or negligible perceived changes in character of the SLA as the onshore substation is not located within this SLA and is located approximately 1km to the west and its construction will not be visible due to the intervening screening by urban areas and Grove Wood.	
Magnitude of change (operation, first year of operational phase):	Medium-high over a local area at woodland north of Fitches Lane, south of Aldringham due to the felling of mature woodland. Low to negligible over the majority of the SLA.

Hundred River Valley SLA			
• **Onshore cable route –** the removal of 0.9ha of woodland north of Fitches Lane, to facilitate the Aldeburgh Road crossing, will result in an operational effect as the onshore cable route cannot be re-planted with woodland, since it requires to be kept clear of woodland vegetation during the operational period over the long-term. This section of onshore cable route, north of Fitches Lane, will be reinstated, potentially by of establishing heathland over the onshore cables, with the potential for woodland to be retained or further established along the outer edges of the onshore cable route, outside a minimum offset distance from the onshore cables. The change to the perceived character in the vicinity of this woodland, within a localised area of the SLA is assessed as being medium, due the physical loss of this woodland landscape element and the enclosure and character it provides at a local level, as part of the local landscape character of the LCT. • **Onshore substation** – no direct or perceived changes in character of this area of the SLA as the onshore substation is not located within this SLA and is located at long distance to the west and will not visible due to the intervening screening by urban areas and Grove Wood.			
Magnitude of change (operation, 15 years post construction):	Low over a local area at woodland north of Fitches Lane, due to reinstatement. Low to negligible over the majority of the SLA.		
• **Onshore cable route** – The largest physical loss of mature woodland as a result of the onshore cable route occurs north of Fitches Lane to facilitate the onshore cable route crossing of Aldeburgh Road (B1122), where up to 0.9ha of woodland north of Fitches Lane will be felled. The Applicant has committed to reducing the onshore cable route to 16.1m for the proposed East Anglia TWO project alone, to retain as many trees as possible at this location. The onshore development area has been refined so that woodland is retained acting as screening between residential properties on Fitches Lane and the onshore cable route and also between the onshore cable route and Aldringham Court Nursing Home. The change to the perceived character in the vicinity of this woodland, within a localised area of the Hundred River Valley SLA, will be mitigated through reinstatement. This section of onshore cable route, north of Fitches Lane, will be reinstated, through the establishment of heathland over the onshore cables and further woodland planting along the outer edges of the onshore cable route, outside a minimum offset distance from the onshore cables. The magnitude of change to the perceived character in the vicinity of this woodland, 5 years post construction with mitigation, is therefore assessed as being low within a localised area of the Hundred River Valley. • **Onshore substation** – no direct or perceived changes in character of this area of the SLA as the onshore substation is not located within this SLA and is located at long distance to the west and will not visible due to the intervening screening by urban areas and Grove Wood.			
Significance of effect:			
Geographic area of LCT	Significance of effect (construction)	Significance of effect (operation, first year of operational phase)	Significance of effect (operation, 15 years post-construction)
Area A: Hundred River Valley, south of Aldringham near woodland north of Fitches Lane	**Significant**, short-term, temporary	**Significant**, short-term, temporary	**Not significant**, long-term, permanent (after 5 years woodland establishment)
Area B: Majority of the of the SLA	**Not significant**, short-term, temporary	**Not significant**, short-term, temporary	**Not significant**, long-term, permanent (after 5 years woodland establishment)

29.4 Technical Assessment (Alternative Onshore Substation Footprint)

35. The detailed technical assessment of the landscape effects of the proposed East Anglia TWO project onshore infrastructure set out in ***section 29.3*** is based upon the assumption that the proposed East Anglia TWO project will use the intended onshore substation location.

36. This section provides a detailed technical assessment of the landscape effects of the proposed East Anglia TWO project onshore infrastructure in the eventuality that the proposed East Anglia TWO project uses the alternative substation location, as allowed for in the draft DCO.

29.4.1 Potential Impacts during Construction and Operation

37. A detailed technical assessment of the landscape effects of the proposed East Anglia TWO project onshore infrastructure is set out in ***section29.3***. This describes, in full technical detail, the likely significant effects of the proposed East Anglia TWO project onshore infrastructure on each landscape receptor, assessing those landscape receptors that were identified in the preliminary assessment in ***TableA29.1*** and ***TableA29.2*** as having potential to be significantly affected.

29.4.1.1.1 Landscape Character Types

38. An assessment of the landscape effects of the onshore infrastructure on LCTs within the study area is presented in the following technical assessment. LCTs are shown with the ZTV for the onshore substation and National Grid substation in ***Figure 29.7***. The assessment considers both direct effects on physical landscape elements and changes to the physical pattern and perception of LCTs.

LCT 01: Ancient Estate Claylands

LCT 01: Ancient Estate Claylands			
Designations:	Suffolk Coast and Heaths AONB. Heritage Coast.	Viewpoints in LCT:	Viewpoints 3, 5, 10 and 11
Baseline Description			
The East Anglia TWO onshore substation is located within the Ancient Estate Claylands LCT (01), in the area to the north of Friston, near its transition with the Estate Sandlands LCT (07). The rivers draining east and south have divided the edge of the plateau into a series of 'fingers' and this Ancient Estate Claylands landscape is found on those residual areas of plateau, inland of the Estate Sandlands. The National Grid substation is located largely within the Ancient Estate Claylands LCT and partially within the adjacent Estate Sandlands LCT. The Ancient Estate Claylands LCT also occurs to the north and west of the onshore cable route between Saxmundham and Leiston, before its transition into the Estate Sandlands LCT nearer the coast. The Suffolk Coastal LCA (Suffolk Coastal District Council, 2018)			

LCT 01: Ancient Estate Claylands

identifies these landscape character areas, in which the onshore substation and National Grid substation are located, as the *Heveningham and Knodishall Estate Claylands* (L1) and the *Aldringham and Friston Sandlands* (K3). The key characteristics of the LCT are described based on the Suffolk Landscape Assessment (Suffolk County Council, 2011) and are supplemented with a description of the characteristics that are locally distinctive in the Friston area (in the area around the onshore substations), with reference to site survey and the Suffolk Coastal LCA.

Key characteristics of LCT:

- Dissected plateau is composed of glacial till or boulder clay.
- Enclosure pattern is generally ancient and organic in appearance, with some estate influence where rationalisation changed the field pattern into larger, more easily managed units, with straighter boundaries.
- The fields are medium to large and the hedges vary from taller hedges with a mix of trees and shrubs, to single-species hedges that are more tightly controlled.
- Enclosed former greens and common pastures.
- The landscape was often utilised for World War II airfields, which has left a legacy of runway remains and buildings, some of which have been converted to modern industrial use.
- The settlement pattern consists of occasional villages and numerous, dispersed hamlets and farmsteads.
- Vernacular buildings consist of timber-framed structures interspersed with brick ones, though the brick appearance is frequently just a façade added to an earlier timber frame.
- Blocks of ancient semi-natural woodland are scattered throughout the area, made up of oak, ash, field maple, hornbeam and small-leaved lime.
- Hedgerow trees are ubiquitous and in many places this landscape can feel well wooded.
- Despite the reasonably well-wooded landscape, the plateau landform means that the views are open and can be long. However, the comprehensive network of winding lanes and tall hedges means that other areas can be much more intimate.

Locally distinctive characteristics of the Friston area:

- The characteristic arrangement of the parish consisting of Friston village, church, village green and detached parishes, such as Fristonmoor, which is typical in Suffolk.
- The visual relationship between the detached parish of Fristonmoor and the village to the south, which is visually connected in views to Friston church and through the existing public right of way (PRoW) between the village and parish.
- Areas of land that have the appearance of common on the village edge provide texture and interest.
- The network of small-scale fields to the north of Friston, with strong hedgerow field boundaries and scattered mature deciduous field boundary trees are locally distinctive features. The enclosure pattern is generally ancient, but the field patterns tend to be straight and regularised.
- Quiet farmland, with a simple, rural character but a strong sense of agri-business land use evident amongst the medium to large fields towards Fristonmoor and Little Moor Farm.
- A network of historic green lanes, most of which have been lost to agricultural intensification and PRoWs through the field systems.
- Scattered listed farm building buildings, some of which with local vernacular architecture of dark weatherboard and red pantiles, contribute to the sense of place.
- There are several ancient farms with ‘Hall’ or ‘Manor’ in their names, including Friston Hall and Manor Farm. Friston House is a grad II listed building set in mature woodland on the northern edge of the village.
- There are large-scale modern agricultural buildings in the local landscape, particularly those a Redhouse Farm.
- Gently undulating landform, formed by relatively flat fields to the west of Grove Road/north of Friston, which rises gradually to the north towards Fristonmoor.
- Some variety in visual experience, from more open areas around Fristonmoor with views south to Friston, compared to more enclosed areas in and around the edges of Friston and parts of Grove Road, where strong hedgerows and mature woodland provides visual containment.

LCT 01: Ancient Estate Claylands	
• Woodland, roadside trees, hedges and field boundary vegetation are often present and form a notable component of the tree cover. • Woodland blocks are also present and numerous. In particular the ancient woodland at Grove Wood (and the adjoining Laurel Covert) provides a distinctive wooded backdrop in the setting of Friston and the surrounding agricultural fields. • Double row of overhead pylons and electrical lines crosses the landscape between the village of Friston and Fristonmoor, form notable visual elements in the local setting and due to their larger vertical scale and form tend to distort the sense of scale in the landscape. • The boundary of Ancient Estate Claylands and Estate Sandlands to the north of Friston is not definitive but suggests a transition in character.	
	
Sensitivity to change: *Combination of the value and the susceptibility of each LCT*	
Value:	Medium
• LCT does not form part of the Suffolk Coast and Heaths AONB (with the exception of a small area near Leiston Abbey) and covers land inland and to the west of the AONB. The absence of designation does not preclude value, as the LCT will be valued as a resource in the local or immediate environment, but it provides some indication that this LCT is of relatively lower landscape value than the coastal landscapes of East Suffolk. • There are no areas of this LCT in the study area protected for their nature conservation value as SSSI/SAC/SPA/NNR/Ramsar, indicated that it also has a reduced natural heritage value compared to the more 'natural' areas of coastline to the east. • Relatively widespread LCT covering the area between Leiston and Saxmundham, and the wider East Suffolk landscape between the main rivers draining east and south. Notable as the largest landscape character area within Suffolk Coastal and as having no villages of any size. • The LCT has limited recreational value, with local recreational walking along PRoW and informal road cycling along country roads being the main forms of recreational activity. • The local landscape in the Friston area has a strong sense of place and local distinctiveness, derived from the characteristic arrangement of Friston parish, the village and outlying farmsteads in the open agricultural setting with a simple, rural character, network of fields with strong hedgerow field boundaries, scattered mature deciduous field boundary trees and distinctive backdrop of ancient woodland (Grove Wood), which contribute to the local landscape quality. • The scenic quality of the LCT has been influenced by the considerable change which has occurred by its relationship to the A12 trunk road and the creation of airfields in the 1940s. There is also some intrusion of suburbanisation, with horse paddocks, barn conversions and ranch-style fencing. Large-scale modern agricultural buildings also influence scenic quality, especially where there is inadequate screening. • The landscape experience has been influenced by the double row of high-voltage overhead pylons and electrical lines between Friston and Fristonmoor, forming a large-scale electrical infrastructure influence in the local landscape.	

LCT 01: Ancient Estate Claylands	
Susceptibility:	Medium-high
The relatively undeveloped rural character, setting of semi-natural ancient woodlands and open views from the plateau landform of the LCT are susceptible to the influence of the construction and operation of the onshore substation and National Grid substation, however the visual containment of the LCT by extensive woodland blocks, tree belts and hedges, reduces the susceptibility of this LCT to changes arising from the onshore infrastructure. Woodland blocks increase enclosure in the landscape and reduce the likelihood to experience change as a result of the onshore substations. • The characteristic arrangement and visual relationship of the parish is susceptible to changes arising from the introduction of the construction and operation of the onshore substation and National Grid substation in landscape between Friston village and Fristonmoor. The quiet, rural setting of the open arable farmland in the parish is liable to changes. • The network of hedgerow field boundaries, scattered field boundary vegetation and woodland blocks are susceptible to physical changes arising from the construction and operation of the onshore substation and National Grid substation. • A network of public rights of way which cross the agricultural fields and connect Friston with outlying farms in the parish are liable to being interrupted and diverted during the construction and operation of the onshore substation and National Grid substation. • Susceptibility is reduced where the landscape is influenced by the presence of the double row of high-voltage overhead transmission lines, where changes will be experienced in the context of existing electrical infrastructure and large scale elements. The presence of other large-scale modern agricultural buildings in the local landscape also have also already resulted in changes to its intrinsic qualities. • The LCT is also susceptible to changes resulting from the western extremity of the onshore cable route, where it joins the onshore substation, and may have an influence on the features and character of this small part of the LCT during the construction period. • The LCT does not have any potential to be influenced by the landfall, which is outside the LCT and at a distance to the east of the LCT.	
Sensitivity:	Medium-high
The Ancient Estate Claylands LCT is assessed as having a medium value. It does not form a constituent part of the AONB, which provides some indication that this LCT is of relatively lower landscape value than the coastal landscapes of East Suffolk and that the LCT will be valued as a resource at the local, rather than national level. There are no SSSI/SAC/SPA/NNR/Ramsar designations within the LCT in the LVIA study area and it has relatively limited recreational value, other than for local rural walking and road cycling. As the largest landscape character area within Suffolk Coastal, it has a relatively widespread/common rural landscape character, although there are pockets of locally distinctive landscapes at the parish level. Broadly, the scenic qualities of the LCT relate to its rural character, setting of semi-natural ancient woodlands and open views, however some of its scenic qualities have been influenced by considerable change through transport routes, airfields, suburbanisation, large-scale agricultural buildings and agri-business, and overhead electrical infrastructure. The local landscape in the Friston area has a strong sense of place and local distinctiveness, with value deriving from the setting of the landscape to the parish of Friston, the characteristic arrangement of this parish, the village and outlying farmsteads in the open agricultural setting with a simple, rural character, network of fields with strong hedgerow field boundaries, scattered mature deciduous field boundary trees and distinctive backdrop of ancient woodland (Grove Wood). The LCT is assessed as generally having a medium-high susceptibility to changes arising from the proposed East Anglia TWO onshore infrastructure. The LCT is most susceptible to changes arising from the proposed East Anglia TWO onshore substation and National Grid substation, which are located within this LCT in the area to the north of Friston, and from the construction of the onshore cable route, which is located partially within this LCT between Friston and Knodishall. While the rural character of the LCT is sensitive to changes arising from large scale development, the visual containment of the LCT by extensive woodland blocks, tree belts and hedges, reduces the susceptibility of this LCT to changes arising from the onshore infrastructure. The characteristic arrangement and visual relationship of the parish, the quiet rural setting, network of hedgerow field boundaries and PRoWs are susceptible to	

