East Anglia TWO Offshore Windfarm

Non-Technical Summary

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Glossary of Acronyms

AONB	Area of Outstanding Natural Beauty
BBPP	Breeding Bird Protection Plan
CAA	Civil Aviation Authority
CCS	Construction Consolidation Site
CfD	Contract for Difference
CoCP	Code of Construction Practice
SAC	candidate Special Area of Conservation
DCO	Development Consent Order
Defra	Department for Environment, Food and Rural Affairs
EIA	Environmental Impact Assessment
EMF	Electromagnetic Fields
ES	Environmental Statement
ESC	East Suffolk Council
ETG	Expert Topic Group
FTE	Full Time Equivalent
HDD	Horizontal Directional Drilling
HGV	Heavy Goods Vehicle
km	Kilometres
LVIA	Landscape and Visual Impact Assessment
MW	Megawatts
M	Metres
MMO	Marine Management Organisation
NALEP	New Anglia Local Enterprise Partnership
NPS	National Policy Statements
NTS	Non-Technical Summary
NSIP	Nationally Significant Infrastructure Project
OWF	Offshore Windfarm
PEIR	Preliminary Environmental Information Report
PIDs	Public Information Days
PRoW	Public Rights of Way
SAC	Special Area of Conservation
SCC	Suffolk County Council
SCI	Site of Community Importance
SCDC	Suffolk Coastal and District Council
SoCC	Statement of Community Consultation
SPA	Special Protection Area
SPR	ScottishPower Renewables

SSSI	Site of Special Scientific Interest
WDC	Waveney District Council
WSI	Written Scheme of Investigation
ZAP	Zone Appraisal and Planning
ZEA	Zone of Environmental Appraisal
ZTA	Zone Technical Appraisal
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.
Construction operation and maintenance platform	A fixed offshore structure required for construction, operation, and maintenance personnel and activities.
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 (EPP)	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.
Inter-array cables	Offshore cables which link the wind turbines to each other and the offshore electrical platforms, these cables will include fibre optic cables.
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.
Meteorological mast	An offshore structure which contains metrological instruments used for wind data acquisition.
Mitigation areas	Areas captured within the onshore development area specifically for mitigating expected or anticipated impacts.
Marking buoys	Buoys to delineate spatial features / restrictions within the offshore development area.
Monitoring buoys	Buoys to monitor *in situ* condition within the windfarm, for example wave and metocean conditions.
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.
Offshore cable corridor	This is the area which will contain the offshore export cables between offshore electrical platforms and landfall.
Offshore development area	The East Anglia TWO windfarm site and offshore cable corridor (up to Mean High Water Springs).
Offshore electrical infrastructure	The transmission assets required to export generated electricity to shore. This includes inter-array cables from the wind turbines to the offshore electrical platforms, offshore electrical platforms, platform link cables and export cables from the offshore electrical platforms to the landfall.
Offshore electrical platform	A fixed structure located within the windfarm area, containing electrical equipment to aggregate the power from the wind turbines and convert it into a more suitable form for export to shore.
Offshore export cables	The cables which would bring electricity from the offshore electrical platforms to the landfall. These cables will include fibre optic cables.
Offshore infrastructure	All of the offshore infrastructure including wind turbines, platforms, and cables.
Offshore platform	A collective term for the construction, operation and maintenance platform and the offshore electrical platforms.
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.
Platform link cable	Electrical cable which links one or more offshore platforms. These cables will include fibre optic cables.
Safety zones	A marine area declared for the purposes of safety around a renewable energy installation or works / construction area under the Energy Act 2004.
Scour protection	Protective materials to avoid sediment being eroded away from the base of the foundations as a result of the flow of water.
Transition bay	Underground structures at the landfall that house the joints between the offshore export cables and the onshore cables.

1 Introduction

1.1 About this Document

1. This document is the Non-Technical Summary (NTS) of the Environmental Statement (ES) for the proposed East Anglia TWO Offshore Windfarm (also known as the proposed East Anglia TWO project). It provides a summary of the proposed East Anglia TWO project, the site selection process and the key findings of the Environmental Impact Assessment (EIA).

2. The proposed East Anglia TWO project is a Nationally Significant Infrastructure Project (NSIP). Consent to construct, operate and decommission the proposed East Anglia TWO project is therefore being requested from the Secretary of State for Business, Energy and Industrial Strategy, under the Planning Act 2008. Consequently, an EIA is required to support a Development Consent Order (DCO) application. The purpose of the EIA is to assess and examine the potential impacts of the project on the environment, from construction, operation and decommissioning. In accordance with the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017, the findings of the EIA process have been presented in an ES and submitted as part of the DCO application.

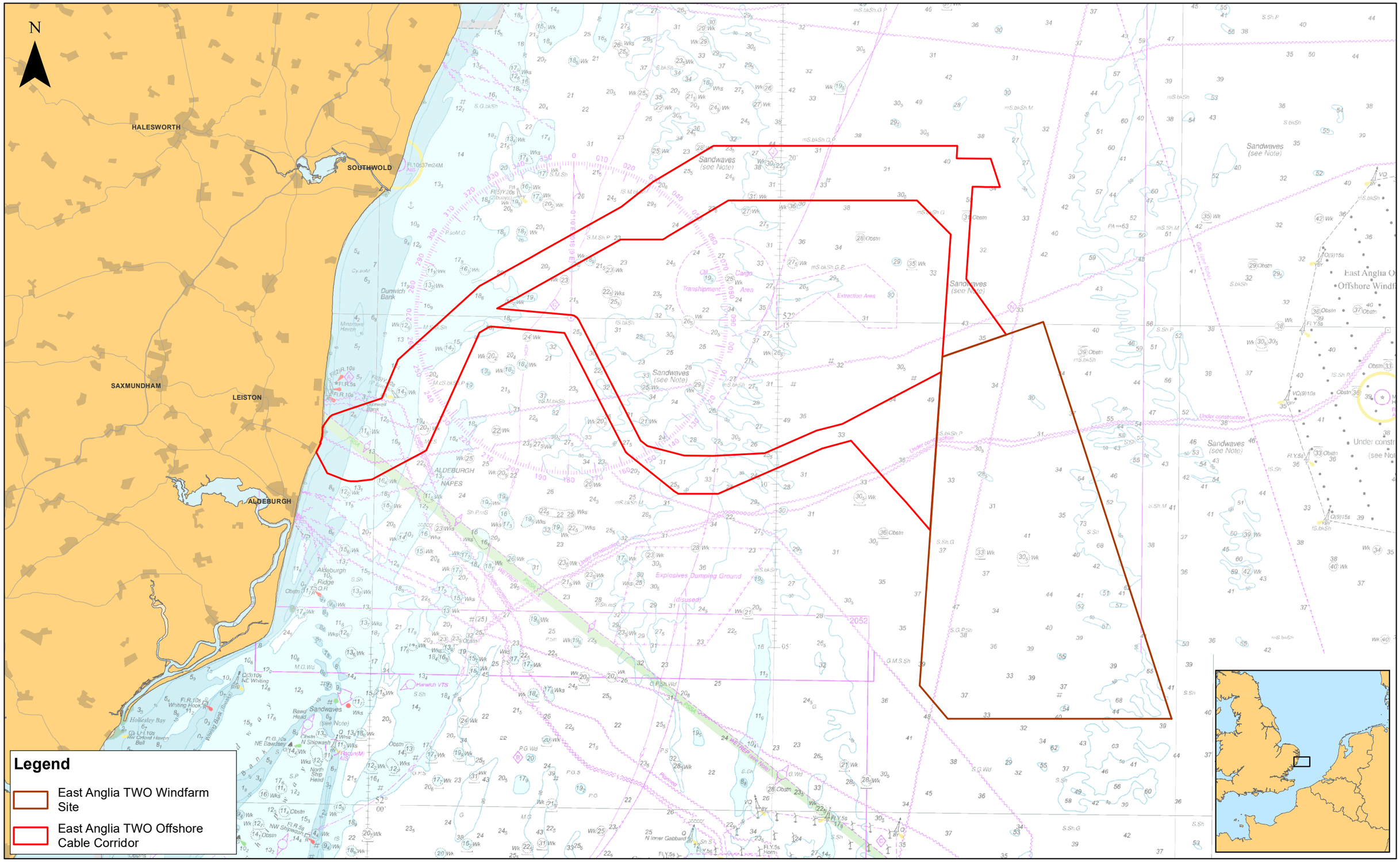
3. The East Anglia TWO offshore windfarm site is located in the southern North Sea, approximately 32.6km from its nearest point to the coast at Southwold and 37.3km to the port of Lowestoft. The proposed East Anglia TWO project will have an operational capacity of up to 900MW[1], which is enough to power approximately 800,000[2] UK households.

4. The proposed East Anglia TWO project would be principally comprised of offshore wind turbines, offshore electrical and construction, operation and maintenance platforms, offshore export cables, onshore cables, an onshore substation, a National Grid substation and National Grid overhead line realignment works. The offshore development area is shown in ***Figure 1***. The onshore development area is shown in ***Figure 2***.

[1] As measured at point of connection of the onshore cables to the onshore substation
[2] Calculated taking the number of megawatts (900) multiplied by the number of hours in one year (8,766), multiplied by the average load factor for offshore wind (38.36%, published by the Digest of United Kingdom Energy Statistics), divided by the average annual household energy consumption (3.781MWh), giving an equivalent of powering 800,416 homes.

5. The NTS is intended to act as a high level stand-alone document to provide an overview of the potential environmental impacts of the proposed East Anglia TWO project in non-technical terms. For further information, the full ES should be referred to. This can be found at:

https://www.scottishpowerrenewables.com/pages/east_anglia_two.aspx



SCOTTISHPOWER RENEWABLES

Rev	Date	By	Comment
1	05/07/2019	FC	First Issue.

Prepared: FC
Checked: PM
Approved: PP

1:200,000 Scale @ A3

0 2.5 5 10 Km

East Anglia TWO

East Anglia TWO Offshore Development Area

Drg No	EA2-DEV-DRG-IBR-000795
Rev	1
Date	05/07/19
Figure	1

Datum: WGS 1984
Projection: Zone 31N

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Legend

East Anglia TWO Onshore Development Area

Rev	Date	By	Comment		
3	16/09/2019	FC	Third Issue.		
2	07/08/2019	FC	Second Issue.	Prepared:	FC
1	05/07/2019	FC	First Issue.	Checked:	PW
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1:50,000 Scale @ A3

0 1 2 Km

East Anglia TWO

East Anglia TWO Onshore Development Area

Drg No	EA2-DEV-DRG-IBR-000796
Rev	3
Date	16/09/19
Figure	2

Coordinate System: BNG Datum: OSGB36

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1.2 Who is Developing the Project

6. The proposed East Anglia TWO project is being developed by East Anglia TWO Limited (the Applicant), which is a wholly owned subsidiary of ScottishPower Renewables (SPR). SPR is part of the Iberdrola Group, a world leader in clean energy and the leading wind energy producer worldwide. SPR is at the forefront of the development of the renewables industry and is contributing towards providing cost effective energy security for the UK, reducing greenhouse gas emissions and maximising economic opportunities through investment in the UK.

7. ScottishPower has become the first major energy company in the UK to leave the carbon economy, marking the end of a ten-year journey to transform from carbon to 100% renewable generation. This means a focus on offshore and onshore wind, along with emerging technologies, with £5.5bn confirmed investment to 2022.

8. SPR is at the forefront of the development of the renewables industry through pioneering ideas, forward thinking and outstanding innovation. SPR and its group is helping to drive Iberdrola's ambition of being the 'Utility of the Future' and, as of 2019, has 40 operational onshore and offshore windfarms in the UK producing over 2,000MW of clean energy. SPR manages all of these operational sites through the innovative and world leading control centre at Whitelee Windfarm, Glasgow.

9. SPR has the ambition that the UK will continue to be a growth market, with the proposed East Anglia TWO project providing a significant next step.

10. SPR is currently building the 714MW East Anglia ONE offshore windfarm approximately 43km off the coast of Suffolk. This £2.5 billion project is planned to deliver renewable energy to meet the equivalent annual demand of 630,000 homes[3] and should be fully operational during 2020. SPR has also invested £25 million in Associated British Ports' Hamilton Dock, in Lowestoft, with the construction of a start-of-the-art operations and maintenance base. Building work is set to be complete by the end of 2019 and, once operational, the hub will be a hive of activity with 100 full-time employees managing the day-to-day running and maintenance for East Anglia ONE. This project will be followed by the 1,400MW East Anglia THREE offshore windfarm which received development consent in August 2017. The proposed East Anglia ONE North project has also submitted a separate DCO application alongside this application for the proposed East Anglia TWO project. The onshore development area, which includes landfall

[3] Calculated taking the number of megawatts (714) multiplied by the number of hours in one year (8,766), multiplied by the average load factor for offshore wind (33.36 %, published by the Digest of United Kingdom Energy Statistics), divided by the average annual household energy consumption (3.781 MWh), giving an equivalent of powering 634,997 homes.

location, onshore cable route, onshore substation location and National Grid infrastructure, has been developed to allow for the construction of both the proposed East Anglia TWO and East Anglia ONE North projects. At this stage it is not known whether both projects would be constructed simultaneously or sequentially. Therefore, the onshore topic assessments will include two cumulative assessment scenarios which are considered to represent the two worst case scenarios for construction of the onshore infrastructure. These are:

- **Scenario 1** will assess the impacts of the proposed East Anglia TWO and East Anglia ONE North projects being built simultaneously (at the same time); and
- **Scenario 2** will assess the impacts of the proposed East Anglia TWO and East Anglia ONE North projects being built sequentially.

1.3 The Need for the Project

11. Climate change is a global issue which is caused by the increase of carbon emissions into the atmosphere. The proposed East Anglia TWO project would make a significant contribution both to the achievement of UK decarbonisation targets and to global commitments in mitigating climate change. By generating low carbon, renewable electricity in the UK, the proposed East Anglia TWO project will also help to reduce the UK's reliance on imported energy and will increase energy supply security. Further detail is provided on this in ***Chapter 2 Need for the Project*** and ***Chapter 3 Policy and Legislative Context***.