LCT 01: Ancient Estate Claylands	
changes arising from the construction and operation of the onshore substation and National Grid substation in landscape between Friston village and Fristonmoor. However, susceptibility is reduced where the landscape is influenced by the presence of the double row of high-voltage overhead transmission lines, with changes experienced in the context of existing electrical infrastructure and large scale elements. On balance, the LCT is assessed as having a medium-high sensitivity to changes arising from the proposed East Anglia TWO onshore infrastructure. The sensitivity of landscape elements (agricultural land, woodland and hedgerows) within this LCT to physical changes resulting from the onshore infrastructure are assessed as follows.	
Landscape elements within LCT:	
Sensitivity of agricultural land within LCT:	Low
Sensitivity of mature woodlands within LCT:	High
Sensitivity of hedgerows within LCT:	Medium
Magnitude of change	
Geographic extent:	Local
Geographically, there is potential for changes to occur at a local to regional extent within the area of Ancient Estate Claylands LCT in the LVIA study area. The area of the LCT that may experience change as a result of the proposed East Anglia TWO onshore infrastructure is the area North of Friston, between Grove Road, Fristonmoor and Saxmundham Road (Area A), area East of Saxmundham (Area B) and East of Grove Wood, Knodishall (Areas C) (***Figure 29.7***).	
Area A: North of Friston, between Grove Road, Fristonmoor and Saxmundham Road	
Magnitude of change (construction):	High

- **Landfall** – No direct or perceived changes in character of this area of the LCT as the landfall is not located within this LCT and is located at long distance to the east at the coast and its construction will not be visible.
- **Onshore cable route** –the onshore cable route is not located within this area A of the LCT, and is assessed as having a low magnitude of change to the character of this area of the LCT during the construction period.
- **Onshore substation** – this area of the Ancient Estate Claylands LCT, to the north of Friston, is likely to be the main area where changes to landscape character will take place as a result of the construction of the onshore substation and National Grid substation. There is potential for both physical changes to landscape elements and changes in character resulting from the alteration/loss of these features; as well as potential for the introduction of new features associated with the construction of the onshore substation and National Grid substation during the construction period, which will temporarily change the character of the landscape and pattern of elements within a localised area of approximately 1km around the onshore substation location during the construction period.
- The magnitude of physical changes to landscape elements within this area of the Ancient Estate Claylands LCT as a result of the construction of the onshore substation and National Grid substation are assessed as follows:
  - Agricultural land: **high**, where physical changes to agricultural land result within the footprint occupied by the onshore substation, National Grid substation, access tracks and construction consolidation sites (CCS).
  - Woodland: **low**, with a small area of Laurel Covert requiring to be felled to accommodate construction of the onshore substation.
  - Hedgerows: **medium-low**, due to a section of hedgerow running the length of the National Grid substation (approximately 335m) requiring to be felled to accommodate the construction of the National Grid substation.
- The construction of the proposed East Anglia TWO onshore substation and National Grid substation will result in a large-scale change to the local character of this area of the LCT during the construction of the onshore substation, CCS and access roads, together with the increased activity

LCT 01: Ancient Estate Claylands	
of vehicles, machinery, cranes and the stockpiling of materials that will be needed during construction. The construction works will result in changes in ground conditions/profiles, installation of substation platforms on agricultural land, and the addition of CCS, fencing and installation of electrical infrastructure, which contrast with the quiet rural setting and will change the network of hedgerow field boundaries and PRoWs that allow people to experience the character of the rural local landscape. As the onshore substation and National Grid substation are constructed, the form of the buildings and external electrical infrastructure will take shape during the construction period and influence the existing landscape character, particularly resulting in changes to the local characteristic relationship of the parish between Friston and Fristonmoor. The built forms will increase the prominence of development components in the landscape through the introduction of uncharacteristically large-scale buildings and introduce complex electrical infrastructure, increasing the influence of electrical infrastructure on the character of this area. The undulating agricultural land and large woodland blocks at Grove Wood and Laurel Covert provide visual containment of the onshore substation and National Grid substation in the landscape. o The overall change to landscape character of this area of the LCT resulting from the physical changes in landscape elements and the addition of new elements during construction is assessed as **high** during construction period.	
Magnitude of change (operation, first year of operational phase):	High within a localised area of approximately 1km around the onshore substation
• **Onshore substation** – this area of the Ancient Estate Claylands LCT, to the north of Friston, is likely to be the main area where changes to landscape character will take place as a result of the operation of the onshore substation and National Grid substation. There is potential for new features associated with the operation of the onshore substation and National Grid substation during the operational period to have long-term changes to the character of the landscape and its pattern of elements. The operation of the proposed East Anglia TWO onshore substation and National Grid substation will result in a large-scale change to the local character of this area of the LCT, to the north of the village of Friston, during the operational period of the onshore substation and National Grid substation. The operation of the onshore substation and National Grid substation will result in long-term changes in ground conditions/profiles from the substation platforms and the presence of large-scale buildings, electrical infrastructure and fencing, which will increase the developed character of the local landscape in the area to the north of Friston. The built forms will increase the prominence of development components in the landscape through the introduction of uncharacteristically large-scale buildings and introduce complex electrical infrastructure, increasing the influence of electrical infrastructure on the character of this area. The principal change to the local character will result from the contrast of the electrical infrastructure and buildings within the onshore substation and National Grid substation within the predominantly agricultural and wooded setting and the scale/complexity of built forms compared to the existing rural character within the area. The characteristic arrangement and visual relationship of the parish, the rural setting, network of hedgerow field boundaries and PRoWs in the local landscape between Friston and Fristonmoor will all be permanently changed as a result of the operation of the onshore substation and National Grid substation. The magnitude of change is mitigated, to some degree by the location of the onshore substation and National Grid substation next to the double row of high-voltage overhead transmission lines, with the changes experienced in the context of this large scale existing electrical infrastructure. The undulating agricultural land and large woodland blocks at Grove Wood and Laurel Covert also provide visual containment of the onshore substation and National Grid substation in the landscape, particularly from the north-east and east. Woodland and hedgerows will have been planted as part of the pre-construction planting and during the first year of the operational phase, which will provide progressive screening over time, from initial limited level of screening when first planted, to partial screening during their establishment period. o The overall change to landscape character of this area of the LCT resulting from the physical changes in landscape elements and the addition of new elements during the operation of the onshore substation and National Grid substation is assessed as **high** during the operational period within a localised area of approximately 1km around the onshore substation.	

LCT 01: Ancient Estate Claylands	
Magnitude of change (operation, 15 years post construction):	Medium-high within a localised area of approximately 1km around the onshore substation
• **Onshore substation** – the landscape mitigation planting is predicted, after 15 years into the operational period, to deliver effective mitigation of the landscape impacts of the onshore substation and National Grid substation in the form of new woodland and hedgerow planting (***Figure 29.11a-b and Figure 29.12***). Areas of native woodland planted around the onshore substation and National Grid substation will be well established and maturing between 10-15 years, comprising areas of core native woodland, native edge, wet woodland, screening woodland and mixed native hedgerow around the perimeter of the onshore substation and National Grid substation. The influence of the onshore substation and National Grid substation on landscape character will be influenced by the establishment and growth of these areas of woodland planting over time. In the early years of growth, young recently planted cell-grown trees will be establishing, and may have good vigour, initially with limited screening effects, but progressively providing partial screening during establishment. Woodland planted areas are assumed to be well established between 5 to 10 years post-planting, with young trees coming into early maturity and growing in height, and between 10 to 15 years post-planting, fully established trees will be maturing, and are predicted to be generally retaining good vigour and starting to achieve full height with tree crowns spreading. • Historic field boundary hedgerows/tree lines and tree blocks will be established, set back from villages in the form of locally characteristic 'Covert' woods, in order to retain, insofar as possible, the open setting of existing farms and villages, while providing additional visual screening in the landscape. New hedgerows will combine with the woodland planting areas to integrate the substations into the landscape, both in terms of providing screening of the onshore infrastructure and as an extension of an element that is characteristic in the local landscape. Screening will be provided through multiple lines of planting, with a mix of blocks, belts, tree lines and hedges. The reinstatement of gappy hedges and new field trees to north of Friston will provide layered screening in views from this village. • Although the woodland planted areas are expected to provide substantial integration of the onshore substation and National Grid substation in the local landscape after 15 years into the operational period, the magnitude of change to the landscape character within the localised area of approximately 1.0km around the onshore substation location is assessed as medium-high, with the onshore substation and National Grid substation having notable influence on the local landscape character and the setting of the local area to the north of Friston within a landscape framework of woodland blocks, tree lines and hedges.	
Area B: East of Saxmundham	
Magnitude of change (construction):	Low
• **Landfall, onshore cable route and onshore substation** - no direct changes in character of this area of the LCT as the landfall, onshore cable route and onshore substation are not located within this area of the LCT. Potential temporary changes in perceived character of LCT arising from visibility of the onshore substation construction will be of low magnitude, due to geographic separation and screening between this area of LCT and the onshore substation location. Perceived changes in the character of this area of the LCT during construction of the onshore infrastructure are assessed as low.	
Magnitude of change (operation, first year of operational phase):	Low
• **Onshore substation** – no direct changes in character of this area of the LCT as the onshore substation is not located within this area of the LCT. Low perceived changes in character because the onshore substation is located at distance (1km at its closest point) to the north-west and there is limited visibility of the onshore substation due to intervening screening by landform, woodland/hedgerows and built development. Perceived changes in the character of this area of the LCT during operation of the onshore substation are assessed as low.	
Area C: East of Grove Wood, Knodishall	
Magnitude of change (construction):	Medium

LCT 01: Ancient Estate Claylands	
• **Landfall** – No direct or perceived changes in character of this area of the LCT as the landfall is not located within this LCT and is located at long distance to the east at the coast and its construction will not be visible. • **Onshore cable route** – potential for direct changes to physical landscape elements within a very small area of the LCT, to the east of Grove Road and south of Grove Wood, where a short stretch of Section 4 of the onshore cable route passes through the southern extremity of this LCT. The onshore cable route within this area includes areas of agricultural land and a hedgerow within the footprint of the onshore cable route. Within this very limited area on the southern edge of the LCT, the perceived character is likely to be changed at a local level due to the onshore cable route construction activity, including a period of fencing, topsoil strip and storage, haul road construction and usage; a period of trench construction, cable/duct installation and trench backfilling; and a period of jointing bay and (in the event of ducting having been laid) cable installation. There will be no physical changes to area of ancient woodland at Grove Wood, which will therefore not be physically impacted upon as a result of the onshore infrastructure. o The magnitude of change to agricultural land within this area of the Ancient Estate Claylands LCT as a result of the construction of the onshore cable route is assessed as **low**. o The magnitude of change to woodland within this area of the Ancient Estate Claylands LCT as a result of the construction of the onshore cable route is assessed as **none** (ancient woodland at Grove Wood will not be physically impacted as a result of the onshore infrastructure). o The magnitude of change to hedgerows within this area of the Ancient Estate Claylands LCT as a result of the construction of the onshore cable route is assessed as **low**. • The changes to the character of the Ancient Estate Claylands would be highly localised within the most southerly part of the LCT, which is largely separated from the other parts of the LCT by Grove Wood. The changes will be most notable from close range during short periods of peak construction activity when there have been changes to the landcover and there are works occurring on Section 4 of the onshore cable route. Between these periods of peak construction activity, there will be times when there is very little activity except for the HGVs using the haul road. The key, ongoing changes would be to the landform as a result of topsoil mounds, which would be seeded, covered or fenced and the landcover, through the removal of vegetation and the replacement of a section of it with the haul road. Such changes would only be distinguishable from the arable land use at very close range. Vehicular movements through this LCT are not an unusual occurrence due to the prevalence and usage of roads. Potential changes are assessed to be of low magnitude to the pattern of landscape elements/perceived character of this LCT and occur only within and in close proximity to the onshore cable route, during periods of peak construction activity during the construction period. o The overall change to landscape character of this area of the LCT resulting from the construction of the onshore infrastructure is assessed as **low**, with the magnitude of change on the remaining areas of the LCT to the north/north-east of Grove Wood decreasing with distance from the onshore cable route. • **Onshore substation** – no direct changes in character of this area of the LCT as the onshore substation is not located within this area of the LCT. Negligible perceived changes in character because the onshore substation is substantially screened by Grove Wood and Laurel Covert in views from the east/north-east such that perceived changes in the character of this area of the LCT during construction of the onshore substation are assessed as negligible.	
Magnitude of change (operation, first year of operational phase):	Negligible
• **Onshore substation** – no direct changes in character of this area of the LCT as the onshore substation is not located within this area of the LCT. Negligible perceived changes in character because the onshore substation is substantially screened by Grove Wood and Laurel Covert in views from the east/north-east such that perceived changes in the character of this area of the LCT during operation of the onshore substation are assessed as negligible.	
Area D: Leiston and Theberton	
Magnitude of change (construction):	Negligible