12. The proposed East Anglia TWO project has the potential to make a substantial contribution to UK 2030 energy targets by meeting nearly 4% of the UK offshore wind cumulative deployment target for 2030[4]. The proposed East Anglia TWO project will also contribute to the economy by providing jobs during all phases of the proposed East Anglia TWO project. A detailed analysis of the socio-economic benefits of the proposed East Anglia TWO project is provided in ***Chapter 30 Tourism, Recreation and Socio-Economics***.

1.4 Site Selection and Assessment of Alternatives

13. The site selection and consideration of alternatives is a sequential process of developing an understanding of the area and refining the location options. The approach to site selection has allowed the findings of the environmental assessments to guide the evolution of the proposed East Anglia TWO project design and has allowed the plans for the onshore development area to be

[4] In March 2018, the UK offshore wind sector committed to a sector deal which will aim to increase offshore wind capacity to 30GW by 2030. Further detail is provided in ***Chapter 2 Need for the Project***.

modified to avoid, reduce or mitigate the potentially adverse impacts as far as practicable.

14. ***Chapter 4 Site Selection and Assessment of Alternatives*** details the relevant stages of this process.

15. The location of the East Anglia TWO windfarm site was identified using a three stage process:

- Initial zone selection;
    - The Crown Estate identified the former East Anglia Zone as an area suitable for offering 'potential for offshore wind' as part of its Round 3 offshore windfarm zones tendering process in 2008.
    - In 2010 The Crown Estate announced the successful bidders to the Round 3 offshore windfarm zones. East Anglia Offshore Wind (EAOW) a 50:50 joint venture between SPR and Vattenfall Wind Power Ltd, was successful in securing, what was later to be called, the East Anglia Zone, committed to developing 7.2GW of offshore wind renewable energy.
    - After successfully obtaining consent and winning a Contract for Difference (CfD) auction for East Anglia ONE, and successfully submitting the application for consent for East Anglia THREE, SPR and Vattenfall split the zone. Vattenfall agreed to develop the northern half of the zone and SPR agreed to develop the southern half of the zone. SPR has a majority share in East Anglia ONE and is responsible for the construction, operation and maintenance of the project, and is solely responsible for East Anglia THREE, the proposed East Anglia TWO and proposed East Anglia ONE North projects. The zone is referred to as the former East Anglia Zone.
- Zone Appraisal and Planning (ZAP); and
    - The ZAP process for the former East Anglia Zone comprised two key elements:
        - Zone Technical Appraisal (ZTA) focusing on the key physical characteristics of the former East Anglia Zone e.g. water depth and sea bed geology; and
        - Zone Environmental Appraisal (ZEA) focusing on key environmental, social and economic characteristics of the former East Anglia Zone.
    - The ZAP Process was based upon a number of site specific surveys and desk-based assessments of publicly available and historical data. The key constraints considered in the ZEA and ZTA were:

        - Civil and military radar coverage and helicopter main routes;
        - Infrastructure;
        - Benthic habitats (including those listed in Annex I of the Habitats Directive);
        - Seascape and visual amenity;
        - Commercial and natural fisheries activity;
        - Ornithology;
        - Conservation designations;
        - Shipping and navigation;
        - Marine archaeology;
        - Physical processes; and
        - Underwater noise.
    - The ZAP Process also considered the following hard constraints to development within the former East Anglia Zone which were deemed to make the area unsuitable for wind turbines:
        - Oil and gas platforms and pipelines;
        - Active subsea cables;
        - International Maritime Organisation Deep Water Routes; and
        - Naval Maritime graves.
    - From the review of the initial baseline data, 11 potential Development Areas were identified as the least constrained parts of the former East Anglia Zone. These areas were further assessed by EAOW in order to identify a smaller number of preferred development areas.
- Site specific selection.
    - The ZAP process identified the East Anglia TWO broad area as being an area with a relatively low number of development constraints, both technical and environmental.

      The ZAP process did not highlight any major constraints within the East Anglia TWO windfarm site that would prevent development. As such this site was chosen by SPR to be taken through the consenting process.

16. Following consultation on the Preliminary Environmental Information Report (PEIR), the final site selection refinement of the East Anglia TWO windfarm site was carried out according to the following criteria:

- Engineering study results;
- Financial modelling;
- Seascape impact mitigatory potential.

17. The final refinement following consultation on the PEIR was carried out in the light of key factors of seascape and landscape. The north-south extent of the East Anglia TWO windfarm site was subsequently reduced in order to mitigate potential seascape impacts, without a reduction in wind turbine numbers or generation capacity.

18. The final site selection refinement resulted in the following:

- Reduced lateral spread of the East Anglia TWO windfarm site;
- Reduced concentrated grouping of wind turbines within the East Anglia TWO windfarm site;
- Increased distance offshore for the viewpoints to the north of the Suffolk Coast and Heaths Area of Outstanding Natural Beauty (AONB) (e.g. 3km further at Covehithe; 2km further at Southwold); and
- Reduction in 'curtaining' effect by increasing the open sea horizon or 'gap' between East Anglia TWO and East Anglia ONE North windfarm sites (rather than cumulatively visually merging to form one larger array).

19. This change also increased the distance of the East Anglia TWO windfarm site from the Outer Thames Estuary Special Protection Area (SPA).

20. Possible landfall locations were identified between Sizewell A (Sizewell Beach) and Thorpeness and an engineering feasibility study was commissioned to review the landfall options in terms of construction and cost. The study showed that the coastline's main uncertainty is in terms of longer change in coastal processes and the Applicant has taken a conservative precautionary approach and committed to setting back the landfall transition bays to the potential 100-year erosion prediction line. The landfall refined area of search is a small section of the Suffolk coastline north of Thorpeness.

21. The selected offshore cable corridor was the preferred choice in terms of both engineering and environmental constraints, in particular in avoiding the geological Coralline Crag sea bed feature near the landfall. This resulted in identification of two potential offshore cable routeing options for the East Anglia TWO windfarm site which allowed for connection either to north (northern route) or south (southern route), with both routes having a common landfall and approach to landfall.

22. The location of the proposed East Anglia TWO onshore substation was offered to SPR by National Grid for a grid connection in the vicinity of Sizewell and Leiston, Suffolk, and the initial onshore study area encompassed an area within a 1km buffer of the overhead line route into Sizewell. Within the onshore study area, seven zones were identified as potential substation sites, based on

available space to accommodate the required project. Additionally, a target buffer of 250m from residential properties was applied as a proxy for minimising disturbance to residents. The seven potential substation zones were scored using a Red / Amber / Green (RAG) assessment against criteria agreed with statutory consultees. These included archaeology / heritage, ecology, landscape, hydrology and hydrogeology, engineering, community, landscape and visual, property and planning. The RAG assessment did not identify the chosen onshore substation site, rather it was a tool that allowed a number of sites to be compared and the most acceptable sites identified at the time to progress to further assessment stages.

23. Identified site selection actions following the consultation on the RAG assessment, workshops and site visits were to investigate the engineering feasibility of crossing Aldeburgh Road if woodland was removed; to assess the potential impact on the Suffolk Coast and Heaths AONB if substation(s) were to be sited in or adjacent to it; undertake a policy assessment of National Policy Statement (NPS) EN-1 and National Planning Policy Framework (NPPF) Relating to Areas of Outstanding Natural Beauty; review the outputs from the initial RAG assessment in light of these additional workstreams.

24. The culmination of these workstreams allowed the Applicant to decide that the substation zone northwest of Friston is the preferred zone. Further work was then undertaken to support this decision including a high-level assessment of obtaining access for construction traffic and a high-level Landscape and Visual Impact and mitigation comparison of the preferred zone versus substation zones adjacent to the Suffolk Coast and Heaths AONB.

25. Following the decision to locate the onshore substation(s) northwest of Friston, a process of micro-siting was undertaken to determine the arrangement of the onshore substation and National Grid infrastructure (to be consented as part of the proposed East Anglia TWO project) within this chosen zone.

26. A phase of pre-application consultation (phase 3.5 consultation) was undertaken in response to Local Planning Authority non-statutory responses from the phase 3 consultation to further consider a potential substation site on the EDF Energy estate. This consultation phase ran from September to November 2018 to consider an alternative site at Broom Covert, Sizewell. A project decision was made to retain the Grove Wood, Friston site for the location of the onshore substations.

27. The Broom Covert, Sizewell site was not taken forward for the following reasons:

    - As a responsible developer, SPR takes a balanced view towards site selection at all times using its industry leading legal advisors who draw on national

planning guidance and industry leading technical advisors, in addition to the company's project experiences, notably in the successful development of East Anglia ONE and East Anglia THREE offshore wind projects.

- SPR received over 600 responses to consultation from members of the public, local interest groups, and statutory stakeholders. Feedback was received in relation to both the Grove Wood, Friston site and the Broom Covert, Sizewell, site. This consultation, for the Broom Covert site, highlighted concerns regarding proposed substation impacts on the Suffolk Coast and Heaths AONB and therefore compliance with National Policy Statements.
- The Broom Covert, Sizewell site is within an AONB and at a sensitive location due to the AONB being both narrow in width and having already had its landscape character influenced and adversely affected by the development of large-scale energy generation and transmission infrastructure in the immediate vicinity. Development, including screening and mitigation, at Broom Covert, Sizewell is likely to have a significant effect on openness, tranquillity, views and character of the AONB. This erosion of the special qualities and the small scale of this part of the AONB increases its sensitivity to further effects.
- The Grove Wood, Friston, site lies outside the AONB and is not in a locally designated landscape.
- In addition to landscape implications, consultee responses also highlighted the potential interaction of the Broom Covert, Sizewell, site with internationally and nationally designated nature conservation sites. Drainage implications in relation to the Sizewell Marshes nationally protected Site of Special Scientific Interest (SSSI) were also highlighted by several respondents.

28. It is SPR's position based on extensive advice and this further stakeholder engagement that the Grove Wood, Friston site offers on balance the most appropriate option for substation development. This position is based on policy guidance presented within EN-1.

29. Following PEIR consultation, a review of consultation feedback and additional data was undertaken to refine the onshore development area, including:

- Community feedback;
- Landowner feedback;
- Ecological designations and recreational assets;
- Results from the archaeological geophysical survey;
- National Grid infrastructure design work;
- Substation drainage proposals;
- Landscaping mitigation proposals;

- Ecological mitigation proposals;
- Access requirement; and
- Project design parameters and programme refinements.

30. ***Table 1.1*** provides a summary of how this information has helped to refine the onshore development area further.

Table 1.1 Summary of Onshore Development Area Refinements

Parameter	Project Development	Onshore Development Area Refinements
Landowner consultation	Non-statutory pre-application consultation has been undertaken with landowners and/or their land agents since September 2017. Comments and suggestions put forward by landowners have helped to refine the final project design and resulted in changes to the size and location of the onshore infrastructure.	• Aligning to field boundaries during construction; • Requests to reroute the cable corridor from residential properties (in some instances); • Requests to re-locate Construction Consolidation Sites (CCSs) from residential properties (in some instances); • Requests to reduce the size (footprint) of CCSs; and • Reducing the amount of land that is required for the proposed East Anglia TWO project.
Onshore ecology and recreational features	The proposed East Anglia TWO project has refined in response to comments from stakeholders through the Expert Topic Group process (particularly Suffolk Wildlife Trust, Natural England, Local Planning Authorities and the Environment Agency).	Sandlings Special Protection Area (SPA) • Committing to working outside a 200m buffer of the SPA where possible. County Wildlife Sites (CWS) • Exclusion of any physical interaction with CWSs, with two CWSs identified for potential ecological mitigation / enhancement. Thorpeness Common • No interaction with Thorpeness Common or the public right of way (PRoW) along the edge of the cliff. Hedgerows • The typical onshore cable route width of 32m will be reduced to 16.1m when crossing important hedgerows, where possible. Woodland (Fitches Lane) • The typical onshore cable route width of 32m will be reduced to 16.1m when passing through woodland north of Fitches Lane and north of Gypsy Lane, where possible.

Parameter	Project Development	Onshore Development Area Refinements
Onshore archaeology and cultural heritage	Heritage assets recorded by the Suffolk Heritage Environment Record (HER), the results of the aerial photographic and LiDAR data assessment and the results of archaeological geophysical survey have been used in the iterative design process.	• Avoiding direct physical impacts on designated heritage assets by onshore cable corridor refinement; • Avoiding direct physical impacts on non-designated above ground heritage assets by onshore cable corridor refinement; • Avoiding direct physical impacts on potential sub-surface archaeological remains by onshore cable corridor refinement; and • Widening of the onshore development area at certain locations to allow additional flexibility during detailed design and construction to avoid impacts on buried archaeology identified during post-consent archaeological investigations.
National Grid infrastructure design work	The Applicant has engaged with National Grid to refine the National Grid infrastructure parameters.	• Dimensions of the National Grid substation; • Number and area within which the one new permanent pylon will be located; • Number and area within which the replacement pylons will be located; • Dimensions and area within which the cable sealing end compounds will be located; • Dimensions and indicative routeing of permanent access tracks; and • Methodology, dimensions and temporary pylons for overhead line realignment works.
Substation drainage mitigation	The outline design of the onshore substation drainage has inherent benefit to reducing downstream flood risk in the village of Friston. Current outline design has not allowed for any infiltration within the footprint of the onshore substation, the National Grid substation, or the base of the sustainable drainage systems (SuDS) basins. Following consent, detailed design will likely allow for some percolation through the base of the substations and the SuDS basins	• The SuDS basin that serves the onshore substation is designed to contain a 1 in 200-year storm event. The English standard is to design for a 1 in 100-year (+20% for climate change) storm event, so the SuDS basin is larger than required for any potential impact associated with storm event runoff. • The outline design retains the potential to reduce the outflow rate of the SuDS basin by approximately 20% which would enable the onshore substation drainage strategy to reduce the runoff rate to lower than a 1 in 1-year storm event.

Parameter	Project Development	Onshore Development Area Refinements
	which would help reduce the required storage volume and enable greater reductions in flood risk downstream. In addition, the Applicant retains the possibility of installing further attenuation measures along surface water flood pathways within the vicinity of the onshore substation or National Grid substation during the detailed design phase. The Applicant has committed to providing an additional 'surface water management SuDS basin' to reduce flood risk for the village of Friston	• The SuDS basin that serves the National Grid substation is designed to retain a 1 in 100-year storm event plus an allowance for climate change as minimum.
Strategic landscape mitigation	The Applicant has made a further commitment to incorporate effective, appropriate and suitable landscape screening and planting (as part of the ongoing onshore substation design) in order to reduce landscape and visual impacts, as well as any indirect impacts upon the setting of heritage assets. This will also result in increased ecological benefits within the landscaping area.	• Mitigation measures associated with the onshore substation and National Grid infrastructure form part of a strategic approach to enhancing landscape character and biodiversity in the local area. Mitigation planting will contribute to the wider landscape structure of the area and help consolidate green corridors for wildlife, whilst also reinstating field boundaries associated with the historic landscape; and creating a functional PRoW network enabling access routes around the green corridors and enhanced landscaping areas; and • Mitigation planting for the onshore substation and National Grid infrastructure has been designed to help screen the onshore substation in views from Friston and the wider area.
Additional project developments	In addition to those project refinements outlined above, the Applicant has made further project refinements in response to consultation feedback and additional data received through the Section 42 consultation process.	• Commitment to the use of Euro VI heavy goods vehicles (HGVs), where practicable, to reduce potential cumulative impact associated with Sizewell C construction; • Reduction of Saturday working hours from 7am to 7pm, reduced to 7am to 1pm; • Removal of landfall construction HGV access via the B1353 (Thorpeness Road) reducing the HGV traffic demand at the Aldeburgh Road roundabout and along Aldeburgh

Parameter	Project Development	Onshore Development Area Refinements
		Road; as well as removal of the convoy system and marshalling area on Thorpeness Road; • Reduction in footprint of all onshore cable route CCS, and removal of a CCS immediately east of Snape Road; and • Reduction in construction programme at the landfall from 20 months to 12 months.

1.5 The Environmental Impact Assessment (EIA) Process

31. The EIA considers all relevant topics under three general areas of physical environment, biological environment and human environment. The topics to be included in the EIA were agreed with the Planning Inspectorate and other stakeholders through the scoping process, with the Planning Inspectorate providing a Scoping Opinion in December 2017 which is available at:

    https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010078/EN010078-000067-EAN2%20-%20Scoping%20Opinion.pdf

32. Open and extensive consultation with communities, stakeholders, landowners and statutory bodies has been undertaken since 2016, in order to inform and help shape the EIA processes of both the proposed East Anglia TWO and proposed East Anglia ONE North projects. The results of consultation to date have informed the approach to each assessment, as well as the alternatives considered and the site selection process.

33. For each topic, a detailed description of the current baseline (existing environment) of the offshore development area and onshore development area has been identified, through a combination of desk based studies, consultation and site-specific surveys.

34. All potential impacts of the construction, operation or decommissioning of the proposed East Anglia TWO project have been identified and an assessment made on the significance of each potential impact using a standardised approach by EIA specialists.

35. Where the impact assessment identifies that an aspect of the development is likely to give rise to significant environmental impacts, mitigation measures are proposed to avoid impacts or reduce them to acceptable levels and, if possible, to enhance the environment. Mitigation will be agreed through ongoing consultation with the relevant authorities.

36. The process also considers:

- Inter-relationships, where impacts to one receptor can have a knock-on impact on another (for example an impact on a fish population may lead to reduced prey for birds and marine mammals);
- Cumulative impacts, where the project will be considered alongside the predicted impacts of other projects in the nearby area (for example another offshore windfarm or a road development); and
- Transboundary impacts, where activities in other countries may be impacted (for example shipping routes and fishing activities).

1.6 Role of National Policy Statements in the Decision Making Process

37. There are three National Policy Statements (NPSs) which are relevant to the proposed East Anglia TWO project:

- EN-1 Overarching Energy, which highlights that there should be a presumption in favour of granting consent for projects which fall within relevant NPSs and recognises that offshore wind is a key factor in meeting UK policy objectives;
- EN-3 Renewable Energy Infrastructure, which covers nationally significant renewable energy infrastructure (including offshore generating stations in excess of 100MW); and
- EN-5 Electricity Networks, which covers the electrical infrastructure in conjunction with EN-1.

38. The ES outlines how the development of the proposed East Anglia TWO project will comply with the requirements of these NPSs.

1.6.1 Other Planning Policies

39. Local Planning Authorities are required to prepare and maintain up-to-date Local Development Plans which set out their objectives for the use and development of land within their administrative area, and general policies for implementation.

40. The onshore development area falls under the administrative area of Suffolk County Council (SCC) and the East Suffolk Council (ESC). On 1st April 2019 Suffolk Coastal District Council (SCDC) merged with Waveney District Council (WDC) into ESC. The local plan for ESC encapsulates the local plans for WDC and SCDC, both of which[5] have been considered in this ES.

[5] East Suffolk Council (2019) Waveney Local Plan. Available at: https://www.eastsuffolk.gov.uk/planning/local-plans/waveney-local-plan/>

41. Relevant Local Development Plans have been considered during the onshore site selection for the proposed East Anglia TWO project to avoid, wherever possible, conflict with site-specific planning allocations.

1.7 Structure and Content of the ES

42. The ES considers all the onshore and offshore elements of the proposed East Anglia TWO project. The ES comprises three volumes:

- Volume 1: ES chapters (chapter list shown in ***Table 1.2***);
- Volume 2: Figures; and
- Volume 3: Appendices.

Table 1.2 ES Volume 1 Chapter List

Section	ES Chapter
Introductory Chapters	Chapter 1 Introduction
	Chapter 2 Need for the Project
	Chapter 3 Policy and Legislative Context
	Chapter 4 Site Selection and Assessment of Alternatives
	Chapter 5 EIA Methodology
	Chapter 6 Project Description
Offshore Chapters	Chapter 7 Marine Geology, Oceanography and Physical Processes
	Chapter 8 Marine Water and Sediment Quality
	Chapter 9 Benthic Ecology
	Chapter 10 Fish and Shellfish Ecology
	Chapter 11 Marine Mammals
	Chapter 12 Offshore Ornithology
	Chapter 13 Commercial Fisheries
	Chapter 14 Shipping and Navigation
	Chapter 15 Civil and Military Aviation and Radar
	Chapter 16 Marine Archaeology and Cultural Heritage
	Chapter 17 Infrastructure and Other Users

East Suffolk Council (2019) Suffolk Coastal Final Draft Local Plan. Available at: https://www.eastsuffolk.gov.uk/planning/local-plans/suffolk-coastal-local-plan/local-plan-review/final-draft-local-plan/

Section	ES Chapter
Onshore Chapters	Chapter 18 Ground Conditions and Contamination
	Chapter 19 Air Quality
	Chapter 20 Water Resources and Flood Risk
	Chapter 21 Land Use
	Chapter 22 Onshore Ecology
	Chapter 23 Onshore Ornithology
	Chapter 24 Archaeology and Cultural Heritage
	Chapter 25 Noise and Vibration
	Chapter 26 Traffic and Transport
Project Wide Chapters	Chapter 27 Human Health
	Chapter 28 Offshore Seascape, Landscape and Visual Amenity
	Chapter 29 Landscape and Visual Impact
	Chapter 30 Tourism, Recreation and Socio-Economics
	Chapter 31 Conclusions

1.8 Consultation

43. The Applicant has undertaken extensive community and stakeholder consultation to inform the project design of East Anglia TWO, in particular the site selection. The Applicant has reviewed consultation received during informal and formal consultation and, in light of the feedback, has made a number of key decisions in relation to the project design in order to deliver an environmentally sustainable project.

44. Consultation is a key feature of the EIA process, and continues throughout the lifecycle of a project, from its initial stages through to consent and post-consent.

45. Consultation on refinements to the proposed East Anglia TWO project's site selection, layout and configurations has been undertaken through the informal and formal pre-application stages, including the formal submission of the Scoping Report (SPR 2017) in November 2017 and the PEIR in February 2019 (SPR 2019). A summary of the range of measures adopted during consultation are presented below:

- Public Information Days (PIDs) held at locations within and adjacent to the proposed onshore development area;

- Phase 1 consultation (October / November 2017) with statutory consultees and the public;
- Phase 2 consultation (March / April 2018) with statutory consultees and the public;
- Phase 3 consultation (May to August 2018) with statutory consultees and the public;
- Phase 3.5 consultation (September to November 2018 and including four community engagement events held in October 2018) with statutory consultees and the public;
- Phase 4 consultation (February / March 2019) with statutory consultees and the public (including publication of the PEIR and Section 42 consultation with statutory consultees);
- Public Information Day summary reports shared with all registered participants, key local and community stakeholders, and on the proposed East Anglia TWO project website for Phase 2, Phase 3, Phase 3.5 and Phase 4 community engagement events;
- Parish Council briefings;
- Direct discussions with landowners:
- The Applicant and the Applicant's land agents have met affected landowners and / or their appointed land agents. A number of onshore cable route change proposals have been put forward by those affected by the proposed onshore development area and a number of those suggestions have fed into the proposed onshore development area boundary;
- The Applicant has engaged with landowners regarding survey access through consultation meetings. Letters were sent to all affected parties offering to meet to discuss the proposed East Anglia TWO project proposals;
- Newsletters distributed throughout the onshore substation(s) site selection study area;
- Dedicated project e-mail address and freepost address to assist local communities in contacting the Applicant; and
- Provision of a dedicated proposed East Anglia TWO project website.

46. Regular and targeted discussion with regulators and other stakeholder bodies through various means including over 35 Expert Topic Group (ETG) meetings (with others planned for early September 2019), where the siting of onshore and offshore infrastructure was discussed in detail.

47. Full details of the proposed East Anglia TWO project consultation process are presented in the Consultation Report, which has been submitted as part of the DCO application.

2 The Proposed East Anglia TWO Project

48. The offshore development area of the proposed East Anglia TWO project comprises of:

- Wind turbines;
- Offshore platforms (electrical and construction, operation and maintenance platforms); and
- Subsea cables (including inter-array cables connecting the wind turbines and platforms, platform link cables connecting offshore platforms, and export cables taking energy to shore).

49. The proposed East Anglia TWO project will also require onshore infrastructure in order to transmit and connect the offshore windfarm to the national electricity grid, which in summary would comprise:

- Landfall location at Thorpeness, where the offshore cables are brought ashore and jointed to the onshore cables;
- Underground cables;
- An onshore substation; and
- A National Grid substation and National Grid overhead line realignment works.

50. A diagram illustrating some of the key components (not exhaustive) of the proposed East Anglia TWO project are given in ***Plate 2.1***

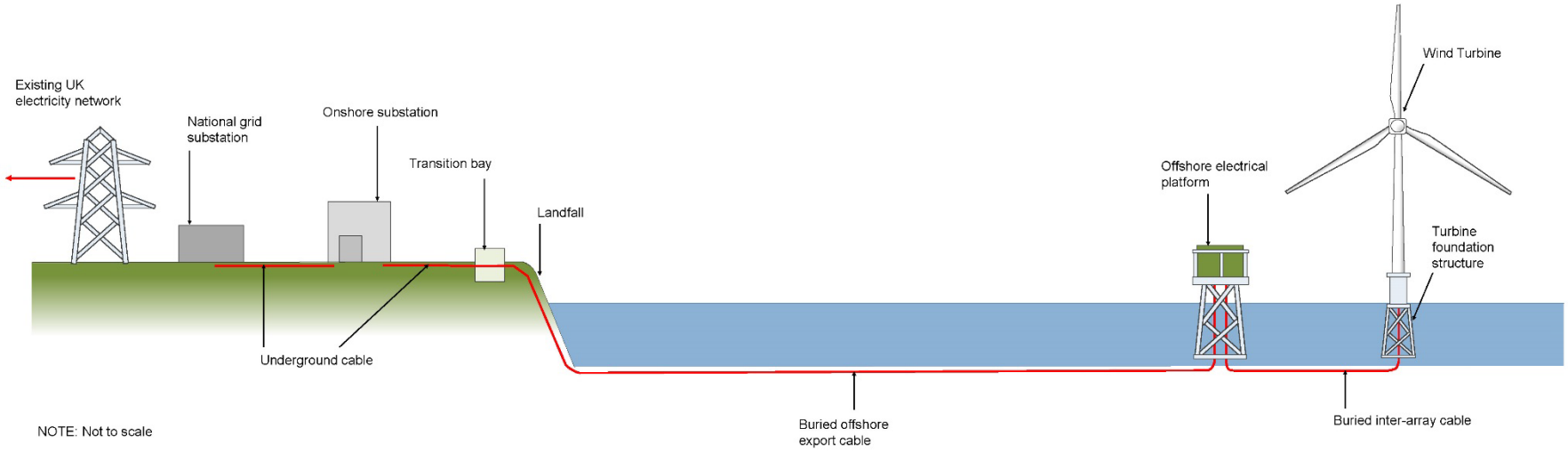


Plate 2.1 Key Components of the Proposed East Anglia TWO project

51. Construction activities would normally be conducted during weekday working hours of 7am to 7pm, and Saturday working hours of 7am to 1pm. Working hours are not proposed for Sundays or Bank Holidays. Exceptions to these working hours for the works would be for specific time critical activities, such as horizontal directional drill (HDD).