LCT 01: Ancient Estate Claylands			
• **Landfall, onshore cable route and onshore substation** - no direct changes in character of this area of the LCT as the landfall, onshore cable route and onshore substation are not located within this area of the LCT. Potential temporary changes in perceived character of LCT arising from visibility of the onshore substation construction will be of negligible magnitude, due to geographic separation and screening between this area of LCT and the onshore substation location. Perceived changes in the character of this area of the LCT during construction of the onshore infrastructure are assessed as negligible.			
Magnitude of change (operation, first year of operational phase):	Negligible		
• **Onshore substation** – no direct changes in character of this area of the LCT as the onshore substation is not located within this area of the LCT. Negligible perceived changes in character because the onshore substation is located at distance (2.2km at its closest point) to the north-east and there is limited visibility of the onshore substation due to intervening screening by landform, woodland/hedgerows and built development. Grove Wood and Laurel Covert provide substantial screening in views from the east/north-east such that perceived changes in the character of this area of the LCT during operation of the onshore substation are assessed as negligible.			
Significance of effect			
Geographic area of LCT	Significance of effect (construction)	Significance of effect (operation, first year of operational phase)	Significance of effect (operation, 15 years post construction)
Area A: North of Friston, between Grove Road, Fristonmoor and Saxmundham Road	**Significant**, short-term, temporary within a localised area of approximately 1km around the onshore substation location.	**Significant**, long-term, temporary within a localised area of approximately 1km around the onshore substation location. **Not significant**, long-term and temporary on the wider landscape character of the Ancient Estate Claylands LCT.	**Significant**, long-term, permanent within a localised area of approximately 1km around the onshore substation location. **Not significant**, long-term and permanent on the wider landscape character of the Ancient Estate Claylands LCT.
Agricultural land within this area of LCT:	**Not significant**, short-term, temporary	n/a	n/a
Mature woodlands within this area of LCT:	**Not significant**, short-term, temporary	n/a	n/a
Hedgerows within this area LCT:	**Not significant**, short-term, temporary	n/a	n/a
Area B: East of Saxmundham	**Not significant**, short-term, temporary	**Not significant**, long-term, temporary	**Not significant**, long-term, permanent
Area C: East of Grove Wood, Knodishall	**Not significant**, short-term, temporary	**Not significant**, long-term, temporary	**Not significant**, long-term, permanent

LCT 05: Coastal Dunes and Shingle Ridges

LCT 05: Coastal Dunes and Shingle Ridges			
Designations:	Suffolk Coast and Heaths AONB. Heritage Coast.	Viewpoints in LCT:	No onshore LVIA viewpoints

Baseline Description

This LCT is found in a narrow band along the study area coast, extending from Minsmere in the north to Aldeburgh in the south, and is part of the wider stretch of this LCT that extends from Dunwich Heath through to Bawdsey (***Figure 29.2***).

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 was 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.

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

Value:	High

LCT 05: Coastal Dunes and Shingle Ridges	
• 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 contribute 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 17.7km-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.	
Susceptibility:	Medium
• LCT has the potential to be influenced by the proposed East Anglia TWO onshore infrastructure due to its coastal location and exposure to the landfall (the area on the coast where the offshore export cable corridor meets the land) and the proximity of the coastal section of the onshore cable route. • LCT has no potential to be influenced by the East Anglia TWO onshore substation. • The perceptual qualities of wildness, remoteness and tranquillity are susceptible to the influence of the proposed East Anglia TWO onshore infrastructure, due to the contrast that it would have with the undeveloped landscape 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 proposed East Anglia TWO offshore development area. Due to its coastal location, it has potential to be influenced by the landfall and coastal part of the onshore cable route, however it has no potential to be influenced by the East Anglia TWO onshore substation. 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:	Local
Geographically, the area of the LCT that may experience change as a result of visibility of the proposed East Anglia TWO onshore infrastructure is confined to the narrow band of Coastal Dunes and Shingle Ridges along the coast between Thorpeness and Sizewell (Area A). The geographic extent of potential change resulting from the proposed East Anglia TWO onshore infrastructure on this LCT is confined in	

LCT 05: Coastal Dunes and Shingle Ridges		
terms of it occurring almost entirely along the coast, within a narrow strip adjacent to the sea, and by the influence of the landfall. Areas of the LCT north of Sizewell and to the south of Thorpeness (Area B) have limited visibility of the proposed East Anglia TWO onshore infrastructure, due to their distance and orientation relative to intervening headlands.		
Area A: Thorpeness to Sizewell		
Magnitude of change (construction):	Low (landfall only)	
• **Landfall** – no direct changes to the physical landscape elements of dunes and shingle ridges which define this area of the LCT, as the Horizontal Directional Drilling (HDD) temporary working area and two transition bays will be constructed to the west/inland of these physical landscape features, with cables installed to the transition bays by HDD from land to sea (underneath this LCT). Potential temporary changes in perceived character of limited area of LCT of low magnitude, as a result of landfall construction works taking place near to LCT during construction phase. • **Onshore cable route** – no direct changes to the physical landscape elements of dunes and shingle ridges which define this area of the LCT, as the onshore cable route is not located within this LCT. Potential temporary changes in perceived character of LCT arising from onshore cable route construction works will be of negligible magnitude, due to intervening screening between LCT and onshore cable route. • **Onshore substation** – no direct or perceived changes in character of this area of the LCT as the onshore substation is not located within this LCT and is located at long distance (6.1km at its closest point) inland to the west and its construction will not be visible.		
Magnitude of change (operation)	None	
• **Onshore substation** – no direct or perceived changes in character of this area of the LCT as the onshore substation is not located within this LCT and is located at long distance (6.1 km at its closest point) inland to the west and will not visible.		
Area B: North of Sizewell Power Station and South of Thorpeness		
Magnitude of change (construction):	Negligible	
• **Landfall** – no direct changes to the physical landscape elements of dunes and shingle ridges which define this area of the LCT, as the HDD temporary working area and two transition bays are not located within this LCT. Potential temporary changes in perceived character of limited area of LCT of negligible magnitude, due to geographic separation and screening between these areas of the LCT and the landfall. • **Onshore cable route** – no direct changes to the physical landscape elements of dunes and shingle ridges which define this area of the LCT, as the onshore cable route is not located within this LCT. Potential temporary changes in perceived character of LCT arising from onshore cable route construction works will be of negligible magnitude, due to geographic separation and screening between LCT and onshore cable route. • **Onshore substation** – no direct or perceived changes in character of this area of the LCT as the onshore substation is not located within this LCT and is located at long distance (5.8km at its closest point) inland to the west and its construction will not visible.		
Magnitude of change (operation):	Negligible	
• **Onshore substation** – no direct or perceived changes in character of this area of the LCT as the onshore substation is not located within this LCT and is located at long distance (5.8km at its closest point) inland to the west and will not visible.		
Significance of effect		
Geographic area of LCT	Significance of effect (construction)	Significance of effect (operation)
Area A: Thorpeness to Sizewell	**Not significant**, short-term, temporary	**Not significant**, long-term

LCT 05: Coastal Dunes and Shingle Ridges		
Area B: North of Sizewell Power Station and south of Thorpeness	**Not significant**, short-term, temporary	**Not significant**, long-term

LCT 06: Coastal Levels

LCT 06: Coastal Levels			
Designations:	Suffolk Coast and Heaths AONB. Heritage Coast.	Viewpoints in LCT:	No onshore LVIA viewpoints

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, are: the Marshes of the Minsmere Level extending westward to Eastbridge in Theberton (Area C); and the area of a former large mere lying to the south of the existing Meare at Thorpeness and the northern outskirts of Aldeburgh (Area B) and extending inland along the Hundred River Valley to Aldringham (Area A) (***Figure 29.7***).

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 form 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.

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

LCT 06: Coastal Levels	
• 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. • Between Aldringham Common and Coldfair Green there is an area designated as the Hundred River Valley Special Landscape Area. • 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.	
Susceptibility:	Low
• LCT has the potential to be influenced by the onshore cable route, which crosses the LCT at Hundred River Valley south of Aldringham and therefore would have a direct influence, but only on a relatively small and isolated area of the LCT. • The majority of the LCT will not be subject to the influence of the proposed East Anglia TWO onshore infrastructure, including the main mere landscapes at Minsmere Level and to the south of the existing Meare at Thorpeness. • The visual containment of this LCT weakens the association between this low-lying marshland landscape and the proposed East Anglia TWO onshore infrastructure. • The LCT has no potential to be influence by the East Anglia TWO onshore substation.	
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 proposed East Anglia TWO onshore infrastructure. The large majority of the LCT is not directly exposed to the proposed East Anglia TWO onshore infrastructure and has a notable degree of concealment/screening by surrounding landscapes. Only a small part of the LCT has the potential to be influenced by the onshore cable route, which crosses the LCT at Hundred River Valley south of Aldringham. 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 proposed East Anglia TWO onshore infrastructure is restricted to a small part of the LCT that is crossed by the onshore cable route at the Hundred River Valley, south of Aldringham (Area A) (***Figure 29.7***). Area A extends along the Hundred River, forming a narrow area several kilometres inland from the main areas of the LCTs marshland at the coast. There is limited visibility and limited potential for change to the landscape character of the area of a former large mere lying to the south of the existing Meare at Thorpeness (Area B) and marshes of the Minsmere Level (Area C) (***Figure 29.7***).	

LCT 06: Coastal Levels		
Area A: Hundred River Valley, south of Aldringham		
Magnitude of change (construction):	Medium (onshore cable route only)	
• **Landfall** – no direct or perceived changes in character of this area of the LCT as the HDD temporary working area and transition bays are not located within this LCT and their construction will not be visible. • **Onshore cable route** – potential for direct changes to the physical landscape elements of the Hundred River and riverside scrub vegetation, through the construction of trenched crossing of the Hundred River, assessed as medium magnitude on the local area. Potential temporary changes in perceived character of this area of the LCT arising from these onshore cable route construction works of medium magnitude. Localised changes in pattern of landscape elements/perceived character during construction period. • **Onshore substation** – no direct or perceived changes in character of this area of the LCT as the onshore substation is not located within this LCT and is located at long distance (3.0km at its closest point) to the west and its construction will not be visible.		
Magnitude of change (operation):	None	
• **Onshore substation** – no direct or perceived changes in character of this area of the LCT as the onshore substation is not located within this LCT and is located at long distance (3.0km at its closest point) to the west and will not be visible.		
Area B: Former large meare to the south of Thorpeness and northern outskirts of Aldeburgh		
Magnitude of change (construction):	None	
• **Landfall, onshore cable route and onshore substation** - no direct or perceived changes in character of this area of the LCT as the landfall, onshore cable route and onshore substation are not located within this area of the LCT and their construction will not be visible. Views are concealed/screened by a combination of the landform and the extensive areas of woodland around the Meare at Thorpeness and intervening built-up areas of Thorpeness between this LCT and the onshore infrastructure. No change to the key characteristics of the immediate marshland surroundings that define the character of this area of the LCT.		
Magnitude of change (operation):	None	
• **Onshore substation** – no direct or perceived changes in character of this area of the LCT as the onshore substation is not located within this LCT and is located at long distance (4.0km at its closest point) to the north-west and will not visible.		
Area C: Marshes of the Minsmere Level		
Magnitude of change (construction):	None	
• **Landfall, onshore cable route and onshore substation** - no direct or perceived changes in character of this area of the LCT as the landfall, onshore cable route and onshore substation are not located within this area of the LCT and their construction will not be visible. Views are concealed/screened by intervening landform and vegetation between this LCT and the onshore infrastructure. No change to the key characteristics of the immediate marshland surroundings that define the character of this area of the LCT.		
Magnitude of change (operation):	None	
• **Onshore substation** – no direct or perceived changes in character of this area of the LCT as the onshore substation is not located within this LCT and is located at long distance (4.2km at its closest point) to the north-west and will not visible.		
Significance of effect		
Geographic area of LCT	Significance of effect (construction)	Significance of effect (operation)

LCT 06: Coastal Levels		
Area A: Hundred River Valley, south of Aldringham	**Not significant**, short-term, temporary	**Not significant**, long-term
Area B: Former large meare to the south of Thorpeness and northern outskirts of Aldeburgh	**Not significant**, short-term, temporary	**Not significant**, long-term
Area C: Marshes of the Minsmere Levels and Sizewell Bents	**Not significant**, short-term, temporary	**Not significant**, long-term

LCT 07: Estate Sandlands

LCT 07: Estate Sandlands			
Designations:	Suffolk Coast and Heaths AONB, Heritage Coast, Hundred River Valley SLA.	Viewpoints in LCT:	Viewpoints 1, 2, 4, 6, 7, 8, 9, 12 and 13

Baseline Description

This LCT is found in a slightly interrupted series along the coast and its inland edge, taking in a large part of the area known as the Sandlings. In the onshore LVIA study area, the LCT includes a series of almost contiguous areas stretching from Dunwich Forest in the north, to Leiston, and Aldeburgh in the south to Friston and Snape in the west (***Figure 29.7***). The National Grid substation is located partially within the Estate Sandlands LCT (07), although it is primarily within the adjacent Ancient Estate Claylands LCT (01) to the north of Friston. The Suffolk Coastal LCA (Suffolk Coastal District Council, 2018) identifies this landscape character area as the Aldringham and Friston Sandlands (K3) LCA.