52. An initial high-level indicative programme has been developed for the purposes of the assessment within the ES. Indications of durations for activities are presented below. The final durations will be determined by the design and construction strategy post-consent:

- Onshore preparation works (associated with offsite highway works, public highway accesses and surveys) would be up to 15 months;
- Construction of the landfall (including establishment of the Construction Consolidation Site (CCS), HDD activities and construction of transition bays) would be up to 12 months;
- Construction of the onshore cable route (including enabling works (establishment of CCSs and haul road), installation of cables and potential onshore HDD activities) would be up to 24 months. Construction of the onshore cable route would be undertaken in sections whereby construction activities would overlap;
- Construction of the East Anglia TWO onshore substation (including establishment of CCS and haul road, foundation works and structural works) would be up to 30 months;
- Construction of the National Grid substation is expected to be up to 48 months;
- Construction of the National Grid overhead line realignment works is expected to be up to 12 months undertaken within a window period of 36 months. However, the timing of the overhead line works will be subject to securing the necessary circuit outages (i.e. restricted windows where it is acceptable to temporarily de-power the overhead lines to enable the project to physically connect to them); and
- Site clearance and reinstatement of the land at the landfall, onshore cable route, East Anglia TWO onshore substation, National Grid substation and National Grid overhead line realignment works is expected to be up to 12 months.

53. At the end of the operational life of the proposed East Anglia TWO project, it will move into the decommissioning phase, which would be undertaken in accordance with the relevant legislation at that time. A decommissioning plan will be provided, secured under the requirements of the draft DCO. The detail and scope of the decommissioning works will be determined by the relevant legislation and guidance at the time of decommissioning and agreed with the regulator.

2.1 Offshore Works

54. The East Anglia TWO windfarm site is located in the southern North Sea, 32 kilometres (km) from its nearest point in Southwold and 37km from the port of Lowestoft. The proposed East Anglia TWO project would consist of up to 75 wind turbines. The wind turbines would consist of a tower, nacelle, hub and blades. A diagram representing the internal working structure of a wind turbine hub is displayed in ***Plate 2.3*** below.

55. When installed, the largest of the wind turbines under consideration would have a maximum blade tip height of 300 metres (m) above sea level (an example of which is shown in ***Plate 2.2*** below). Within the windfarm site there would also be up to four offshore electrical platforms (an example of which is shown in ***Plate 2.4***) as well as a meteorological mast and a construction, operation and maintenance platform. An example image (taken from West of Duddon Sands offshore windfarm) of construction of a wind turbine is shown in ***Plate 2.5***.

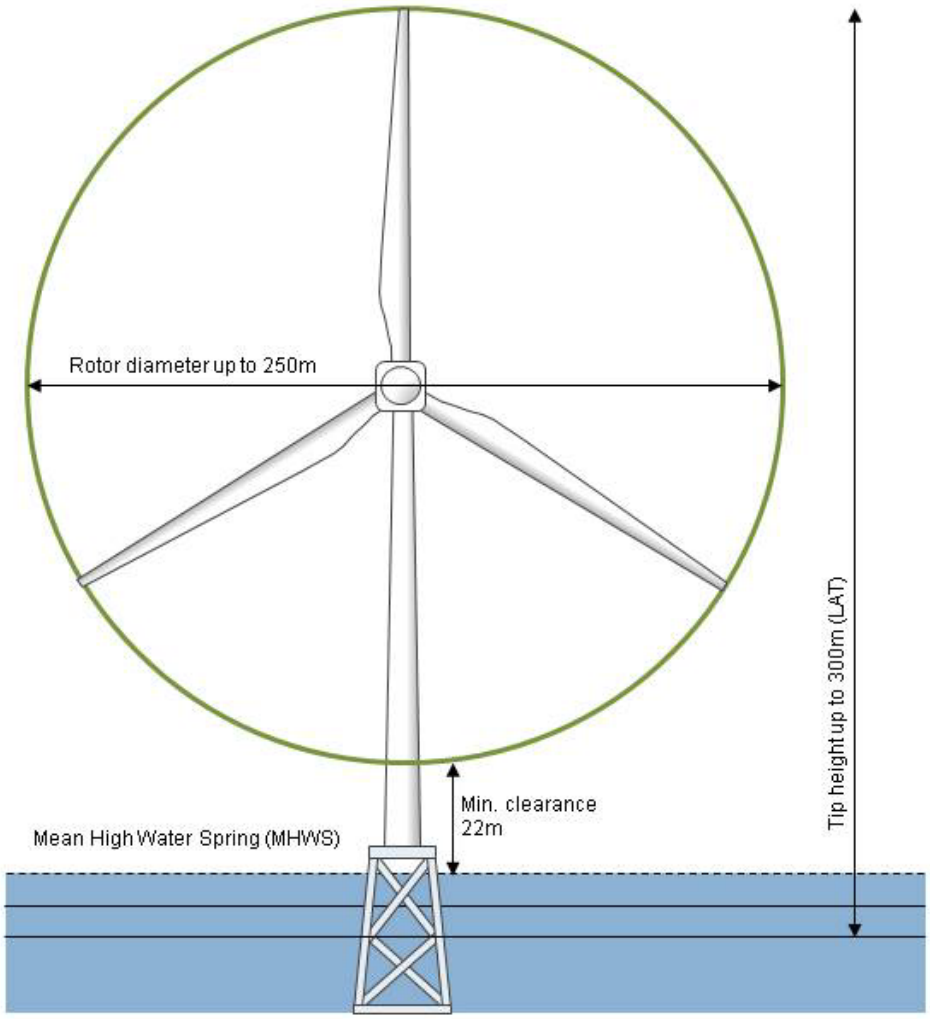


Plate 2.2 Example of a Wind Turbine to be used in the East Anglia TWO Windfarm Site

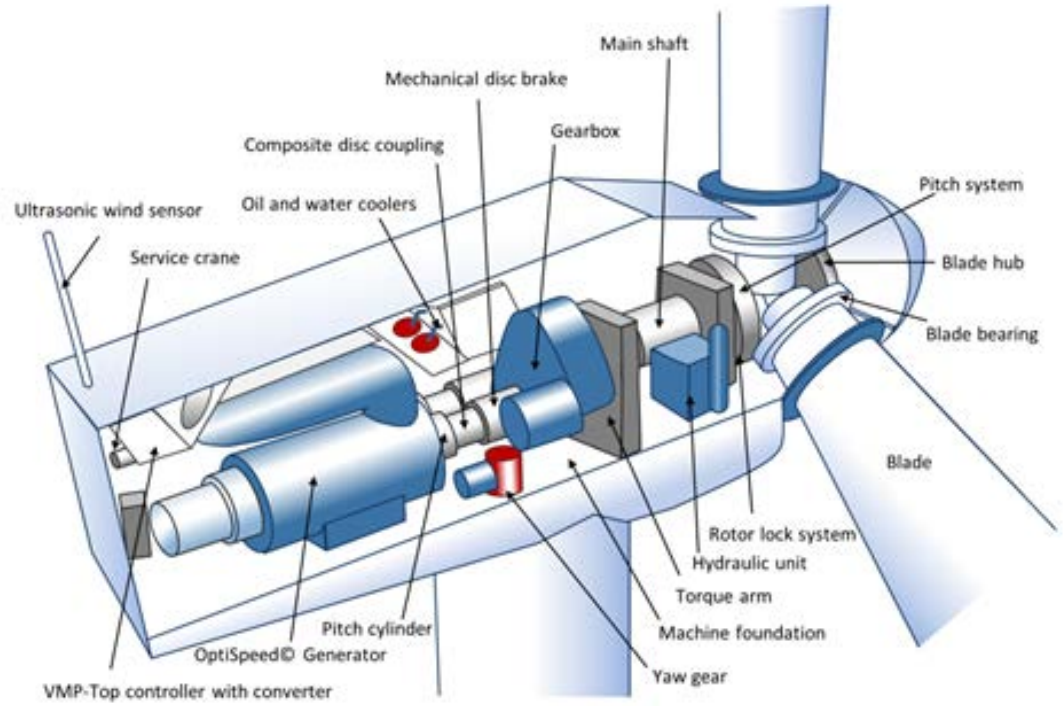


Plate 2.3 General Internal Structure of a Wind Turbine Hub

Plate 2.4 Offshore Electrical Platform

Plate 2.5 Wind Turbine under Construction (photo taken from West of Duddon Sands offshore windfarm)

56. The wind turbines will be connected to the offshore electrical platforms. The electrical platforms will collect the energy, increase the voltage and then transmit it along the offshore export cables that will be used to transmit the electricity to shore.

57. All offshore export cables would be buried where possible, or cable protection would be installed to ensure the cables are not damaged.

58. ***Table 2.1*** details the key offshore parameters of the proposed East Anglia TWO project.

Table 2.1 East Anglia TWO Key Offshore Parameters

Parameter	Specification
Number of wind turbines	Up to 75
East Anglia TWO windfarm site area	218km^2
East Anglia TWO windfarm site water depth range	33 - 67m
Distance from East Anglia TWO windfarm site to shore (closest point of site to Lowestoft)	32.6km
Maximum offshore cable corridor area	194.5km^2
Maximum number of export cables	Two
Maximum cable lengths	• Inter-array – 200km • Platform link – 75km • Export – 160km
Maximum wind turbine rotor diameter	250m
Maximum wind turbine hub height	175m
Maximum wind turbine tip height	300m
Minimum clearance above sea level	22m
Minimum separation between wind turbines (assumed for micro siting)[6]	In-row spacing 800m
	Inter-row spacing 1200m
Maximum number of wind turbine models to be installed	Three
Wind turbine foundation type options	Jackets on piles or suction caissons, gravity base structures, suction caissons, monopiles
Number of met masts	One
Maximum height of met mast	175m
Met mast foundation type options	Jacket, gravity base structure, suction caisson, monopile
Number of offshore electrical platforms	Up to four
Number of construction, operation and maintenance platforms	Up to one

[6] Nominal spacing is likely to exceed this

2.2 Onshore Works

59. Prior to construction of the onshore works, the following onshore site preparation activities could take place:

- Road Modifications – New junctions off existing highways would be required. Installing these ahead of the main works provides immediate access to the CCSs. In addition, offsite highway improvements would be required to facilitate access of HGVs and Abnormal Indivisible Loads (AILs) to the CCSs;
- Erection of temporary site notices or advertisements;
- Topographic surveys (for engineering purposes);
- Ecological onshore preparation work (including, for instance, hedgerow removal or creation of mitigation badger setts);
- Site clearance;
- Environmental surveys;
- Archaeological investigations;
- Diversion and laying of services;
- Drainage surveys;
- Geotechnical and ground stability surveys;
- Remedial work in respect of any existing ground contamination or other adverse ground conditions;
- Pre-planting of selected landscaping works;
- Public Right of Way footpath creation;
- Welfare facilities for onshore preparation works; and
- Pre-entry records and requirements for landowner condition records.

60. CCSs would be required along the onshore cable route. Studies have identified five possible locations for onshore cable route CCSs within the proposed onshore development area. It is the intention that the CCSs would be to:

- Form the main point(s) of access onto the linear construction site;
- Provide the main areas for the storage of materials and equipment; and
- House site administration and welfare facilities for the labour resources.

61. Road modifications could be required to facilitate the safe ingress and egress from the public highways to the onshore cable route or CCSs through construction accesses. Where possible the accesses make use of existing tracks to link between the public road network and the onshore cable route. There may be a requirement to upgrade some existing tracks to make them suitable. Where this is required it would be completed using a design which is suitable for construction traffic.

62. Additionally, highway modifications may be required at locations on the existing public road network in order to facilitate construction traffic and / or construction-related deliveries. The purpose of the modifications would be to allow larger vehicles than normal to access certain parts of the public road network. It is anticipated that the works would be concentrated at junctions.

63. The modifications could potentially comprise:

- Structural works to accommodate Abnormal Indivisible Loads;
- Localised widening / creation of overrun areas;
- Temporary moving or socketing of street signs; and
- Temporary moving of street furniture.

64. Temporary fences would be erected along the boundaries of the working width. Once the working width has been cleared of vegetation, the topsoil would be stripped. Subsoil would then be excavated to the required depth for each trench. This would follow the profile of the ground surface, but deeper excavations could be required at certain crossings.

65. A temporary haul road would be installed along the onshore cable route between Snape Road and the landfall area, except when crossing the Sandlings SPA/SSSI. The onshore cable route haul road would be up to 4.5m wide with passing places of 4m in width at approximately 90m intervals. This is illustrated in ***Plate 2.6***.

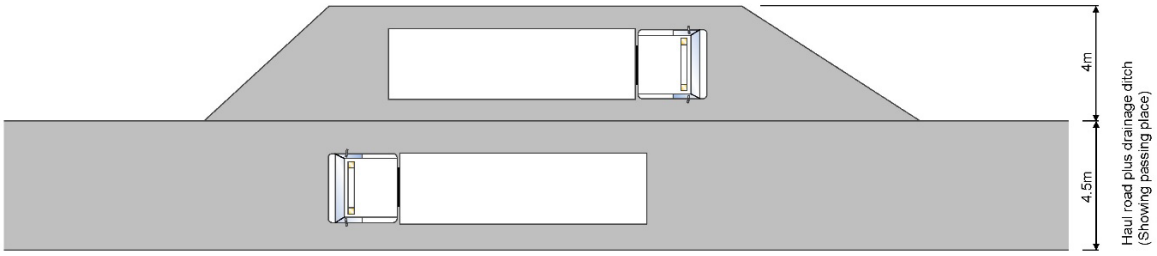


Plate 2.6 Cable Route Haul Road Schematic

66. A temporary haul road would also be installed along the onshore cable route between Snape Road and the onshore substations location. This would facilitate access to the installation of the onshore cable route as well as for HGV construction traffic to access the onshore substation and National Grid substation

during the construction phase. The onshore cable route and substations access haul road between Snape Road and the onshore substations location would be up to 9m in width.

67. Temporary construction access roads (similar to the haul roads) would also be installed to provide access from the public highway to onshore cable route CCSs, the onshore cable route haul road and the onshore cable route and substations access haul road. The temporary construction access roads would be up to 4.5m wide with passing places of 4m in width at approximately 90m intervals.

68. At the landfall to the north of Thorpeness, HDD operations will be needed to install the ducts required which will avoid any need for construction works on the beach. The ducts would accommodate up to two export cables, two fibre optic cables and two Distributed Temperature Sensing cables associated with the proposed East Anglia TWO project. Once the ducts are in place, the offshore cables would be pulled through the ducts and connected to the onshore cables.