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 for 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 still feature in the LCT.
- After WWI, 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 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.

LCT 07: Estate Sandlands

- 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 over the sea and coast. Striking expressions of geology on faces of crumbling cliffs.

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

Value:	Medium-high

- The Suffolk Coast and Heaths AONB covers much of the eastern and southern parts of this LCT. In combination with adjacent coastal LCTs partly contributes to the special qualities that define the nationally designated scenic qualities of the AONB.
- Between Aldringham Common and Coldfair Green there is an area designated as the Hundred River Valley Special Landscape Area.
- Parts of the LCT, particularly heaths and Sandlings Forests to the east, 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 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 undesignated, inland agricultural landscapes.
- Scenic qualities are varied and not always consistent between the different areas of the LCT. The Leiston/Aldringham area is particularly influenced by the presence of Sizewell Nuclear Power Station, high-voltage transmission lines and intensive farming.

Susceptibility:	Medium

- The LCT has the potential to be influenced by the landfall, which is located within this LCT between Thorpeness and Sizewell.
- The LCT is most susceptible to changes resulting from the onshore cable route, which is almost entirely within the Estate Sandlands LCT on its route between Thorpeness, Sizewell, Aldringham and

LCT 07: Estate Sandlands	
Friston and therefore would have a direct influence on the features and character of the LCT during the construction period. • The proposed East Anglia TWO onshore substation is located just outside this LCT (within the Ancient Estate Sandlands LCT) and the National Grid substation is located partially within this LCT (although mainly within the Ancient Estate Claylands). The LCT is susceptible to changes arising from the construction and operation of the onshore substation and National Grid substation. • 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, reduces the susceptibility of this LCT to changes arising from the onshore infrastructure. • The area around Sizewell and Leiston is locally influenced by Sizewell Nuclear Power Station, which forms a distinct feature in this LCT backdrop. The LCT is also influenced by the presence of the double row of high-voltage transmission lines extending west across the LCT between Sizewell and Friston.	
Overall sensitivity of LCT:	Medium-high
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. The LCT is assessed as generally having a medium susceptibility to changes arising from the proposed East Anglia TWO onshore infrastructure. The LCT is susceptible to changes arising from the landfall, which is located within this LCT and is most susceptible to changes resulting from the onshore cable route, which is almost entirely within this LCT between Thorpeness, Sizewell, Aldringham and Friston and would have a direct influence on the features and character of the LCT during the construction period. The LCT is also susceptible to changes arising from the construction of the onshore substation and National Grid substation, located partially within the LCT. The sense of isolation and perceived remoteness/natural qualities evident in the most easterly 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, and the influence of existing energy generation and transmission infrastructure reduces the susceptibility of this LCT to changes arising from the onshore infrastructure. On balance, the LCT is assessed as having a generally medium-high sensitivity to changes arising from the proposed East Anglia TWO onshore infrastructure. The sensitivity of landscape elements within this LCT (agricultural land, woodland, hedgerows and scrub/heathland habitat) to physical changes resulting from the onshore infrastructure are assessed as follows.	
Landscape elements within LCT:	
Sensitivity of agricultural land within LCT:	Low
Sensitivity of mature woodlands within LCT:	High
Sensitivity of hedgerows within LCT:	Medium
Sensitivity of scrub/heathland habitat within LCT:	High
Magnitude of change	
Geographic extent:	Local
Geographically, there is potential for changes to occur at a local to regional extent within the area of Estate Sandlands LCT in the onshore study area. The area of the LCT that may experience change as a result of the proposed East Anglia TWO onshore infrastructure is the area between the landfall north of Thorpeness, extending along the onshore cable route to Sizewell, Aldringham, Coldfair Green and Friston; and in the area to the north of Friston as a result of the onshore substation (***Figure 29.7***).	

LCT 07: Estate Sandlands	
Area A: Thorpeness to Aldringham and Friston	
Magnitude of change (construction):	**Landfall**: Medium-high on localised area to the north of Thorpeness within landfall. **Onshore cable route**: medium-low within and immediately adjacent to the onshore cable route over sections 2 and 3; medium within and immediately adjacent to the onshore cable route over sections 1 and 4. **Onshore substation**: high on the local area within approximately 1km. Wider area of LCT: Low

- **Landfall** – Potential for direct changes to the physical landscape elements and character of the LCT resulting from the HDD temporary working area and construction of transition bays within the landfall search area of this LCT. Potential loss of hedgerows within footprint of HDD temporary working area and transition bays. The HDD temporary (12 months) working area and construction of transition bays will introduce new elements that will change the perception of the landscape in the setting of the low coastal cliffs in the landfall within the LCT and the addition of elements (temporarily during the construction period) which will change the simple landscape composition and result in some changes to the sense of isolation at the coastal edges of the LCT. Potential changes of medium-high magnitude to the pattern of landscape elements/perceived character of localised area of LCT to the north of Thorpeness (within landfall), during construction period.
- **Onshore cable route** – potential for direct changes to physical landscape elements within the onshore cable route within this LCT. This will include the clearance of agricultural landcover and other vegetation within the footprint of the onshore cable route, which is located almost entirely within this area of the LCT. Physical changes result in direct effects to landscape elements in their own right and changes to the character of the LCT's pattern of elements. Potential physical effects from felling/clearance of vegetation will occur within the footprint of the onshore cable route, at hedgerow crossings along field/road boundaries, scrub vegetation within the Sandlings SPA and a section of woodland north of Fitches Lane, on land to the south of Aldringham Court, where up to 0.9ha of mature woodland will be felled to facilitate the construction of the onshore cable route crossing Aldeburgh Road. The existing landcover will be cleared and in some places excavated over a short period. A haul road will be created along the length of the onshore cable route and topsoil mounds will be apparent. The areas will be seeded, covered or fenced or will be allowed to naturally regenerate following the changes and excavations.
  - The magnitude of change to agricultural land within the onshore cable route through the Estate Sandlands LCT as a result of the construction of the onshore cable route is assessed as **medium**.
  - The magnitude of change to woodland within a localised area of the onshore cable route woodland north of Fitches Lane within the Estate Sandlands LCT as a result of the construction of the onshore cable route is assessed as **medium-high**.
  - The magnitude of change to hedgerows along onshore cable route where it runs through the Estate Sandlands LCT as a result of the construction of the onshore cable route is assessed as **medium**.
  - The magnitude of change to scrub vegetation within this area of the Estate Sandlands LCT as a result of the construction of the onshore cable route is assessed as **medium-low**.
- The construction of the onshore cable route will introduce new elements during peak construction periods during the construction phase, which will temporarily change the character of the landscape and pattern of elements within the onshore cable route. Within and immediately adjacent to the onshore cable route within the LCT, the perceived character is likely to be changed at a local level due to the onshore cable route construction activity, including a period of fencing, topsoil strip and storage, haul road construction and usage; a period of trench construction, cable/duct installation and trench backfilling; and a period of jointing bay and (in the event of ducting having been laid) cable installation. The changes to the character of the Estate Sandlands LCT would, in the most part, be highly localised through the LCT. The changes will be most notable from close range during

LCT 07: Estate Sandlands

short periods of peak construction activity when there have been changes to the landcover and there are works occurring on this section of the route. Between these short periods of peak construction activity of the onshore cable route construction, there will be periods when there is very little construction activity except for the HGVs using the haul road in section 4 of the onshore cable route to the west of Snape Road during the substation construction, or during the 12 months landfall construction in section 1 of the onshore cable route. The CCSs and the HDD proposed to take the cable under the areas of SPA designated heath, would be more prominent over their 24 or 12 month deployment respectively. If the onshore cable route were to be trench cut through the heath rather than undergrounded through HDD processes this would have less change on landscape character and would occur over a shorter period. The key, ongoing changes along the onshore cable route would be to the landform, as a result of topsoil mounds which would be seeded, covered or fenced; and the landcover, through the removal of vegetation and the replacement of a section of it with the haul road. Such changes would only be distinguishable from the arable land use at very close range. Vehicular movements through this LCT are not an unusual occurrence due to the prevalence of roads.

- The introduction of the onshore cable route construction works would constitute a new, but relatively moderate alteration to the perceived character, with the increase in construction/development influence at variance to some of the key characteristics in parts of the LCT (such as its natural qualities, remoteness/isolation and open views). Potential changes are assessed to be of **medium-low** magnitude to the pattern of landscape elements/perceived character of the Estate Sandlands LCT within and immediately adjacent to the onshore cable route during the construction period over sections 2 and 3 of the onshore cable route between Snape Road and the western edge of the AONB.
- The magnitude of change to the landscape character of the Estate Sandlands LCT resulting from the construction of the onshore cable route is assessed as **medium** within and immediately adjacent to the onshore cable route over section 4 to the west of Snape Road, where the construction activity is likely to be more intensive and of longer duration due to the HGV access along the substation haul road during the substation construction period.
- The magnitude of change to the landscape character of the Estate Sandlands LCT resulting from the construction of the onshore cable route is assessed as **medium** within and immediately adjacent to the onshore cable route over section 1 and parts of section 2, where the onshore cable route is within the AONB and to the east of the dismantled railway, due to the increase in construction/development influence being at variance to some of the key characteristics in these parts of the LCT (such as its scenic qualities, backdrop of Sandlings Heaths and Forest, and open views) as well as the nature of the construction activities which may include a HDD crossing of the Sandlings SPA with a prolonged construction period; and landfall construction access in section 1 of the onshore cable route with increased vehicular access to the landfall.
- The magnitude of change drops notably with increasing distance from the onshore cable route, such that the magnitude of change on the wider landscape character of the Estate Sandlands LCT, resulting from the onshore cable route construction, is assessed as **low**.
- **Onshore substation** – the area of the Estate Sandlands LCT around to Friston is likely to be the main area where changes to landscape character will take place as a result of the construction of the onshore substation and National Grid substation. There is potential for both physical changes to landscape elements and changes in character resulting from the alteration/loss of these features; as well as potential for the introduction of new features associated with the construction of the onshore substation and National Grid substation during the construction period, which will temporarily change the character of the landscape and pattern of elements.
- The magnitude of physical changes to landscape elements within this area of the Estate Sandlands LCT as a result of the construction of the onshore substation and National Grid substation are assessed as follows:
  - Agricultural land: **low**, where physical changes to agricultural land occur over a small area of the National Grid substation footprint within this LCT and access road.
  - Woodland: **none**, no woodland requires to be felled within this LCT to accommodate construction of the onshore substation or National Grid substation.

LCT 07: Estate Sandlands	
o Hedgerows: **low**, due to short sections of hedgerow requiring to be felled to accommodate the construction of the National Grid substation and access road. • The construction of the proposed East Anglia TWO onshore substation and National Grid substation will result in a large-scale change to the local character of this area of the LCT in the area around Friston and particularly to the north of Friston, near the transition of this LCT with the adjacent Ancient Estate Claylands LCT. In the area north of Friston, changes will result during the construction of the onshore substation, CCS and access roads, together with the increased activity of vehicles, machinery, cranes and the stockpiling of materials that will be needed during construction. The construction works will result in changes in ground conditions/profiles, installation of substation platforms on agricultural land, and the addition of CCSs, fencing and installation of electrical infrastructure. As the onshore substation and National Grid substation are constructed, the form of the buildings and external electrical infrastructure will take shape during the construction period and influence the existing landscape character. The built forms will increase the prominence of development components in the landscape through the introduction of uncharacteristically large-scale buildings and introduce complex electrical infrastructure, increasing the influence of electrical infrastructure on the character of this area. The undulating agricultural land and large woodland blocks at Grove Wood and Laurel Covert provide visual containment of the onshore substation and National Grid substation in the landscape. These large-scale changes occur only over a localised part of this LCT, in the area north of Friston. Wider changes to the landscape character of this LCT to the east of Grove Wood become low to negligible, with increasing distance and screening provided by Grove Wood. o The magnitude of change to landscape character of the Estate Sandlands LCT resulting from the physical changes in landscape elements and the addition of new elements during construction of the onshore substation and National Grid substation is assessed as **high** during the construction period on the local area within approximately 1km of the onshore substation location. The magnitude of change to the wider landscape character of the LCT to becomes low to negligible, with increasing distance and screening provided by Grove Wood.	
Magnitude of change (operation, first year of operational phase)	**Onshore cable route:** medium-high on local area at woodland north of Fitches Lane **Onshore substation**: high on the local area within approximately 1km. Wider area of LCT: Low
• **Onshore substation** – the area of the Estate Sandlands LCT around and particularly to the north of Friston, is likely to be the main area where changes to landscape character will take place as a result of the operation of the onshore substation and National Grid substation. There is potential for new features associated with the operation of the onshore substation and National Grid substation during the operational period to have long-term changes to the character of the landscape and its pattern of elements. The operation of the proposed East Anglia TWO onshore substation and National Grid substation will result in a large-scale change to the local character of this area of the LCT, in the area around and north of Friston, during the operational period of the onshore substation, National Grid substation and associated access road, together with the increased activity of vehicles accessing the onshore substation during the operational period. In the localised area around and to the north of Friston, the operation of the onshore substation and National Grid substation will result in long-term changes in ground conditions/profiles from the substation platforms and the presence of large-scale buildings, electrical infrastructure and fencing, which will increase the developed character of the local landscape. The built forms will increase the prominence of development components in the landscape through the introduction of uncharacteristically large-scale buildings and introduce complex electrical infrastructure, increasing the influence of electrical infrastructure on the character of this area. The principal change to the local character in the area around and to the north of Friston, will result from the contrast of the electrical infrastructure and buildings within the onshore substation and National Grid substation within the predominantly agricultural and wooded setting and the scale/complexity of built forms compared to existing development influences within the area. The undulating agricultural land and large woodland blocks at Grove Wood and Laurel Covert provide visual containment of the onshore substation and National Grid substation in the landscape. Woodland and hedgerows will have been planted as part of the landscape mitigation	