69. The cable ducts would be installed with a setback distance of a minimum of 85m from the cliff top to ensure the integrity of the cliff is not compromised and to allow for natural coastal erosion. The end of the HDD ducts would be buried under the sea bed beyond the intertidal zone (see ***Plate 2.7***).

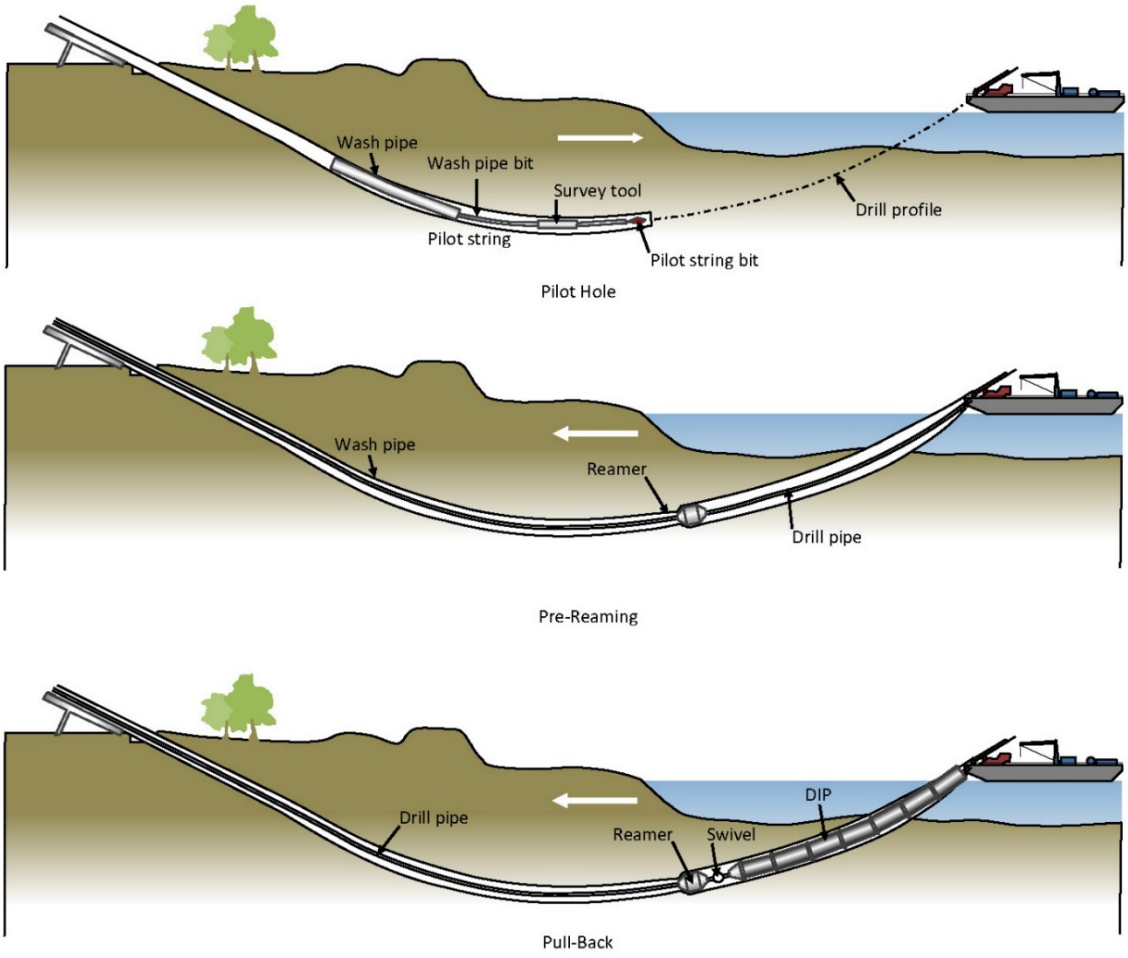


Plate 2.7 HDD Working Method at Landfall

70. Onshore cables will be buried, either within ducts or placed directly underground without ducting, with no above ground infrastructure left after construction. The indicative working area for the onshore cable route is illustrated in ***Plate 2.8***.

71. For most of the onshore cable route, cables will be placed directly underground without ducting, although ducting may be used in some or all of the route, with jointing bays at intervals within which cables can be joined. At certain locations where specific features need to be crossed / avoided, such as designated sites of conservation importance, trenchless techniques (for example HDD or auger bore) may be used to install the ducts beneath features to minimise environmental impacts and disruption. For example, HDD may be used to cross the Sandlings Special Protection Area (SPA) (and Leiston – Aldeburgh SSSI) to mitigate the impact on the designated site. The assessments undertaken cover the option to open cut trench or HDD across the Sandlings SPA (and Leiston – Aldeburgh SSSI).

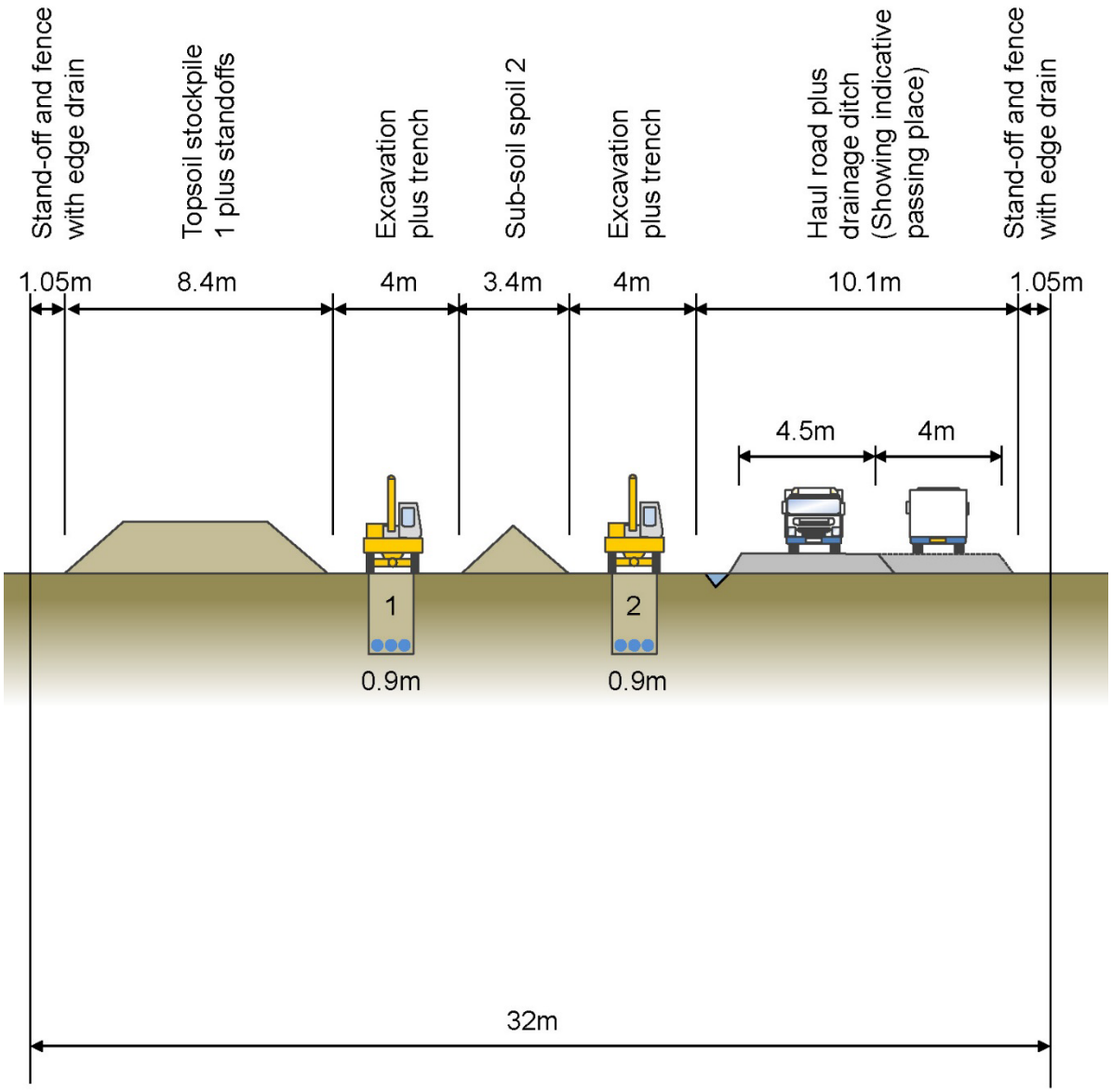


Plate 2.8 Indicative Cable Trenching Arrangement and Working Area

72. A number of CCSs will be required along the onshore cable route (temporary site compounds providing facilities for the construction workforce and secure storage areas for materials) and a haul road will be created along the onshore cable route to allow safe access of construction vehicles and to minimise construction vehicles on the public highway.

73. An onshore substation will be required to convert the electricity produced by the offshore windfarm into a format that can be accepted by the national electricity grid. ***Plate 2.9*** and ***Plate 2.10*** show examples of some of the electrical equipment contained within the onshore substation buildings.

Plate 2.9 Electrical Equipment Contained within the Onshore Substation (example taken from East Anglia ONE substation)

Plate 2.10 Example of Shunt Reactor Building to House Reactive Compensation Equipment (example taken from East Anglia ONE substation)

74. The proposed East Anglia TWO project onshore substation will have a maximum building height of 15m and external electrical equipment up to 18m in height and will cover an area of land of up to 36,100m^2 (190m x 190m). A schematic of the onshore substation is illustrated in ***Plate 2.11***; ***Plate 2.12*** shows the layout of the East Anglia ONE substation as an example of the arrangement of buildings.

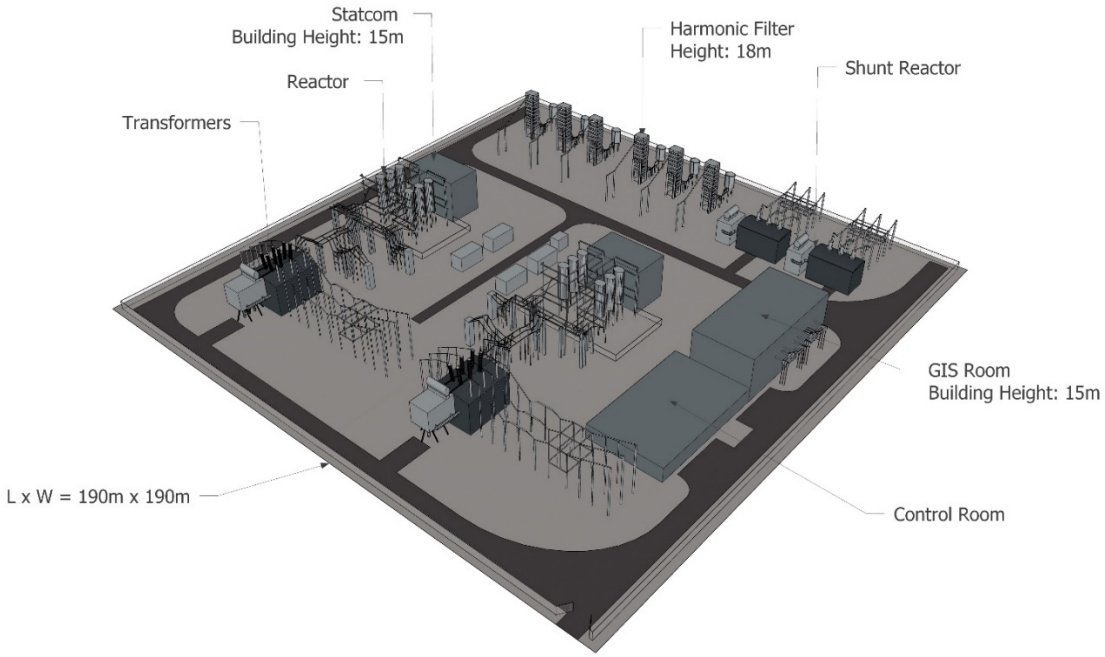


Plate 2.11 East Anglia TWO Indicative Onshore Substation Model

Plate 2.12 Example Layout of the Onshore Substation (example taken from construction of East Anglia ONE substation)

75. Road modifications would be required to facilitate the safe access to and from the public highway to the East Anglia TWO onshore substation during operation. The permanent operational access road would be up to 8m in width, and approximately 1,700m in length. ***Plate 2.13*** shows the construction of the East Anglia ONE substation operational access road as an example.

Plate 2.13 Construction of Substation Operational Access Road (example taken from East Anglia ONE substation)

76. In order to accommodate the electricity produced by the proposed East Anglia TWO project, there is the requirement for the construction of a new National Grid substation. Currently, a National Grid Air Insulated Switchgear (AIS) or Gas Insulated Switchgear (GIS) substation are proposed options. The National Grid GIS substation option is not considered the worst case for the ES assessments.

77. The National Grid substation would be located within a single compound, with two potential substation arrangements – AIS or GIS. The maximum footprint dimensions of a National Grid AIS substation are up to a maximum of 145m x 310m, with a maximum building height of 6m. The maximum footprint dimensions of a National Grid GIS substation are up to a maximum of 140m x 120m, with a maximum building height of 16m.

78. The National Grid substation will connect into each of the four circuits on the National Grid 400kV overhead lines. To facilitate these connections, modifications to the existing overhead lines will be required which will include one additional overhead line pylon (as well as replacement of up to three overhead line pylons), to create the necessary separation distance between the two overhead lines to enable the construction of up to three cable sealing ends (one of which will be a cable sealing end with circuit breaker) to facilitate connection into the new National Grid substation for the proposed East Anglia TWO and East Anglia ONE North projects.