LCT 07: Estate Sandlands	
scheme, which will provide progressive screening over time, from initial limited level of screening when first planted, to partial screening during their establishment period. These large-scale changes occur only over a localised part of this LCT, in the area north of Friston. Wider changes to the landscape character of this LCT to the east of Grove Wood become low to negligible, with increasing distance and screening provided by Grove Wood. • The overall change to landscape character of the area of the Estate Sandlands LCT around and to the north of Friston, resulting from the physical changes in landscape elements and the addition of new elements is assessed as **high** during the operational period. The overall change to the wider landscape character of the LCT to the east of Grove Wood becomes low to negligible, with increasing distance and screening provided by Grove Wood. • **Onshore cable route –** the removal of 0.9ha of woodland north of Fitches Lane, to facilitate the Aldeburgh Road crossing, will result in an operational effect as part of the onshore cable route (in close proximity to the cables) cannot be re-planted with woodland, since it requires to be kept clear of woodland vegetation during the operational period over the long-term. This section of onshore cable route, north of Fitches Lane, will be reinstated, potentially by of establishing heathland over the onshore cables, with the potential for woodland to be retained or further established along the outer edges of the onshore cable route, outside a minimum offset distance from the onshore cables. The change to the perceived character in the vicinity of this woodland, within a localised area of the SLA is assessed as being medium, due the physical loss of this woodland landscape element and the enclosure and character it provides at a local level, as part of the local landscape character of the LCT.	
Magnitude of change (operation, 15 years post construction):	**Onshore substation**: Medium-high on the local area within approximately 1km.
• **Onshore substation** – the landscape mitigation is predicted to deliver effective mitigation of the landscape impacts of the onshore substation and National Grid substation in the form of new woodland and hedgerow planting (***Figure 29.11a-b and Figure 29.12***). Areas of native woodland planted around the onshore substation and National Grid substation will be well established between 10-15 years, comprising areas of core native woodland, native edge, wet woodland, screening woodland and mixed native hedgerow around the perimeter of the onshore substation. The influence of the onshore substation and National Grid substation on landscape character will be influenced by the establishment and growth of these areas of woodland planting over time. In the early years of growth, young recently planted cell-grown trees will be establishing, and may have good vigour, initially with limited screening effects, but progressively providing partial screening during establishment. Woodland planted areas are assumed to be well established between 5 to 10 years post-planting, with young trees coming into early maturity and growing in height, and between 10 to 15 years post-planting, fully established trees will be coming into maturity, and are predicted to be generally retaining good vigour and starting to achieve full height with tree crowns spreading. Although the woodland planted areas are expected to provide substantial integration of the onshore substation and National Grid substation in the local landscape by this time, the magnitude of change to the landscape character within the localised area of approximately 1km around the onshore substation is expected to be medium-high, with the electrical infrastructure and components of the onshore substation still having notable influence locally, within well-wooded landscape context. • **Onshore cable route –** The largest physical loss of mature woodland as a result of the onshore cable route occurs north of Fitches Lane to facilitate the onshore cable route crossing of Aldeburgh Road (B1122), where up to 0.9ha of woodland north of Fitches Lane will be felled. The Applicant has committed to reducing the onshore cable route to 16.1m for the proposed East Anglia TWO project alone, to retain as many trees as possible at this location. The onshore development area has been refined so that woodland is retained acting as screening between residential properties on Fitches Lane and the onshore cable route and also between the onshore cable route and Aldringham Court Nursing Home. The change to the perceived character in the vicinity of this woodland, within a localised area of the Estate Sandlands LCT, will be mitigated through reinstatement. This section of onshore cable route, north of Fitches Lane, will be reinstated, through the establishment of heathland over the onshore cables and further woodland planting along the outer edges of the onshore cable route, outside a minimum offset distance from the onshore cables. The magnitude of	

LCT 07: Estate Sandlands			
change to the perceived character in the vicinity of this woodland, at 5 years post construction, once the replanted areas have established, is therefore assessed as being low within a localised area of the Estate Sandlands LCT.			
Area B: Sizewell and north of Leiston to Dunwich Forest			
Magnitude of change (construction):	Low		
• **Landfall and onshore substation** - no direct or perceived changes in character of this area of the LCT as the landfall and onshore substation are not located within this area of the LCT and their construction will not be visible. Views are concealed/screened by a combination of the landform, woodland and intervening built-up areas of Leiston between this area of the LCT and the onshore infrastructure. Negligible change to the key characteristics of this area of the LCT. • **Onshore cable route** – no direct changes to the physical landscape elements of this area of the LCT as the onshore cable route is not located within this part of the LCT. Potential changes in perceived character of LCT arising from visibility of onshore cable route construction works will be of low magnitude, due to geographic separation and screening between this area of LCT and onshore cable route.			
Magnitude of change (operation):	Negligible		
• **Onshore substation** – no direct changes in character of this area of the LCT as the onshore substation is not located within this LCT. Negligible perceived changes in character because the onshore substation is located at long distance (3.2km at its closest point) to the south-west and there is negligible visibility of the onshore substation due to intervening screening by landform, woodland/hedgerows and intervening built development around Leiston.			
Area C: Aldeburgh to Snape			
Magnitude of change (construction):	Low		
• **Landfall, onshore cable route and onshore substation** - no direct changes in character of this area of the LCT as the landfall, onshore cable route and onshore substation are not located within this area of the LCT. Potential temporary changes in perceived character of LCT arising from visibility of onshore cable route construction works and onshore substation construction will be of low magnitude, due to geographic separation and screening between this area of LCT and onshore infrastructure. Low change to the key characteristics of the Estate Sandlands that define the character of this area of the LCT.			
Magnitude of change (operation):	Low		
• **Onshore substation** – no direct changes in character of this area of the LCT as the onshore substation is not located within this LCT. Low perceived changes in character because the onshore substation is located at distance (1.5km at its closest point) to the south-west and there is limited visibility of the onshore substation due to intervening screening by landform, woodland/hedgerows and intervening built development around Friston.			
Significance of effect:			
Geographic area of LCT	Significance of effect (construction)	Significance of effect (operation, first year of operational phase)	Significance of effect (operation, 15 years post-construction)
Area A: Thorpeness to Aldringham and Friston	**Significant**, short-term, temporary within and immediately adjacent to the onshore cable route sections 1 and 2 within the AONB and section 4 to the west of Snape Road; and within 1km of the onshore substation.	**Significant**, long-term, temporary within and immediately adjacent to the onshore substation (within 1km). **Not significant**, long-term and temporary on the wider landscape	**Significant**, long-term, permanent within and immediately adjacent to the onshore substation (within 1km). **Not significant**, long-term and permanent on the wider landscape

LCT 07: Estate Sandlands			
	Not significant, short-term and temporary within and immediately adjacent to the onshore cable route sections 2 and 3 between Snape Road and the boundary of the AONB, and on the wider landscape character of the Estate Sandlands LCT.	character of the Estate Sandlands LCT.	character of the Estate Sandlands LCT.
Agricultural land within this area of the LCT:	**Not significant**, short-term, temporary	n/a	n/a
Mature woodlands within this area of the LCT (at woodland north of Fitches Lane):	**Significant,** short-term, permanent	**Significant,** short-term, temporary	**Not significant,** long-term, permanent (once replanted woodland has established after 5 years)
Hedgerows within this area of the LCT:	**Not significant**, short-term, temporary	n/a	n/a
Scrub vegetation within this area of the LCT:	**Not significant**, short-term, temporary	n/a	n/a
Area B: Sizewell and north of Leiston to Dunwich Forest	**Not significant**, short-term, temporary	**Not significant**, long-term, temporary	**Not significant**, long-term, permanent
Area C: Aldeburgh to Snape	**Not significant**, short-term, temporary	**Not significant**, long-term, temporary	**Not significant**, long-term, permanent

29.4.1.1.2 Landscape Designations

39. An assessment of the landscape effects of the onshore infrastructure on LCTs within the study area is presented in the following technical assessment. Landscape designations are shown with the ZTV for the onshore substation and National Grid substation in ***Figure 29.8***.

29.4.1.1.2.1 Suffolk Coast and Heaths AONB (including Suffolk Heritage Coast)

40. The Suffolk Coast and Heaths AONB (the AONB) is located approximately 1.6km to the south of the proposed East Anglia TWO project onshore substation at its closest point (***Figure 29.8***) and generally located over 3km to the east of the onshore substation where it covers the Suffolk coast. The AONB 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.

41. 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.

42. 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 and 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.

43. 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 are considered as integral to this assessment of the AONB.

44. 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 Fens (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); and
- Valley Meadowlands (LCT 26).

45. Several of these LCTs (LCTs 16, 20 and 26) have been identified in the preliminary assessment in ***Table 29.2.1***, as having no potential to be significantly affected by the proposed East Anglia TWO project onshore infrastructure, due to their distance and/or substantial amount of intervening screening between these LCTs and the proposed East Anglia TWO project onshore infrastructure. 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 16, 20 and 26. A number of other LCTs that are within the AONB are not within the onshore LVIA study area, as they are located over 3km from the onshore infrastructure – LCTs 08, 11, 15 and 29. 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 08, 11, 15 and 29.

46. The LCTs that define the areas of the AONB where the landfall and onshore cable route are located, are those which are susceptible to the influence of the proposed East Anglia TWO project onshore infrastructure. These are identified as the Coastal Dunes and Shingle Ridges (05); Coastal Levels (06) and Estate Sandlands (07). The effects of the onshore infrastructure on the character of these LCTs, is assessed in full in the technical assessment in ***section 29.3.1*** of this appendix. The assessment of the effects on these LCTs found that there would be no significant effects on the character of LCTs 05 and 06 as a result of the proposed East Anglia TWO project onshore infrastructure.

47. The assessment of effects on the AONB is informed by these assessments of the LCTs that define its 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.

48. Special qualities are set out in the Suffolk Coast and Heaths AONB Natural Beauty and Special Qualities Indicators report (SCDC 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).

49. 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. A separate AONB special qualities assessment has been undertaken in this ES and incorporates findings from the SLVIA, as well as other assessments such as socio-economic impacts.

50. The approach of this chapter to the assessment of the effects on landscape character of the AONB, 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 2017). These natural beauty indictors define the landscape qualities of the AONB, which inform its special qualities.

51. The assessment presented here, utilises the table of natural beauty indicators from the AONB special qualities report and assess, for each of the onshore substation, onshore cable route and landfall:

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

52. This assessment of the overall effects of the onshore infrastructure on the special qualities of the AONB is set out as follows. The landscape and visual impacts on the AONB of the landfall and onshore cable route during operation have been scoped out of the assessment, as agreed with PINS during scoping, as following reinstatement works, the largely underground infrastructure at the landfall and within the onshore cable route is unlikely to result in significant effects on the special qualities of the AONB.

53. The effects of the onshore substation on landscape character have been assessed as being not significant at distances of greater than 1km. Therefore, there is very limited potential for an effect on a Special Quality of the AONB to be significant at distances of more than 1.6km between the AONB and the onshore substation.

54. The effects of the onshore cable route and landfall construction are considered in relation to areas of the AONB that are defined as follows and shown in ***Figure 29.8:***

- Area A - AONB between Thorpeness, Sizewell and Leiston;
- Area B - AONB between Thorpeness, Aldeburgh and Snape; and
- Area C – AONB between Sizewell and Dunwich Forest.

55. The onshore cable route is located entirely within Area A, between Thorpeness, Sizewell and Leiston, with no sections of the onshore cable route located in Areas B and C. The potential effects of the onshore cable route and landfall on areas B and C of the AONB would therefore not occur as a result of any direct changes to these areas but would only be as a result of the potential visibility of their construction as part of the wider context of these areas.

56. To the south of Aldringham, the onshore cable route extends west inland, away from the coastal areas of the AONB towards the onshore substation, becoming increasingly distant from the coastal part of the AONB, while running parallel to, and approximately 1km north of the area of AONB covering the River Alde estuary.

57. The onshore cable route, CCS and HDD underground cabling (if required at the SPA crossing) are located in relatively close proximity to the southern edge of Area C, however the susceptibility of this area (and therefore its sensitivity to the proposed change) is considered to be lower along this edge due to the localised effects on character of the Sizewell Power Station, pylon lines and substations in the vicinity.

58. It is assessed that as a result of these factors the effects of the onshore cable route construction on the landscape character of areas identified as B and C of the AONB ***(Figure 29.8***) will be **not significant**.

Suffolk Coast and Heaths AONB (including Suffolk Heritage Coast)
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, particularly in visually sensitive locations such as on valley sides.

Suffolk Coast and Heaths AONB (including Suffolk Heritage Coast)
• A small number of large scale and long-established elements on the coast of the AONB divide opinion, being regarded by some as incongruous features and by others as enigmatic; for example, the complex military site at Orford Ness. The power stations at Sizewell also divide opinion in this way, however in many views, particularly of the B station, the apparent uncluttered simple appearance and outline as well as the lack of visible human activity, partially mitigate the adverse visual impacts. Offshore wind turbines at Greater Gabbard, Galloper and the more distant London Array are visible from some stretches of the coastline. These create a cluttered horizon and, like the large-scale elements onshore, also divide opinion.
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 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.

Suffolk Coast and Heaths AONB (including Suffolk Heritage Coast)	
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.	