79. The National Grid overhead line realignment works will comprise of the following temporary and permanent stages (some of which may overlap) (see ***Figure 3***):

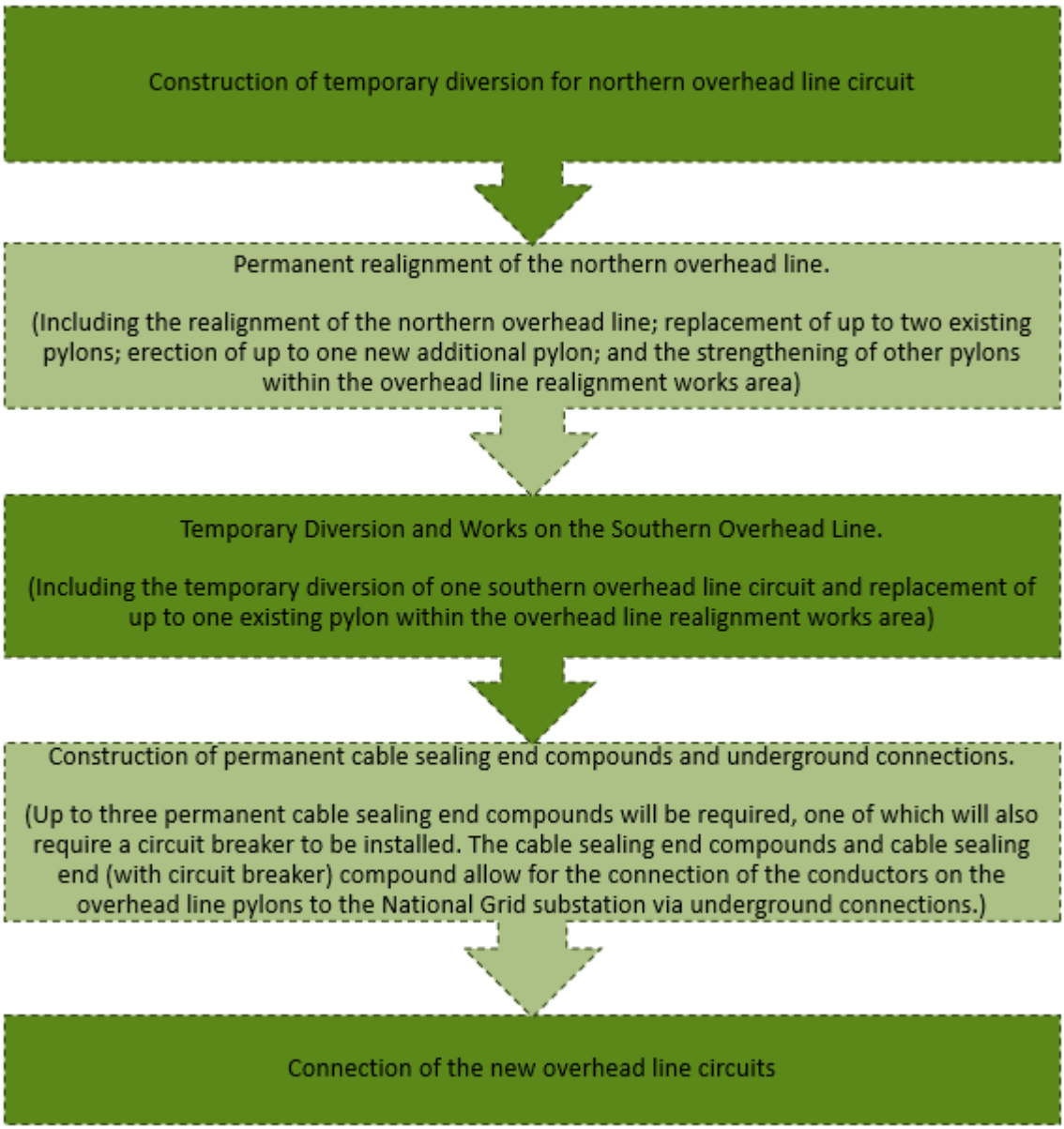
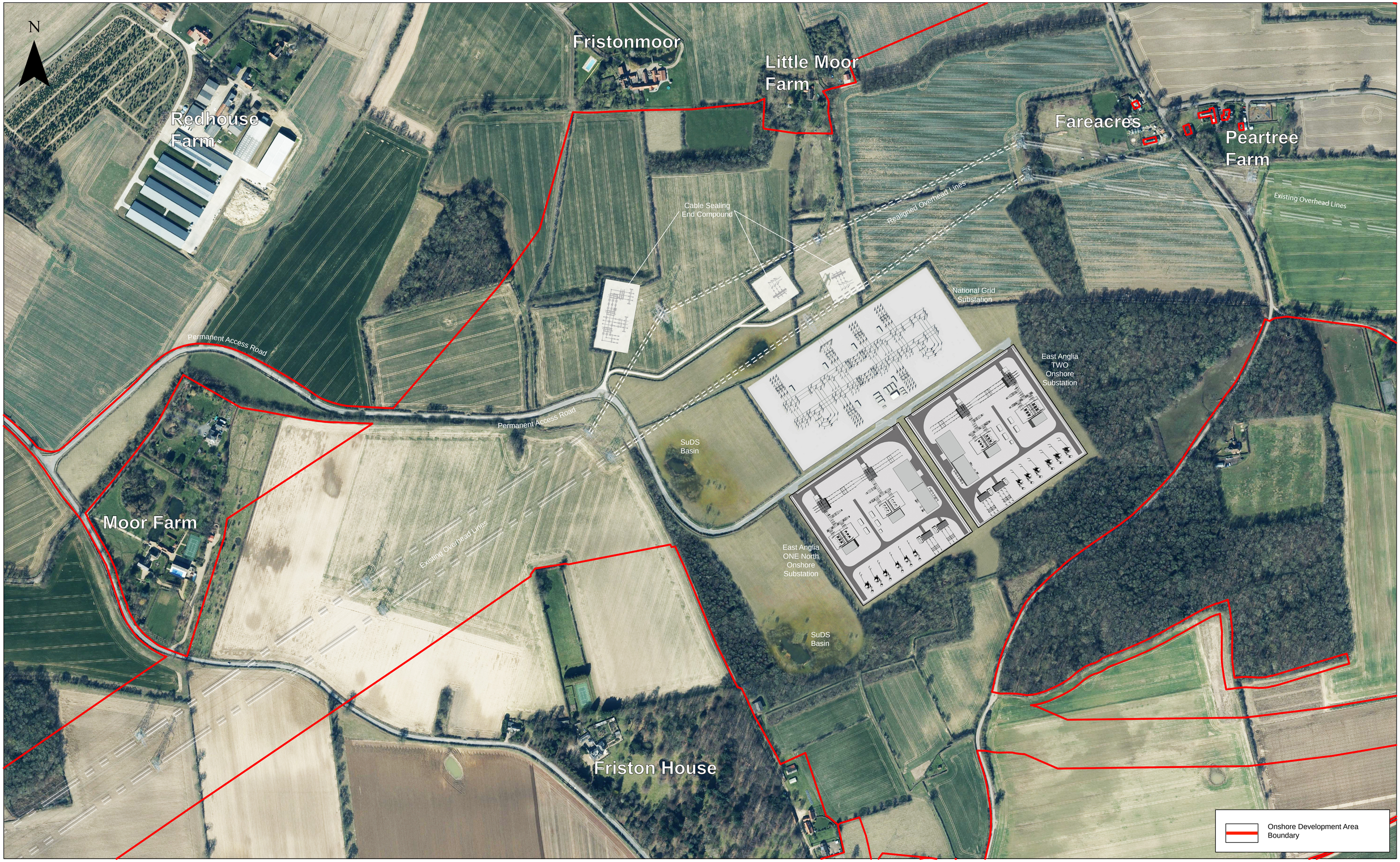


Figure 3 Flowchart of National Grid Overhead Line Realignment Works

80. Landscaping and tree planting schemes will be carefully designed to reduce visual impacts of the infrastructure at the onshore substation and the National Grid substation (see ***Figure 4*** for the Outline Landscape Management Plan (OLMP) Illustrative Plan that provides an illustration of areas for landscape mitigation planting). Further detail is provided in the Outline Landscape and Ecological Management Scheme (OLEMS) submitted with this DCO application. Disturbed ground associated with the onshore construction will be reinstated following construction as far as possible.



Rev	Date	By	Comment
8	21/08/2019	mb	Eighth Issue.
7	13/08/2019	mb	Seventh Issue.
6	25/07/2019	th	Sixth Issue.

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Scale @ A1

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Onshore Substations, National Grid Infrastructure and Cable Sealing End Compound is illustrated without shadow effects.

East Anglia TWO

OLMP Illustrative Plan

Drg No	EA2-DWF-ENV-REP-IBR-000921
Rev	8
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Figure	4

Coordinate System: BNG
Datum: OSGB36

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81. ***Table 2.2*** shows the key onshore parameters of the proposed East Anglia TWO project.

Table 2.2 East Anglia TWO Key Onshore Parameters

Parameter	Specification
Landfall location	North of Thorpeness
Onshore cable route length (approximately)	9km
Maximum Onshore Cable Route Width	32m
Onshore substation compound footprint	36,100m^2
Onshore substation maximum building height	15m
Onshore substation maximum height of external electrical equipment	18m
National Grid substation compound footprint - AIS (National Grid GIS substation (140m x 120m compound footprint) is an alternative option but is not considered the worst case for assessment)	44,950m^2
National Grid substation maximum building height – AIS (National Grid GIS substation (16m height) is an alternative option but is not considered the worst case for assessment)	6m
National Grid substation maximum height of external electrical equipment	16m
Maximum number of additional pylons	1
Maximum number of reconstructed and/or relocated pylons	3
Maximum new/reconstructed/relocated pylon height	59.2m
Maximum number of cable sealing end compounds	3
Maximum number of temporary masts or pylons	4 (2 in place at any one time)
Maximum height of temporary masts (if used)	42m
Maximum height of temporary pylons (if used)	59.2m
Number of onshore cables	6

Parameter	Specification
Number of fibre optic cables	2
Number of distributed temperate sensing cables	2
Lightning protection	Lightning protection will be required using a combination of lightning rods, lightning masts and shield wires

82. During construction of the onshore substation, site establishment and laydown areas would be required. Works required to facilitate the construction of the onshore infrastructure outlined in ***Table 2.2*** could include:

- Onshore preparation works;
- Landscaping and screening;
- Temporary fencing;
- Temporary roads and public highway accesses, as well as substation operational access road;
- Grading and earthworks;
- Drainage; and
- Lighting.

83. Further details of the proposed East Anglia TWO project are provided in ES ***Chapter 6 Project Description***.

3 Topics Considered in the Environmental Impact Assessment

84. The ES covers a wide range of physical, ecological and human environmental topics for which potential impacts have been assessed. Many of these technical assessments are related to each other and these links are highlighted within the ES.

85. The topic assessments within the proposed East Anglia TWO project ES have been undertaken in accordance with the Planning Inspectorate's Scoping Opinion (see ***section 1.5***). Each of these topics have been summarised as part of the NTS in the following sections.

3.1 Offshore

3.1.1 Marine Physical Environment

86. The construction, operation, and decommissioning phases of the proposed East Anglia TWO project would cause a range of effects on the marine geology, oceanography and physical processes. Previous benthic, metocean and geophysical studies undertaken of the former East Anglia Zone (within which the East Anglia TWO windfarm site is located) between 2010 – 2013 were used to inform this assessment. Project-specific geophysical surveys were also undertaken in 2017 – 2018 of the East Anglia TWO windfarm site and offshore cable corridor. Additional desk based studies were undertaken using oceanographic and hydrographic mapping and data. The sea bed is sedimentary with megaripples and sandwaves and some areas of flat sea bed. Water depths vary from a minimum 2m below lowest astronomical tide (LAT) inshore to maximum 67m below LAT within the East Anglia TWO windfarm site

87. The assessment considered the impacts on waves, currents and movement of sediment, both in the water column and along the sea bed. Overall, the effects of the proposed East Anglia TWO project on these processes were predicted to be small scale, localised and temporary. As a result, they were categorised as low, negligible or no impact.

88. Importantly, a commitment has been made to bury, as far as possible, the offshore export cables that transport the electricity from the windfarm to the coast. This will minimise the need for surface-laid cable protection which could affect the movement of sediment along the coast line. Extensive site selection work has been undertaken to ensure the routeing of the offshore cables avoids the geological Coralline Crag at Thorpeness, thereby avoiding impacts to this feature.

89. No cumulative impacts with adjacent projects, including several offshore windfarms (including the proposed East Anglia ONE North project) and aggregate extraction activities were identified. This was due to the small scale of the effects and their temporary nature.

3.1.2 Marine Water and Sediment Quality

90. A review of existing information, as well as data collected from the offshore development area, informed this assessment. The assessment work undertaken showed that the water quality within the offshore development area is good, and sea bed sediments do not contain levels of pollution that would be of concern. Additionally, natural levels of sediment in the water column vary depending on season and during stormy weather.

91. The assessment considered the impacts of the release of sediment, as well as the potential for the release of pollutants which may already be present within sediment, that could potentially be disturbed when constructing the proposed East Anglia TWO project. Overall, no significant impacts on marine water and sediment quality were identified in the assessment, and through the implementation of standard measures such as developing appropriate pollution prevention procedures, all potential impacts to water and sediment quality are considered to be small scale, localised and temporary. Decommissioning impacts are expected to be no greater than those construction impacts identified.

92. No cumulative impacts with adjacent projects, including several offshore windfarms (including the proposed East Anglia ONE North project) and aggregate extraction activities were identified. This was, again, due to the small scale of the effects and their temporary nature.

3.1.3 Sea Bed Communities (Benthic Ecology)

93. Broad scale and site-specific survey of the sea bed ecology of the former East Anglia Zone and offshore cable corridor area were conducted between 2010 and 2017.

94. Sea bed surveys found a community typical of the southern North Sea and characterised by marine worms and crustaceans, which can play an important role in marine food webs.

95. Aspects of offshore windfarm construction, operation and decommissioning that this community is sensitive to include temporary disturbance to and, or loss of habitat and changes in water quality. However, owing to the relatively high tolerance to disturbance this community shows and small sea bed footprint of the proposed East Anglia TWO project, potential impacts of the proposed project alone or cumulatively were judged to be negligible or minor in nature.