Suffolk Coast and Heaths AONB (including Suffolk Heritage Coast)		
• 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.		
Susceptibility (defined by area of the AONB, ***Figure 29.8***):		
Area A AONB between Thorpeness, Sizewell and Leiston:	High	
Area B AONB between Thorpeness, Aldeburgh and Snape:	Medium-high	
Area C AONB Sizewell and Dunwich Forest:	Medium	
Sensitivity to change (defined by area of the AONB, ***Figure 29.8***): *Combination of the value and susceptibility of the AONB*		
Area A AONB between Thorpeness, Sizewell and Leiston:	High. AONB is of high value and Area A has high susceptibility to the changes resulting from the construction and operation of the onshore infrastructure, since the onshore cable route and landfall are within Area A, it is more susceptible and therefore more sensitive to the changes than Areas B and C where no development is taking place during the construction period.	
Area B AONB between Thorpeness, Aldeburgh and Snape:	Medium-high. AONB is of high value and Area B has medium-high susceptibility to the changes resulting from the construction and operation of the onshore infrastructure, since the onshore cable route is not within Area B and no development occurs within Area B, it is less susceptible and therefore less sensitive to the changes than Area A.	
Area C AONB Sizewell and Dunwich Forest:	Medium. AONB is of high value and Area C has medium susceptibility to the changes resulting from the construction and operation of the onshore infrastructure, since the onshore cable route is not within Area C, no development occurs within Area C and its baseline is notably influenced by Sizewell Nuclear Power Station, it is less susceptible and therefore less sensitive to the changes than Areas A and B.	
Onshore substation and National Grid substation		
Magnitude of change to AONB special qualities (construction):		Significance of effect (construction):
Magnitude of change on landscape quality:	Low	**Not significant**, short-term, temporary

Suffolk Coast and Heaths AONB (including Suffolk Heritage Coast)		
• The construction of the onshore substation and National Grid substation is located outside the AONB and its immediate setting. The qualities of the AONB cited in this indicator will not be subject to change as a result of the construction of the onshore substation. • Although there is some potential for direct effects on the condition of landscape elements such as hedgerows in the local landscape at the onshore substation, the construction of the onshore substation and National Grid substation is located outside the AONB and would result in no changes to the physical condition of landscape features and elements within the AONB. • The construction of further electrical influences near to the existing overhead transmission line will increase the prominence of man-made features in the local landscape but will result in low or no change to the landscape quality of the AONB, primarily due the distance of the construction of the onshore substation from the AONB and limited visibility from within the AONB.		
Magnitude of change on scenic quality:	Low	**Not significant**, short-term, temporary
• Although there is potential for high changes to the sense of place of the landscape in the localised area to the north of Friston, the qualities of the AONB cited in this indicator will be subject to low levels of change, primarily due the distance of the construction of the onshore substation and National Grid substation from the AONB and their limited visibility from within the AONB. • Although there is potential for some change to the landform within the onshore substation outside the AONB, the qualities of the striking coastal landforms within the AONB cited in this indicator will not be subject to change. • Although there is potential for change to the appealing pattern/composition of the farmed fields, hedgerows and woodland belts in the local landscape near the onshore substation during construction, the visual interest of the AONB created by the varied land cover within the AONB cited in this indicator will not be subject to change. • There is potential for change to some aesthetic factors that appeal to the senses, particularly resulting from changes to enclosed farmland areas to the north of Friston, however the relationship of the key constituent features within the coastal areas of the AONB (forests, reedbeds, intertidal mud-flats, heathland, sand dunes and shingle beaches) cited in this indicator will not be subject to change; nor will the contrast between open and exposed areas on the coast. • There will be no change to the memorable/unusual views cited in this indicator 'across heaths and along the coast, out to sea', since views to the coast from the onshore substation are prevented by landform and forestry; and there will be no changes to views of historic coastal landmarks. The construction of the onshore substation and National Grid substation will be viewed in the context of other modern structures including the overhead transmission line. • Although there is potential for change to these indicators of scenic quality, the experience of these scenic qualities within the AONB cited in this indicator will not be subject to change due to the distance and limited visibility of the construction of the onshore substation and National Grid substation outside the AONB.		
Magnitude of change on relative wildness:	Negligible	**Not significant**, short-term, temporary
• Due to the introduction of built development features and access tracks, the onshore substation and National Grid substation will further reduce any sense of remoteness in the local landscape to the north of Friston, however there would be limited change to the 'relatively undeveloped character of the Suffolk coast' and the sense of remoteness in the AONB, due to the position of the onshore substation outside the AONB and its very limited intervisibilty with the Suffolk coast. • Changes to the perceived wildness of the AONB are considered to be negligible due to the distance of the onshore substation and National Grid substation outside the AONB and the limited intervisibility. • There will be no physical changes to the semi-natural habitats present within the AONB as a result of the onshore substation and National Grid substation, as they are located well outside the AONB. • Although the onshore substation and National Grid substation would further 'interrupt' and develop farmland in the local landscape of the Estate Sandlands/Ancient Estate Claylands to the north of		

Suffolk Coast and Heaths AONB (including Suffolk Heritage Coast)		
Friston, they will result in little or no changes to the undeveloped landscape of the AONB since they are located well outside the AONB. • The addition of onshore substation and National Grid substation will reduce openness within the local landscape to the north of Friston, due to presence of large scale built features, however, due to the location of the onshore substation at distance outside the AONB, it will not result in changes to the exposure/openness of the coastline and heaths within the AONB. • The contrasts between areas of enclosed forestry and open coastline that are present in the AONB, will not be changed as a result of the onshore substation, outside the AONB. • The onshore substation and National Grid substation will result in no changes to areas of semi natural landscape along the coastline/estuaries of the AONB.		
Magnitude of change on relative tranquillity:	Negligible	**Not significant**, short-term, temporary
• Although there will be potential changes of high magnitude to the perceived tranquillity of the rural landscape within the locality of the onshore substation and National Grid substation, arising from the construction of large scale electrical infrastructure, there will be limited/no change to the relative tranquillity of the AONB itself, due to the geographic separation and distance of the onshore substation outside the AONB landscape.		
Magnitude of change on natural heritage features:	None	**Not significant**, short-term, temporary
• The onshore substation and National Grid substation will not change the visible expression of the current land use relationship/ transition that is evident on the inland edge of the AONB, as it is located at distance, well outside the AONB. • The onshore substation and National Grid substation will not change the appearance or qualities of striking geo-morphological features within the AONB that are cited in this indicator, which are largely associated with the coast. • As the onshore substation and National Grid substation are located outside the AONB, there will be no change to the physical condition of designated habitats within the AONB, or to the scenic quality/character that these habitats provide to the AONB.		
Magnitude of change on cultural heritage:	Negligible	**Not significant**, short-term, temporary
• There will be no direct changes to archaeological remains, parklands or designed landscapes within the AONB, as a result of the onshore substation and National Grid substation (outside the AONB). • Although there is potential for change to the enclosed arable fields in the local landscape to the north of Friston near to the onshore substation, the qualities of the visible historic landscape experienced primarily around the coastal landscapes within the AONB cited in this indicator will not be subject to change. • Potential addition of further electrical infrastructure influences in the landscape near to existing overhead transmission line, will increase prominence of man-made features, however due to the distance from Sizewell and the AONB, would not affect the scenic quality of the AONB. Associations with Sizewell Power Station and pylons may extend perceived link to energy coast further inland and would be different to the current perception that these developments are currently in remote coastal landscapes. • There is potential for the onshore substation and National Grid substation to result in high change locally within the local landscape around the onshore substation, due to contrasts in scale with existing building materials and scale, however, the onshore substation will result in low change to cultural heritage qualities of the AONB cited in this indicator • The onshore substation and National Grid substation will result in no changes to the characteristic land management practices of the AONB.		
Magnitude of change to AONB special qualities (operation):		Significance of effect (operation):

Suffolk Coast and Heaths AONB (including Suffolk Heritage Coast)		
Magnitude of change on landscape quality:	Low	**Not significant**, long-term
• The onshore substation and National Grid substation are located outside the AONB and its immediate setting. The qualities of the AONB cited in this indicator will not be subject to change as a result of the operation of the onshore substation. • Although there is some potential for direct effects on the condition of landscape elements such as hedgerows in the local landscape at the onshore substation, the onshore substation and National Grid substation are located outside the AONB and would result in no changes to the physical condition of landscape features and elements within the AONB. • The operation of further electrical influences near to the existing overhead transmission line will increase the prominence of man-made features in the local landscape but will result in low or no change to the landscape quality of the AONB, primarily due the distance of the onshore substation from the AONB and limited visibility from within the AONB.		
Magnitude of change on scenic quality:	Low	**Not significant**, long-term
• Although there is potential for high changes to the sense of place of the landscape in the localised area to the north of Friston, the qualities of the AONB cited in this indicator will be subject to low levels of change, primarily due the distance of the operational onshore substation and National Grid substation from the AONB and their limited visibility from within the AONB. • Although there is potential for some change to the landform within the onshore substation outside the AONB, the qualities of the striking coastal landforms within the AONB cited in this indicator will not be subject to change. • Although there is potential for change to the appealing pattern/composition of the farmed fields, hedgerows and woodland belts in the local landscape near the onshore substation, the visual interest of the AONB created by the varied land cover within the AONB cited in this indicator will not be subject to change. • There is potential for change to some aesthetic factors that appeal to the senses, particularly resulting from changes to enclosed farmland areas to the north of Friston, however the relationship of the key constituent features within the coastal areas of the AONB (forests, reedbeds, intertidal mud-flats, heathland, sand dunes and shingle beaches) cited in this indicator will not be subject to change; nor will the contrast between open and exposed areas on the coast. • There will be no change to the memorable/unusual views cited in this indicator 'across heaths and along the coast, out to sea', since views to the coast from the onshore substation are prevented by landform and forestry; and there will be no changes to views of historic coastal landmarks. The operational onshore substation and National Grid substation will be viewed in the context of other modern structures including the overhead transmission line. • Although there is potential for change to these indicators of scenic quality, the experience of these scenic qualities within the AONB cited in this indicator will not be subject to change due to the distance and limited visibility of the onshore substation and National Grid substation outside the AONB.		
Magnitude of change on relative wildness:	Negligible	**Not significant**, long-term
• Due to the introduction of built development features and access tracks, the onshore substation and National Grid substation will further reduce any sense of remoteness in the local landscape to the north of Friston, however there would be limited change to the 'relatively undeveloped character of the Suffolk coast' and the sense of remoteness in the AONB, due to the position of the onshore substation outside the AONB and its very limited intervisibilty with the Suffolk coast. • Changes to the perceived wildness of the AONB are considered to be negligible due to the distance of the onshore substation and National Grid substation outside the AONB and the limited intervisibility. • There will be no physical changes to the semi-natural habitats present within the AONB as a result of the onshore substation and National Grid substation, as they are located well outside the AONB.		

Suffolk Coast and Heaths AONB (including Suffolk Heritage Coast)		
• Although the onshore substation and National Grid substation would further 'interrupt' and develop farmland in the local landscape of the Estate Sandlands/Ancient Estate Claylands to the north of Friston, they will result in little or no changes to the undeveloped landscape of the AONB since they are located well outside the AONB. • The addition of onshore substation and National Grid substation will reduce openness within the local landscape to the north of Friston, due to presence of large scale built features, however, due to the location of the onshore substation at distance outside the AONB, it will not result in changes to the exposure/openness of the coastline and heaths within the AONB. • The contrasts between areas of enclosed forestry and open coastline that are present in the AONB, will not be changed as a result of the onshore substation, outside the AONB. • The onshore substation and National Grid substation will result in no changes to areas of semi natural landscape along the coastline/estuaries of the AONB.		
Magnitude of change on relative tranquillity:	Negligible	**Not significant**, long-term
• Although there will be potential changes of high magnitude to the perceived tranquillity of the rural landscape within the locality of the onshore substation and National Grid substation, arising from the construction of large scale electrical infrastructure, there will be limited/no change to the relative tranquillity of the AONB itself, due to the geographic separation and distance of the onshore substation outside the AONB landscape.		
Magnitude of change on natural heritage features:	None	**Not significant**, long-term
• The onshore substation and National Grid substation will not change the visible expression of the current land use relationship/ transition that is evident on the inland edge of the AONB, as it located at distance, well outside the AONB. • The onshore substation and National Grid substation will not change the appearance or qualities of striking geo-morphological features within the AONB that are cited in this indicator, which are largely associated with the coast. • As the onshore substation and National Grid substation are located outside the AONB, there will be no change to the physical condition of designated habitats within the AONB, or to the scenic quality/character that these habitats provide to the AONB.		
Magnitude of change on cultural heritage:	Negligible	**Not significant**, long-term
• There will be no direct changes to archaeological remains, parklands or designed landscapes within the AONB, as a result of the onshore substation and National Grid substation (outside the AONB). • Although there is potential for change to the enclosed arable fields in the local landscape to the north of Friston near to the onshore substation, the qualities of the visible historic landscape experienced primarily around the coastal landscapes within the AONB cited in this indicator will not be subject to change. • Potential addition of further electrical infrastructure influences in the landscape near to existing overhead transmission line, will increase prominence of man-made features, however due to the distance from Sizewell and the AONB, would not affect the scenic quality of the AONB. Associations with Sizewell Power Station and pylons may extend perceived link to energy coast further inland and would be different to the current perception that these developments are currently in remote coastal landscapes. • There is potential for the onshore substation and National Grid substation to result in high change locally within the local landscape around the onshore substation, due to contrasts in scale with existing building materials and scale, however, the onshore substation will result in low change to cultural heritage qualities of the AONB cited in this indicator. • The onshore substation and National Grid substation will result in no changes to the characteristic land management practices of the AONB.		
Onshore cable route		