96. Two ecologically sensitive habitat types were identified: potential reefs created by the marine worm *Sabellaria spinulosa* in the offshore development area and 'vegetated shingle' at the landfall. Potential impacts to the vegetated shingle habitat will be avoided through a commitment to HDD under the coast. Mitigation options such as avoidance of any *Sabellaria* reefs found to be present through pre-construction surveys will be discussed and agreed with the Marine Management Organisation and Natural England.

97. Cumulative impacts may occur with the proposed East Anglia ONE North project and East Anglia ONE offshore windfarm, but were assessed to be negligible or minor. These impacts would be small scale, highly localised and temporary.

3.1.4 Fish and Shellfish Ecology

98. Information from existing research on the fish and shellfish which live within the southern North Sea has been used to build a comprehensive knowledge base of the fish and shellfish ecology of the offshore development area.

99. The data show that over 100 species of fish and shellfish may be present within the offshore development area. Species were taken forward for assessment based upon their ecosystem value and the value to commercial fishermen. Other species such as salmon and lamprey were also taken forward for assessment due to their conservation value. The impact assessment required consideration of the marine geology, oceanography and physical processes, marine water and sediment quality and sea bed ecology assessments carried out for the proposed East Anglia TWO project.

100. The assessment concluded that the proposed East Anglia TWO project could cause a range of small scale effects to fish and shellfish ecology (such as temporary habitat loss and disturbance). The potential effects assessed were anticipated to result in some minor impacts (short term during construction and reversible) on some fish and shellfish populations. Decommissioning impacts are expected to be no greater than those construction impacts identified.

101. Cumulative impacts may occur with adjacent offshore windfarm projects however, cumulative impacts were assessed as minor or negligible due to the temporary nature and highly localised scale of impacts.

3.1.5 Marine Mammals

102. The distribution and occurrence of marine mammals in the vicinity of the East Anglia TWO windfarm site was established through high resolution aerial photography. These surveys found the harbour porpoise, grey and harbour seals to be the only species to occur with any regularity.

103. The offshore development area is located wholly within the Southern North Sea Special Area of Conservation (SAC) winter area – an area of importance for harbour porpoise *Phocoena phocoena*.

104. Aspects of offshore windfarm construction, operation and decommissioning that marine mammals are sensitive to include underwater noise causing potential physical and auditory injuries or behavioural changes, barrier effects (preventing movement of animals), collision risk with vessels and changes to food availability. The impact assessment concluded that only minor impacts to marine mammals would occur as a result of construction, operation and decommissioning of the proposed East Anglia TWO project, following implementation of the recommended mitigation measures (for example following a Marine Mammal Mitigation Protocol (MMMP) and Site Integrity Plan (SIP) and exercising good practice). A draft MMMP and in principle SIP have been submitted with the DCO application.

105. There are potential cumulative impacts with other offshore windfarms as a result of underwater noise from pile driving, potential changes to the availability of prey and increased chance of vessel interaction. These impacts have the potential to affect all three species of marine mammal assessed. However, considering the low density of these species across the offshore development area, and a commitment to implement mitigation measures (for example following a MMMP, SIP and exercising best practice), the cumulative impact on these species was assessed as minor.

3.1.6 Offshore Ornithology

106. As with the marine mammals, the numbers of birds using or passing through the East Anglia TWO windfarm site were calculated using the results of aerial photography surveys. All birds observed within these surveys have been assessed with regard to their nature conservation value and sensitivity to effects from windfarms. Key species observed within the surveys included red-throated diver, kittiwake, guillemot, razorbill, gannet and two species of gull (lesser black backed gull and great black backed gull).

107. Effects assessed were disturbance and displacement, collision risk, barriers to movement and indirect effects (e.g. those on prey species). Analysis followed industry best practice methods, including the use of collision risk modelling to fully assess the potential impacts of the proposed East Anglia TWO project.

108. The conclusion of the assessment was that the proposed East Anglia TWO project is predicted to have minor impacts on birds. There is the potential for effects of the proposed East Anglia TWO project to act cumulatively with other projects, including other offshore windfarm projects, aggregate extraction

activities, oil and gas exploration, subsea cables and commercial shipping, although it was concluded that there is no pathway for interaction between impacts other than collision risk impact associated with other offshore windfarm projects. Decommissioning impacts are expected to be no greater than those construction impacts identified.

109. The cumulative collision risk for the proposed East Anglia TWO project and other offshore windfarm projects was assessed as no greater than a minor adverse impact.

3.1.7 Commercial Fisheries

110. Commercial fishing vessels from the UK, Netherlands and Belgium were found to use the offshore development area to varying levels. Key potential impacts on commercial fisheries include temporary loss of access to fishing grounds, increased transit times and changes in the distribution of target species.

111. The East Anglia TWO windfarm site has a small footprint in comparison to the area fished by Dutch and Belgian vessels. Impacts associated with commercial fisheries during construction, operation and decommissioning were judged to be minor for the proposed East Anglia TWO project alone and cumulatively with other projects. There is the potential for moderate impacts due to the cumulative loss or restricted access to fishing grounds, however the contribution of the proposed East Anglia TWO project to the overall cumulative impact would be minimal.

112. UK vessels from ports along the Suffolk and Norfolk coast area more limited in their range however and a number of potential impacts were identified. To mitigate these impacts, a Commercial Fisheries Working Group has been created to act as a forum in which potential impacts can be discussed and appropriate mitigation agreed to avoid or reduce them.

3.1.8 Shipping and Navigation

113. The shipping and navigation assessment considers navigation for either commercial or recreational purposes, in addition to any navigational aspects of marine industries, such as fisheries and aggregates extraction. The southern North Sea is an area of significant shipping activity and therefore the East Anglia TWO windfarm site location has been determined through careful consideration of these shipping routes so that it avoids interactions as far as possible.

114. Stakeholder workshops and computer modelling were used to identify which types of vessels may be impacted by the proposed East Anglia TWO project. The assessment identified suitable ways to reduce the scale of these impacts to

acceptable levels. Decommissioning impacts are expected to be no greater than those construction impacts identified.

115. Overall, given the distances between the East Anglia TWO windfarm site and other developments, cumulative impacts were considered to be broadly acceptable. The assessment included impacts to vessels from other countries outside the UK and concluded that these would be within tolerable limits.

3.1.9 Civil and Military Aviation and Radar

116. The assessment considered all forms of aviation activity including that of the Ministry of Defence, regional airports, local aerodromes, national air traffic control, the Civil Aviation Authority and international bodies. The assessment included consideration of effects on radar, search and rescue and helicopter traffic in both UK and overseas airspace.

117. The assessment established that, providing the proposed East Anglia TWO project was displayed properly on aviation charts, and there was adequate marking and lighting of all wind turbines consistent with UK regulations, no significant impacts would occur as a result of the construction and decommissioning phases. During the operation phase it is predicted that the wind turbines have the potential to cause interference on civil and military radars and therefore the Applicant is developing a mitigation solution in consultation with the Ministry of Defence and the National Air Traffic Services.

3.1.10 Marine Archaeology and Cultural Heritage

118. Sea bed surveys using a variety of techniques including sonar (***Plate 3.1***) were used along with desk-based studies of existing information to determine the extent of the archaeology which exists within the offshore development area. The known offshore archaeological baseline comprises of charted wrecks and obstructions and previously unidentified anomalies of possible maritime or aviation origin.

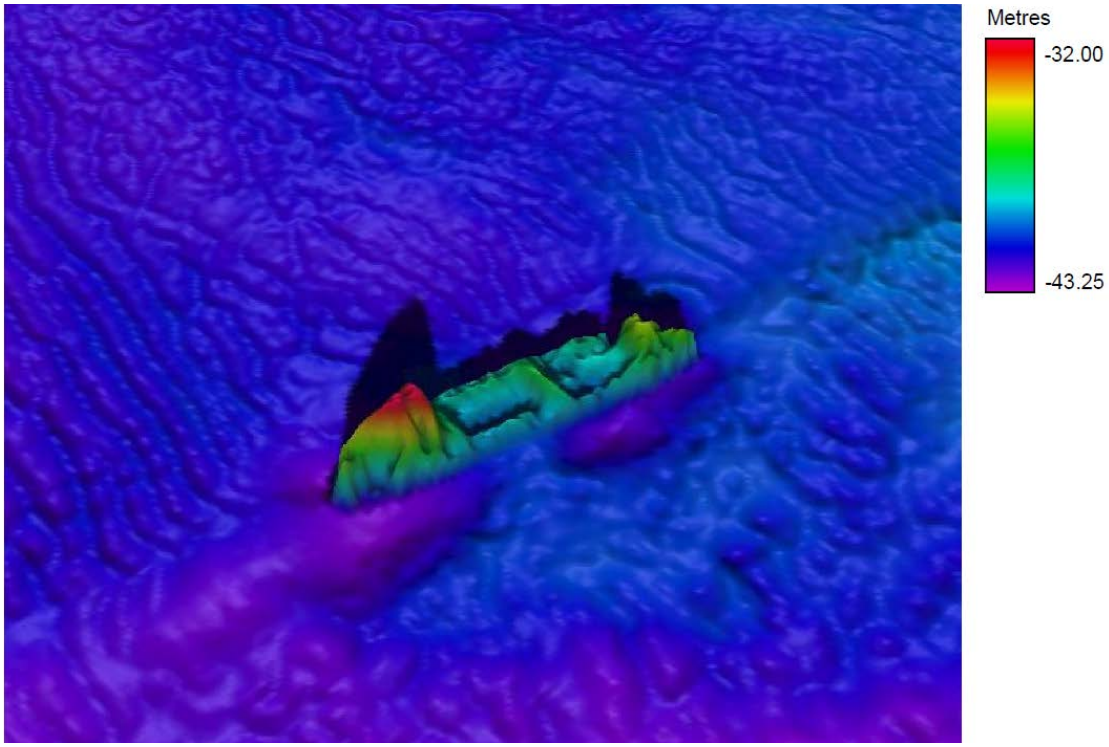

Plate 3.1 Example of Ship Wreck Located during Offshore Surveys

119. The assessment concluded that impacts to archaeology and cultural heritage could largely be avoided if a number of steps are taken, such as the adoption of exclusion zones around wrecks and the positioning of foundations and offshore cables away from any potential archaeological features.

120. In order to account for unexpected archaeological finds, a formal protocol for archaeological discoveries will be implemented during construction. This is detailed in the Outline Written Scheme of Investigation (OWSI) (Offshore), which has been submitted as part of the DCO application

121. With the application of appropriate mitigation, there will be no significant impacts to offshore and intertidal archaeology (including cumulative and transboundary impacts) from the proposed East Anglia TWO project. Decommissioning impacts are expected to be no greater than those construction impacts identified.

3.1.11 Infrastructure and Other Users

122. This assessment looked at potential impacts of the proposed East Anglia TWO project upon other windfarm developments, cables, oil and gas activities, marine aggregate activities and unexploded ordnance.

123. Careful site selection has ensured that interactions with other users will generally be avoided. Where interaction is unavoidable (such as cable crossings) commercial agreements would be put in place ahead of construction, to ensure that these interactions are safe and prevent damage to other infrastructure.

Therefore, no significant impacts will occur. Decommissioning impacts are expected to be no greater than those construction impacts identified.

3.2 Onshore

3.2.1 Ground Conditions and Contamination

124. The majority of the onshore development area is located in agricultural land, where significant sources of contamination are not expected. The ground conditions assessment included a desk-based review of past activities and current land uses. There is no evidence of historic contamination within the onshore development area.

125. The impacts assessed included the potential for contamination leaks and spills during construction, potential for existing contaminant release during any works and impacts on groundwater quality and mineral resources availability. An Outline Code of Construction Practice (OCoCP) has been submitted with the DCO application, which provides details of the industry best practice measures that would be undertaken during construction to reduce or avoid potential impacts onshore. A protocol for dealing with potentially contaminated materials will be utilised during the construction works.

126. Provided mitigation measures are in place, the proposed East Anglia TWO project is predicted to have no greater than minor impacts in relation to ground conditions and contamination during construction. No potential impacts were identified for the operational phase. Decommissioning impacts are expected to be no greater than those construction impacts identified.

127. Cumulative impacts with other relevant projects (the proposed East Anglia ONE North project, Sizewell C New Nuclear Power Station and Sizewell B Power Station Complex) were assessed as being no greater than minor.

3.2.2 Air Quality

128. A desk-based assessment was carried out using air quality monitoring data collected by the Local Planning Authority in 2018 within the onshore development area, as well as pollution maps provided by the Department of Environment, Food and Rural Affairs (Defra), to establish existing pollution levels. The air quality assessment considered the potential impacts associated with onshore construction phase dust and road traffic emissions in terms of both human and ecological receptors.

129. In accordance with air quality guidance, a suite of best-practice mitigation measures have been identified (such as dampening down the running track during dry periods to minimise dust generation), which would be proportionate to the level of dust risk of the construction activities. With the implementation of the

mitigation measures, dust impacts were considered to be not significant. Road traffic emissions during the construction phase were also considered to be not significant. The Applicant has committed to requiring its contractors to use Euro VI-standard vehicles (which use cleaner fuels and have lower air pollutant emissions) where possible. Overall, the assessment considers that it is highly unlikely that the construction activities would cause noticeable short-term or lasting impacts to air quality. No potential impacts were identified for the operational phase. Decommissioning impacts are expected to be no greater than those construction impacts identified.

130. Cumulative impacts with other relevant projects (the proposed East Anglia ONE North project and Sizewell C New Nuclear Power Station) were assessed as being not significant. Cumulative impacts with the Sizewell B Power Station Complex have not been scoped into the assessment because there is not likely to be an overlap in peak construction periods.

3.2.3 Water Resources and Flood Risk

131. To inform the impact assessment, a desk based review of publicly available data and data obtained from the Environment Agency and Internal Drainage Boards (including several flood risk data sets) was undertaken. In addition, a geomorphological walkover survey of the Hundred River was undertaken in the location where the onshore cable route would cross this watercourse.