Suffolk Coast and Heaths AONB (including Suffolk Heritage Coast)	
Geographic extent:	Local
The eastern-most section of the onshore cable route (section 1 and part of section 2) is located within Area A of the AONB ***(Figure 29.8)***, extending for approximately 3 km in a dog-leg between the landfall to the north of Thorpeness, Sizewell Gap Road and the western edge of the AONB, which follows the route of the dismantled railway near Leiston. There is potential for the onshore cable route to result in direct changes to the landscape character of the AONB along this section 1 and part of section 2 of the onshore cable route that is within Area A of the AONB (***Figure 28.9***) during the construction period. After exiting the AONB, the onshore cable route then takes a route which runs parallel to the western edge of the AONB between Leiston and Aldringham. In this area outside the AONB, there will be no direct effects from construction of the onshore cable route on the landscape elements/physical features of the AONB. There is however, some potential for effects on the setting of Area A of the AONB (***Figure 29.8***) as a result of visibility of the construction of the onshore cable route, when it is in close proximity to the AONB boundary, such as at section 2. To the south of Aldringham, the onshore cable route extends west away from the coastal areas of the AONB towards the onshore substation, becoming increasingly distant from the coastal part of the AONB, while running parallel to, and approximately 1km north of the area of AONB covering the River Alde estuary. The area of the AONB covering the River Alde Estuary and surrounding land between Aldeburgh and Snape is identified as Area B (***Figure 29.8***). The area of the AONB to the north of Sizewell Gap road, which is defined by Sizewell Nuclear Power Station and land at Sizewell Belts and Dunwich Forest, is identified as Area C (***Figure 29.8***). The effects of the onshore cable route construction on the landscape character of areas identified as B and C of the AONB (***Figure 29.8***) will be not significant. The magnitude of change and significance of effects resulting from the construction of the onshore cable route on Area A of the AONB is assessed as follows.	
Area A: AONB between Thorpeness, Sizewell and Leiston (***Figure 29.8***)	
Magnitude of change on landscape quality (construction):	Medium
• Physical changes to the pattern of landscape elements are likely to occur in Area A of the AONB, due to the clearance of agricultural land-cover, hedgerow field boundaries and scrub vegetation within the onshore cable route. Direct changes to areas of heath and woodland within this area of the AONB will be avoided. • The construction of the onshore cable route within this area of the AONB will generally occur within intensively farmed arable land within the AONB, where active farming practices including agricultural fleece/polythene and outdoor pig rearing already influence the perceived landscape quality of the AONB. • The construction of the onshore cable route within this area of the AONB will to lead to changes in the perception of semi-natural and cultural landscapes (notably Sandlings Heath, forest and farmland within the AONB) through changes in the juxtaposition of elements during the construction period. The construction of the onshore cable route will increase the influence of construction works on the character of this relatively contained area of the AONB, within and immediately adjacent to the onshore cable route due to the onshore cable route construction activity, including a period of fencing, topsoil strip and storage, haul road construction and usage; a period of trench construction, cable/duct installation and trench backfilling; and a period of jointing bay and (in the event of ducting having been laid) cable installation, during certain periods of peak construction activity during the construction phase and within the less sensitive areas of this section of the AONB. The construction of further electrical influences near to the existing National Grid overhead transmission line through this area of the AONB will increase the prominence and clutter of man-made features in the local landscape character, resulting in changes to the landscape quality of this area of the AONB. • The construction of the onshore cable route will temporarily change the appealing pattern/composition of the farmed arable land and Sandlings Forests on the edge/in the setting of this area of the AONB, which is visible from vantage points on local PRoW and B1353 gateway to the AONB/Thorpeness. The qualities of the views over coastal landscapes within the AONB will not be subject to change.	

Suffolk Coast and Heaths AONB (including Suffolk Heritage Coast)	
Significance of effect on landscape quality (construction):	**Significant**, short-term, temporary construction stage effects on the landscape quality of area A of the AONB will primarily be experienced over several separate short 2-3 month periods of peak construction activity and not continuously throughout the construction phase. Over the majority of the construction stage, the relevant section of the onshore cable route will not be subject to these key construction works and the onshore cable route will primarily consist of installed infrastructure and stripped topsoil to be reinstated, during which time the effects on landscape quality are considered **not significant** due to the limited construction activity.
Magnitude of change on scenic quality (construction):	Medium
• Physical changes to the pattern of landscape elements are likely to occur in Area A of the AONB, due to the clearance of agricultural land-cover, hedgerow field boundaries and scrub vegetation within the onshore cable route. Direct changes to areas of heath and woodland within this area of the AONB will be avoided. • The construction of the onshore cable route within this area of the AONB will generally occur within intensively farmed arable land within the AONB, where active farming practices including agricultural fleece/polythene and outdoor pig rearing already influenced the perceived landscape quality of the AONB. • The construction of the onshore cable route within this area of the AONB will lead to changes in the scenic quality of semi-natural and cultural landscapes (notably Sandlings Heath, forest and farmland within the AONB) through changes in the juxtaposition of elements during the construction period. The construction of the onshore cable route will increase the influence of construction works on the scenic quality of this relatively contained area of AONB, within and immediately adjacent to the onshore cable route due to the onshore cable route construction activity, including a period of fencing, topsoil strip and storage, haul road construction and usage; a period of trench construction, cable/duct installation and trench backfilling; and a period of jointing bay and (in the event of ducting having been laid) cable installation, during certain periods of peak construction activity during the construction phase. • Although there is potential for some change to the landform within this area of the AONB due to the construction of the onshore cable route, the scenic qualities of the striking coastal landforms and estuaries within the AONB cited in this indicator will not be subject to change and there will be low levels of change to the overall landform of the gently rolling Sandlings heaths and farmland arising primarily from topsoil storage areas within the onshore cable route. • The construction of the onshore cable route within this area of the AONB is likely to lead to changes in the visual interest of the AONB created by the varied land cover where farming fields are likely to be interrupted by the construction of the onshore cable route. There will be limited changes to views over the coast and out to sea as the onshore cable route takes a route that extends inland from the coastal edge. • There is potential for change to some aesthetic factors that appeal to the senses in this area of the AONB, particularly resulting from changes to the views to and from the enclosed Sandlings heath and forest areas as a result of the construction of the onshore cable route, however the relationship of the key constituent features within the coastal areas of the AONB (reedbeds, intertidal mud-flats, heathland, sand dunes and shingle beaches) cited in this indicator will not be subject to change; nor will the contrast between open and exposed areas on the coast.	
Significance of effect on scenic quality (construction):	**Significant**, short-term, temporary construction stage effects on the scenic quality of area A of the AONB will primarily be experienced over several separate short 2-3 month periods of peak construction activity and not continuously throughout the construction phase. Over the majority of the construction stage, the relevant section of the onshore cable route will not be subject to these key construction works and the onshore cable route will primarily consist of installed

Suffolk Coast and Heaths AONB (including Suffolk Heritage Coast)	
	infrastructure and stripped topsoil to be reinstated, during which time the effects on scenic quality are considered **not significant** due to the limited construction activity.
Magnitude of change on relative wildness (construction:	Medium
• The construction of the onshore cable route within this area A of the AONB will introduce development influences during the construction period in a relatively undeveloped landscape, including cable trenching, installation of jointing bays, HDD, CCS, fencing and vehicles/machinery, during certain periods of peak construction activity during the construction phase. A haul road will also be constructed in an area where road routes are absent although these and other forms of development do influence the wider landscape context • The construction of the onshore cable route within this area of the AONB will generally occur within intensively farmed arable land within the AONB, where active farming practices including agricultural fleece/polythene and outdoor pig rearing already influence the perceived relative wildness of the AONB, whilst avoiding the more natural landcover of heathland and woodland. If HDD underground cabling is undertaken in relation to the Sandlings SPA crossing, on balance the effects on relative wildness would be of greater magnitude than the potential alternative of open cut trenching due to the more widespread influence and longer duration of the HDD compared with the open cut trench alternative through this area. The increase in these development influences during periods of peak construction activity, will reduce the relative wildness and sense of enclosure and isolation associated with the Sandlings forests in this area of the AONB, however outside these periods of peak construction activity, changes to the perceived wildness will be relatively low. • Areas of semi-natural habitat notably on the Sandlings heaths will not be physically impacted by the construction of the onshore cable route. • The construction of further electrical influences will occur in parts of the AONB where the character is influenced to the existing National Grid overhead transmission line and Sizewell Nuclear Power Station, providing some rationale to the construction of further electrical transmission infrastructure, while increasing the influence and clutter of man-made features in the local landscape character.	
Significance of effect on relative wildness (construction):	**Significant**, short-term, temporary construction stage effects on the relative wildness of area A of the AONB will primarily be experienced over several separate short 2-3 month periods of peak construction activity and not continuously throughout the construction phase. Over the majority of the construction stage, the relevant section of the onshore cable route will not be subject to these key construction works and the onshore cable route will primarily consist of installed infrastructure and stripped topsoil to be reinstated, during which time the effects on relative wildness are considered **not significant** due to the limited construction activity.
Magnitude of change on relative tranquillity (construction):	Medium
• The construction of the onshore cable route will result in an increase in development influence and apparent human activity in area A of the AONB with a general absence of development, although these and other forms of development do influence the wider landscape context. • The construction of the onshore cable route within this area A of the AONB will generally occur within intensively farmed arable land within the AONB, where active agricultural practices already influence the perceived tranquillity of the AONB, whilst avoiding the more natural landcover of heath and woodland. • If HDD underground cabling is undertaken in relation to the SPA crossing on a balance the effects on relative tranquillity would be of greater magnitude than the potential alternative of open cut trenching due to the more widespread influence (both visually and audibly) and longer duration of the HDD compared with the open cut trench alternative through the area.	

Suffolk Coast and Heaths AONB (including Suffolk Heritage Coast)	
• Edges of the AONB near Leiston have more urban development influences near the fringes of the AONB and are less impacted by changes resulting from the onshore cable route construction. Potential changes of medium magnitude to perceived tranquillity of rural landscape and areas of semi-natural habitat present in this area of the AONB, arising from the construction of onshore cable route construction activities, vehicle traffic and noise in an area with a relatively tranquil baseline. Relative reduction in the influence of other sounds in close proximity to construction of onshore cable route.	
Significance of effect on relative tranquillity (construction):	**Significant**, short-term, temporary construction stage effects on the relative tranquillity of area A of the AONB will primarily be experienced over several separate short 2-3 month periods of peak construction activity and not continuously throughout the construction phase. Over the majority of the construction stage, the relevant section of the onshore cable route will not be subject to these key construction works and the onshore cable route will primarily consist of installed infrastructure and stripped topsoil to be reinstated, during which time the effects on relative tranquillity are considered **not significant** due to the limited construction activity.
Magnitude of change on natural heritage features (construction):	Low
• The construction of the onshore cable route within this area of the AONB has the potential to change the visible expression of the current land use relationship/transition that is evident in the AONB but would not change the striking impressions of geology/geomorphological features present at the coast. • The construction of the onshore cable route through area A of the AONB primarily takes a route through agricultural fields and avoids natural heritage features. • The construction of the onshore cable route is likely to result in some low changes to the physical condition/quality of farmland, hedgerow field boundaries and scrub vegetation within the AONB, where clearance of short sections of hedgerow/scrub vegetation is required within the onshore cable route, with some localised changes to landscape character likely to occur as a result of these physical changes to the pattern of landscape elements whilst avoiding the more natural landcover of heath and woodland.	
Significance of effect on natural heritage features (construction):	**Not significant**, short-term, temporary construction stage effects on the natural heritage features of area A of the AONB, primarily experienced over several separate short 2-3 month periods of peak construction activity.
Magnitude of change on cultural heritage (construction):	Low
• The construction of the onshore cable route will result in no changes to the main built environment/cultural heritage features in this area of the AONB and there will be no direct changes to parklands or designed landscapes within the AONB. Although there is potential for change to the arable fields within this area of the AONB, the qualities of the visible historic landscape experienced primarily around the coastal landscapes within the AONB cited in this indicator will not be subject to change. • The construction of further electrical infrastructure influences in the landscape near to existing National Grid overhead transmission line, will increase the prominence of man-made features and influence the scenic quality in this relatively contained area of the AONB. The associations with other substations, power stations and pylons may extend perceived link to energy coast further inland. • There is potential for the construction of the onshore cable route through this area of the AONB due to contrasts in scale and appearance with existing cottages/building materials, albeit being in keeping with other large-scale energy infrastructure in the landscape.	

Suffolk Coast and Heaths AONB (including Suffolk Heritage Coast)		
• The construction of the onshore cable route will temporarily change the character of the B1353 gateway into this area of the AONB leading to the village of Thorpeness but would not directly affect the village of Thorpeness itself, which is separated from the zone by extensive coniferous woodland.		
Significance of effect on cultural heritage (construction):	**Not significant**, short-term, temporary construction stage effects on the cultural heritage of area A of the AONB will primarily be experienced over several separate short 2-3 month periods of peak construction activity and not continuously throughout the construction phase. Over the majority of the construction stage, the relevant section of the onshore cable route will not be subject to these key construction works and the onshore cable route will primarily consist of installed infrastructure and stripped topsoil to be reinstated, during which time the effects on cultural heritage are considered **not significant** due to the limited construction activity.	
Landfall		
Geographic extent:	Local	
The landfall is located within the AONB to the immediate north of Thorpeness. There is potential for the landfall to result in direct changes to the landscape character of the AONB within the landfall in a relatively small part of the south-eastern sector (set back from the coast) of Area A of the AONB (***Figure 29.8***) during the construction period. In all other areas outside the landfall within the AONB, there will be no direct effects from construction of the landfall on the landscape elements/physical features of the AONB and negligible perceived changes to the landscape character of the AONB resulting from the construction of the landfall.		
Area A: AONB between Thorpeness, Sizewell and Leiston (***Figure 29.8***)		
Magnitude of change to AONB special qualities (construction):		Significance of effect (construction):
Magnitude of change on landscape quality:	High	**Significant**, short-term, temporary during construction period
• The construction of the landfall will increase the influence of construction works on the character of a localised area of the AONB to the north of Thorpeness, in a relatively limited area, through the transition bay construction, HDD temporary working area, CCS, fencing and vehicles/machinery in use temporarily, during the construction period. The construction of landfall within the AONB is likely to lead to changes in the perception of semi-natural and cultural landscapes (notably Sandlings Heath, forest and farmland in the AONB) through changes in the juxtaposition of elements during construction. Physical changes to the pattern of landscape elements are also likely to occur due to the clearance of scrub vegetation and hedgerow field boundaries within the onshore cable route. • The majority of the change will occur as a result of the HDD infrastructure which will be located within the landfall area for a maximum of 12 months. The CCS areas would be removed after 24 months thus reducing the apparent change to the landscape quality beyond these periods. • The construction of landfall will generally occur within intensively farmed arable land within the AONB, where agricultural fleece/polythene and outdoor pig rearing has already influenced the perceived landscape quality of the AONB. • The construction of the landfall will increase the prominence and clutter of man-made features in the local landscape character, resulting in changes to the landscape quality of this small area of the AONB.		
Magnitude of change on scenic quality:	High	**Significant**, short-term, temporary during construction period
• The construction of the landfall will increase the influence of construction works on the scenic quality of a localised area of the AONB to the north of Thorpeness, in a relatively limited area, through the transition bay construction, HDD temporary working area, CCS, fencing and vehicles/machinery in use temporarily, during the construction period. The construction of landfall within the AONB is likely		

Suffolk Coast and Heaths AONB (including Suffolk Heritage Coast)		
to lead to changes in the perception of semi-natural and cultural landscapes (notably Sandlings Heath, forest and farmland within the AONB) through changes in the juxtaposition of elements during the construction period. Physical changes to the pattern of landscape elements are also likely to occur due to the clearance of scrub vegetation and hedgerow field boundaries within the onshore cable route. • Although there is potential for some change to the landform within the landfall, due to the construction of the HDD temporary working area and transition bays, the scenic qualities of the striking coastal landforms and estuaries within the AONB cited in this indicator will not be subject to change and there will be low levels of change to the overall landform due to the use of HDD. • The construction of the cable landfall within the AONB is likely to lead to changes in the visual interest of the area within the landfall, created by the varied land cover and mosaic of habitats (forest, heaths and farmland), which are likely to be interrupted by the construction works. There will be some changes to views over the coast and out to sea due to the landfall being viewed at the coastal edge. • The majority of the change will occur as a result of the HDD infrastructure which will be located within the landfall area for a maximum of 12 months. The CCS areas would be removed after 24 months thus reducing the apparent change to the scenic quality beyond these periods. • The construction of landfall will generally occur within intensively farmed arable land within the AONB, where agricultural fleece/polythene and outdoor pig rearing has already influenced the perceived landscape quality of the AONB. There is potential for change to some aesthetic factors that appeal to the senses, particularly resulting from changes to enclosed Sandlings heath and forest areas, and the open exposure to the sea, as a result of the construction of the onshore cable route, however the relationship of the key constituent features within the coastal areas of the AONB (reedbeds, intertidal mud-flats, heathland, sand dunes and shingle beaches) cited in this indicator will not be subject to change.		
Magnitude of change on relative wildness:	Medium-high	**Significant**, short-term, temporary during construction period
• The construction of the landfall will introduce development influences during the construction period in a relatively undeveloped landscape near the coastal headland at Thorpeness, including installation of transition bays, HDD temporary working area, CCS, fencing and vehicles/machinery. • The majority of the change will occur as a result of the HDD infrastructure which will be located within the landfall area for a maximum of 12 months. The CCS areas would be removed after 24 months thus reducing the apparent change to the relative wildness beyond these periods. • The increase in these development influences during the construction period, will reduce the relative wildness and sense of enclosure and isolation associated with the coastal areas around the headland at Thorpeness and the adjacent Sandlings Forests on the inland edges of the landfall. • The construction of the landfall will occur in parts of the AONB where the character is relatively undeveloped, increasing the influence and clutter of man-made features in the local landscape character.		
Magnitude of change on relative tranquillity:	Medium (High during HDD phase)	**Significant**, short-term, temporary during construction period
• Increase in development influence and apparent human activity in a small area of the AONB within the landfall with a general absence of development. Potential changes of medium magnitude to perceived tranquillity of rural landscape and areas of semi-natural habitat present in this small area of the AONB near Thorpeness, arising from the construction of the landfall, vehicle traffic and noise in an area with a relatively tranquil baseline. Relative reduction in the influence of other sounds in close proximity to landfall. • The majority of the change will occur as a result of the HDD infrastructure which will be located within the landfall area for a maximum of 12 months. The CCS areas would be removed after 24 months thus reducing the apparent change to the relative tranquillity beyond these periods.		

Suffolk Coast and Heaths AONB (including Suffolk Heritage Coast)		
Magnitude of change on natural heritage features:	Medium	**Significant**, short-term, temporary during construction period
• The construction of the onshore cable route within the zone has the potential to change the visible expression of the current land use relationship/transition that is evident in this small area of the AONB within the landfall but would not change the striking impressions of geology/geomorphological features present at the coast. • The construction of the landfall is likely to result in some changes to the physical condition/quality of habitats within the AONB, including areas of scrub vegetation and hedgerow field boundaries within the AONB, with some localised changes to landscape character likely to occur as a result of these physical changes to the pattern of landscape elements.		
Magnitude of change on cultural heritage:	Low	**Not significant**, short-term, temporary during construction period
• The construction of the landfall will result in no changes to the main built environment/cultural heritage features in the AONB and there will be no direct changes to parklands or designed landscapes within the AONB. Although there is potential for change to the arable fields within the landfall in the AONB, the qualities of the visible historic landscape experienced primarily around the coastal landscapes within the AONB cited in this indicator will not be subject to change. • There is potential for the construction of the onshore cable route through this area of the AONB to contrasts in scale and appearance with existing built environment features/building materials.		

Hundred River Valley SLA

Hundred River Valley SLA			
Designations:	Local landscape designation	Viewpoints in LCT:	No onshore LVIA viewpoints
Baseline Description:			
Within Suffolk Coastal District, the valleys of the Rivers Alde, Blyth, Deben, Fynn, Hundred, Mill, Minsmere, Ore and Yox together with their tributaries have been identified as SLA. Some of these include river valleys which still possess traditional grazing meadows and marshes with their hedgerows, dykes and associated flora and fauna and Historic Parklands. The special attributes of the Hundred River Valley area have not been defined in any citation, but the SLA covers the area between the edge of the AONB to the south of the B1353 Thorpeness Road and extends west along the valley through Aldringham to Coldfair Green (***Figure 29.3***). There are a variety of land use influences within the SLA, including primarily agricultural arable land, areas of woodland to north of Fitches Lane and the urban areas of Aldringham and Coldfair Green. The Hundred River between Aldringham and Coldfair Green defines the centre of the SLA, but this river is formed by a narrow channel that it is not readily apparent in the landscape. Land to the west of the SLA is defined by Knodishall Common, an area of remnant heathland and semi-natural woodland on the western edge of Coldfair Green. The SLA is crossed by the National Grid overhead transmission which traverses Aldringham and land to the north of Coldfair Green.			
Sensitivity to change: *Combination of the value and susceptibility of the LCT*			
Value:		Medium	
• The Hundred River Valley SLA is a local landscape designation, which is identified as having special landscape attributes that are vulnerable to change and is afforded policy protection in the local plan.			
Susceptibility:	Medium		

Hundred River Valley SLA	
• The SLA has the potential to be influenced by the onshore cable route, which crosses the SLA at the Hundred River Valley to the south of Aldringham and therefore would have a direct influence, but only on a relatively small and isolated area of the SLA. • The onshore cable route crosses woodland to the north of Fitches Lane, to the south of Aldringham Court, which is within the SLA and is susceptible to changes resulting from the constriction of the onshore cable route. • The majority of the SLA to the west of Aldringham/north of Coldfair Green will not be subject to the influence of the onshore infrastructure, due to the presence of intervening mature woodland and urban areas between the SLA and the onshore cable route. • The LCT has no potential to be influence by the onshore substation, National Grid substation or landfall.	
Sensitivity:	Medium
• The SLA is assessed as having a medium susceptibility to changes arising from the proposed East Anglia TWO onshore infrastructure.	
Magnitude of change:	
Geographic extent:	Local
Area A: Hundred River Valley, south of Aldringham	
Magnitude of change (construction):	Medium-high over a local area at woodland north of Fitches Lane, south of Aldringham due to the felling of mature woodland. Low on the majority of the of the SLA.
• **Landfall** – no direct or perceived changes in character of this area of the SLA as the HDD temporary working area and transition bays are not located within this SLA and their construction will not be visible. • **Onshore cable route** – potential for direct changes to the physical landscape elements of the Hundred River and riverside scrub vegetation, through the construction of trenched crossing of the Hundred River, assessed as low magnitude. Potential temporary changes in perceived character of this area of the LCT arising from these onshore cable route construction works of low magnitude. Localised changes in pattern of landscape elements/perceived character during the construction period. The largest physical loss of mature woodland occurs at woodland north of Fitches Lane, on land to the south of Aldringham Court, where up to approximately 0.9ha of mature woodland will be felled to facilitate the construction of the onshore cable route crossing Aldeburgh Road. The felling of an area of woodland north of Fitches Lane, to the south of Aldringham Court, on either side of the B1122 will be visible in local views of the SLA and will change the visual amenity experienced in the locality, creating more open views in an area that has a relatively enclosed character. The changes to the landscape character of the SLA in this localised area from the construction of the onshore cable route are assessed as medium-high magnitude of change. • **Onshore substation** – no direct or negligible perceived changes in character of the SLA as the onshore substation is not located within this SLA and is located approximately 1km to the west and its construction will not be visible due to the intervening screening by urban areas and Grove Wood.	
Magnitude of change (operation, first year of operational phase):	Medium-high over a local area at woodland north of Fitches Lane, south of Aldringham due to the felling of mature woodland. Low to negligible over the majority of the SLA.
• **Onshore cable route –** the removal of 0.9ha of woodland north of Fitches Lane, to facilitate the Aldeburgh Road crossing, will result in an operational effect as the onshore cable route cannot be re-planted with woodland, since it requires to be kept clear of woodland vegetation during the operational period over the long-term. This section of onshore cable route, north of Fitches Lane, will be reinstated, potentially by of establishing heathland over the onshore cables, with the potential for woodland to be retained or further established along the outer edges of the onshore cable route,	

Hundred River Valley SLA			
outside a minimum offset distance from the onshore cables. The change to the perceived character in the vicinity of this woodland, within a localised area of the SLA is assessed as being medium, due the physical loss of this woodland landscape element and the enclosure and character it provides at a local level, as part of the local landscape character of the LCT. • **Onshore substation** – no direct or perceived changes in character of this area of the SLA as the onshore substation is not located within this SLA and is located at long distance to the west and will not visible due to the intervening screening by urban areas and Grove Wood.			
Magnitude of change (operation, 15 years post construction):	Low over a local area at woodland north of Fitches Lane, due to reinstatement. Low to negligible over the majority of the SLA.		
• **Onshore cable route** – The largest physical loss of mature woodland as a result of the onshore cable route occurs north of Fitches Lane to facilitate the onshore cable route crossing of Aldeburgh Road (B1122), where up to 0.9ha of woodland north of Fitches Lane will be felled. The Applicant has committed to reducing the onshore cable route to 16.1m for the proposed East Anglia TWO project alone, to retain as many trees as possible at this location. The onshore development area has been refined so that woodland is retained acting as screening between residential properties on Fitches Lane and the onshore cable route and also between the onshore cable route and Aldringham Court Nursing Home. The change to the perceived character in the vicinity of this woodland, within a localised area of the Hundred River Valley SLA, will be mitigated through reinstatement. This section of onshore cable route, north of Fitches Lane, will be reinstated, through the establishment of heathland over the onshore cables and further woodland planting along the outer edges of the onshore cable route, outside a minimum offset distance from the onshore cables. The magnitude of change to the perceived character in the vicinity of this woodland, 5 years post construction with mitigation, is therefore assessed as being low within a localised area of the Hundred River Valley. • **Onshore substation** – no direct or perceived changes in character of this area of the SLA as the onshore substation is not located within this SLA and is located at long distance to the west and will not visible due to the intervening screening by urban areas and Grove Wood.			
Significance of effect:			
Geographic area of LCT	Significance of effect (construction)	Significance of effect (operation, first year of operational phase)	Significance of effect (operation, 15 years post-construction)
Area A: Hundred River Valley, south of Aldringham near woodland north of Fitches Lane	**Significant**, short-term, temporary	**Significant**, short-term, temporary	**Not significant**, long-term, permanent (after 5 years woodland establishment)
Area B: Majority of the of the SLA	**Not significant**, short-term, temporary	**Not significant**, short-term, temporary	**Not significant**, long-term, permanent (after 5 years woodland establishment)

29.5 References

The Planning Inspectorate (2017) *Scoping Opinion: Proposed East Anglia TWO Offshore Windfarm*.

Suffolk Coastal District Council and Waveney District Council (2016) *Suffolk Coast and Heaths AONB - Natural Beauty and Special Qualities Indicators.*

Suffolk Coastal District Council (July 2018) Suffolk Coastal Landscape Character Assessment.

Suffolk County Council (2011) Suffolk Landscape Character Assessment.

Scottish Power Renewables (2017) *East Anglia TWO Offshore Windfarm Scoping Report.*

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