132. The impact assessment considered potential impacts upon receptors including direct disturbance of surface water bodies, increased flood risk, soils entering watercourses, and accidental spills of fuels, oils and lubricants during construction. A Flood Risk Assessment (FRA) was conducted for the proposed East Anglia TWO project which was based upon data sources highlighting evidence of historic flooding within the onshore development area, more specifically the village of Friston.

133. Mitigation measures were identified including sediment management, construction drainage, and implementation of best practice measures are set out in the OCoCP submitted with the DCO application. The onshore substation and National Grid substation have been designed to incorporate a sustainable drainage system (SuDS) to provide sufficient storage of water run-off from the site within attenuation ponds prior to discharging this water into the closest water course or sewer connection. These attenuation ponds will be designed to manage flows up to the 1 in 200 year rainfall event. With the implementation of these measures, impacts assessed would not be significant for both the construction and operational phase of the proposed east Anglia TWO project, including no increase in flood risk on the village of Friston. Decommissioning impacts are expected to be no greater than those construction impacts identified.

134. Cumulative impacts with other relevant projects (the proposed East Anglia ONE North project, Sizewell C New Nuclear Power Station and Sizewell B Power Station Complex) were assessed as being not significant.

3.2.4 Land Use

135. The land use assessment included a desk-based review of current land use practices within the onshore development area. Additionally, feedback has been sought from landowners and occupiers, via the Applicant's land agents, to provide information on current agricultural practices. The assessment considered the potential impacts of the proposed East Anglia TWO project on land drainage, agricultural land which may be taken out of existing use, soil quality, Environmental Stewardship Schemes (ESS) and utilities. Land take has been reduced as far as practicable and the initial onshore cable routeing and site selection process avoided key sensitive land uses such as urban land and major utilities as far as practicable. The onshore development area does not cover any areas of common land and therefore has no impact (above or below ground) on common land, including Thorpeness Common.

136. Further mitigation measures include the use of an Agricultural Liaison Officer (ALO) to consult with affected landowners, ensuring agricultural field drains are maintained throughout construction and operation, and employing best practice measures through the production of a Soils Management Plan (SMP). The SMP would be agreed with the Local Planning Authority prior to the commencement of construction and would detail measures for soil storage. The Applicant will also commit to consultation with utility providers prior to construction and undertake utility crossings or diversions in accordance with the appropriate standards for such crossings or works, avoiding potential impacts to utilities. Land will be reinstated to its pre-construction condition as soon as reasonably possible. Provided mitigation measures are put in place, the proposed East Anglia TWO project was predicted to have no greater than minor impacts in relation to land use and agriculture throughout both the construction and operational phases. Decommissioning impacts are expected to be no greater than those construction impacts identified.

137. Cumulative impacts with the proposed East Anglia ONE North project were assessed as being no greater than minor significance. The Applicant will commit to reinstatement plans which will ensure that land is returned to its original use as far as practicable following construction. No further cumulative impacts were assessed as there will be no footprint overlap with either the Sizewell B Power Station Complex or Sizewell C New Nuclear Power Station and no potential for indirect impacts as the total area of land taken out of existing use by with either the Sizewell B Power station Complex or Sizewell C New Nuclear Power Station projects will be on the best or most versatile land.

3.2.5 Onshore Ecology

138. An extensive suite of ecological surveys was undertaken throughout 2017, 2018 and 2019 to describe the ecological baseline. Field surveys included an initial habitat assessment followed by species specific surveys including great crested newt, water vole, otter and bat surveys within the onshore development area. The scope of these surveys was agreed in advance with Natural England.

139. All statutory and non-statutory sites, designated for their nature conservation value, have been avoided, where practicable, during the site selection process. Where avoidance of the Sandlings SPA and Leiston-Aldeburgh SSSI is not practicable, the extent of this overlap has been minimised as far as appropriate by choosing to cross the SPA at its narrowest point and where current land uses suggest that the habitat is not optimal when compared with the wider Sandlings SPA. When using an open cut trenching methodology, the Applicant has committed to a reduced onshore cable route working width of 16.1m (reduced from 32m) within the Sandlings SPA for a length up to 300m depending on the detailed design when crossing the Sandlings SPA. The Applicant retains the option to HDD under the Sandlings SPA and, if HDD is used, the HDD temporary working areas would be located outside of the designated site. Ancient woodland and woodland parcels have been avoided where practicable and where important hedgerows are crossed the working width will also be reduced (32m reduced to 16.1m) where practicable to minimise potential impacts.

140. Impacts to habitats within the onshore development area, including temporary habitat loss and fragmentation, will occur during the proposed East Anglia TWO project construction phase. Habitats would be reinstated as far as practicable following construction.

141. Potential impacts on species such as badgers, bats, water voles, great crested newts and reptiles, are also anticipated to occur during the construction phase. These impacts include disturbance and risk of injury, permanent and temporary habitat loss and habitat fragmentation. Species-specific mitigation has been identified for these impacts, which includes pre-construction surveys (to confirm if species populations have changed), reinstatement of lost habitats and precautionary methods of working. Significant residual impacts will remain after mitigation for bats (due to the precautionary approach taken in the assessment), however this significant impact will be short term and temporary. This impact will reduce to not significant over the long term (3-7 years) as hedgerows fully recover.

142. Potential impacts during operation may arise from maintenance and operational lighting at the onshore substation and National Grid substation. The onshore substation and National Grid substation will be unmanned and operational

lighting will be limited to routine maintenance activities to meet health and safety requirements (lighting will be motion sensor operated). Outside of these periods the onshore substation and National Grid substation will not require permanent lighting. The required operational lighting will be designed to conform with best practice guidance to minimise disturbance to light-sensitive species, for example bats. Decommissioning impacts are expected to be no greater than those construction impacts identified.

143. Cumulative impacts with other relevant projects (the proposed East Anglia ONE North project, Sizewell C New Nuclear Power Station and Sizewell B Power Station Complex) were assessed as being not significant.

144. Following the construction phase, habitats will be fully reinstated as far as possible. Where full reinstatement is not possible surrounding the above ground operational infrastructure (onshore substation and National Grid infrastructure), planting and landscaping has been proposed which seeks to, among other objectives, benefit ecological species surrounding the onshore substation and National Grid infrastructure. The planting of hedgerows will provide wildlife corridors, most notably commuting and foraging habitat for bats which are a European Protected Species. Planting of woodland blocks will provide habitat for local wildlife, including protected species such as badgers. These areas of woodland may also provide roosts for bat species as individual trees mature. The wetland habitat provided by around the establishment of the SuDS ponds will be beneficial to local wildlife species, for example protected newt species such as great crested newts. Verge and hedgerow habitat would provide wildlife corridors between existing ponds and the proposed SuDS ponds. Verge habitat will additionally provide refuge for local reptile species.

3.2.6 Onshore Ornithology

145. An extensive programme of field surveys (wintering bird and breeding bird surveys) was conducted between 2017 and 2019 and species specific surveys were also conducted for the nightjar and hobby in the summers of 2018 and 2019 as these species are key to the designation of the Sandlings SPA. Results from these surveys up to and including June 2019 have been included in the assessment presented in this ES. The assessment was additionally informed by an extensive historic bird count data set (2009 – 2017) obtained from the RSPB.

146. The potential for temporary habitat loss and disturbance of birds during construction was assessed. An important consideration in this assessment was the Sandlings SPA and Leiston-Aldeburgh SSSI which are important areas of habitat for several species of protected bird. As discussed in the section above, by choosing to cross the SPA at its narrowest point and where current land uses suggest that the habitat is not optimal when compared with the wider Sandlings

SPA. This assessment has taken into account the potential for either open-cut trenching of HDD techniques to cross the Sandlings SPA. The Applicant will not undertake onshore cable route construction works to cross the Sandlings Special Protection Area (SPA) / Leiston – Aldeburgh Site of Special Scientific Interest (SSSI) within the SPA/SSSI boundary or within 200m of the SPA/SSSI boundary during the breeding bird season of mid-February to end of August, unless otherwise agreed with Natural England that (based on monitoring information provided by the Ecological Clerk of Works) bird breeding activities within 200m of the SPA/SSSI crossing works area have ceased.

147. Mitigation specific to the SPA and the component SSSI (Leiston-Aldeburgh) would include incorporating a Breeding Bird Protection Plan (BBPP), which will require pre-construction surveys to check for nesting birds and if present, will require additional mitigation measures where it is necessary to undertake work within 200m of the SPA and SSSI during the breeding season. The Applicant has submitted further detail on this BBPP within the OLEMS submitted with the DCO application. With mitigation, the proposed East Anglia TWO project would have no greater than minor impacts in relation to onshore ornithology during the construction phase. Potential impacts during operation were assessed from maintenance and operational lighting at the onshore substation and National Grid substation. With the exception of barn owl, a species tolerant of human presence, no other protected bird species are likely to be found in proximity to the onshore substation or National Grid substation, and no significant impacts during the operational phase are expected. Decommissioning impacts are expected to be no greater than those construction impacts identified.

148. Cumulative impacts with other relevant projects (the proposed East Anglia ONE North project, Sizewell C New Nuclear Power Station and Sizewell B Power Station Complex) were assessed as being not significant.

149. Effects on the Sandlings SPA are considered further in the Information to Support Appropriate Assessment Report.

3.2.7 Archaeology and Cultural Heritage

150. The onshore archaeology and cultural heritage baseline was established by a desk based exercise and supplemented by a programme of non-intrusive surveys to identify potential archaeological features underground (such as using ground penetrating radar) and various walkover surveys and site visits with the Local Planning Authority and other relevant regulators.

151. The onshore archaeological and cultural heritage baseline resource comprises both designated and non-designated heritage assets and includes both buried archaeological remains and above-ground built heritage assets. The baseline

also considered the historic landscape character of the onshore development area. An additional suite of pre-consent field surveys, including trial trenching, has been commissioned by the Applicant. The results of these pre-consent surveys will ultimately serve to inform and contribute to the development of post consent mitigation strategies in relation to the archaeological and cultural heritage resource.

152. Direct impacts may arise as the result of ground excavation during construction. The onshore development area has undergone an extensive site selection process to avoid direct physical impacts on designated heritage assets from the outset. Indirect impacts to designated and non-designated heritage assets, associated with change in the setting of the asset, may occur as a result of the construction or operational phases of the proposed East Anglia TWO project.

153. A screening exercise has been undertaken for settings impacts to designated and non-designated coastal heritage assets in relation to the East Anglia TWO windfarm site. No coastal assets have been identified for further settings assessment.

154. An Outline Written Scheme of Investigation (Onshore) has been submitted as part of the DCO application, which outlines the stages of mitigation to be undertaken post-consent. This will inform further decisions regarding the subsequent archaeological mitigation strategy so that the historic environment resource can be safe-guarded in a manner that is both appropriate and proportionate to the significance of the archaeological remains identified and present. With this commitment in place any impacts are considered to be not significant during the construction phase.

155. Eight designated assets (all Listed Buildings) were identified where change in setting caused by the operational onshore infrastructure could lead to material harm to their significance. Mitigation such as sympathetic screening planting around the onshore substation and National Grid substation has sought to minimise some of this harm. Impacts on the setting of these Listed Buildings range from no impact to moderate adverse (for two of the eight receptors). Further detail is provided in ***Appendix 24.7***. Impacts to buried archaeological remains are not expected to be impacted during the operational phase. Decommissioning impacts are expected to be no greater than those construction impacts.

156. Cumulative impacts with other relevant projects (the proposed East Anglia ONE North project, Sizewell C New Nuclear Power Station and Sizewell B Power Station Complex) were assessed as being not significant.

3.2.8 Noise and Vibration

157. To inform the noise and vibration impact assessment, a baseline noise survey was undertaken to quantify the existing noise environment in the vicinity of the onshore development area. Noise modelling was undertaken to inform several subsequent assessments in order to determine any potential impacts relating to the construction and operation of the proposed East Anglia TWO project at sensitive noise receptors agreed with the Local Planning Authority and Environmental Health Officer. The impact assessment considered potential construction impacts arising from construction noise, traffic noise and construction vibration and operational noise from the onshore infrastructure was also assessed. Impacts from operational vibration were not considered potential impacts and therefore not necessary to assess as agreed with the Local Planning Authority.

158. Construction impacts were identified as potentially arising from construction works (and the associated construction traffic) in a small number of locations along the onshore development area. The Applicant has committed to working hours are 7am to 7pm Monday to Friday and 7am to 1pm on Saturday with no working hours on Saturday afternoon (from 1pm) or Sundays and Bank Holidays, except in the event of specific time critical activities. Provided further mitigation measures are in place, such as the implementation of traffic management measures, the proposed East Anglia TWO project is predicted to have no greater than minor impacts in relation to construction noise and vibration.

159. The only sources of noise during the operation of the proposed East Anglia TWO project would be those from the onshore substation. The National Grid infrastructure does not include components which would contribute any significant noise contributions in the area. The Applicant will provide a final design of the onshore substation which will not exceed the operational noise limit of 34db $L_{Aeq\ 5\ min}$ during the night time (at the nearest noise sensitive receptors). Noise reduction technologies and potential design approaches have been considered and there are many proven mitigation options that can be combined to create a design that will adhere to the required noise limits. Decommissioning impacts are expected to be no greater than those construction impacts identified.

160. Cumulative impacts with other relevant projects (the proposed East Anglia ONE North project and Sizewell C New Nuclear Power Station) were assessed as being not significant. Cumulative impacts with the Sizewell B Power Station Complex have not been scoped into the assessment because there is not likely to be an overlap in peak construction periods.

3.2.9 Traffic and Transport

161. The traffic and transport assessment for the proposed East Anglia TWO project was based on forecasts of background levels of traffic for 2023 as this represents the earliest likely construction year. Transport requirements were determined through a series of desk based assessments utilising open source data obtained from the Department for Transport and the relevant Highway Authorities. Further traffic data was obtained via commissioned onsite Automatic Traffic Count surveys undertaken in 2018 and 2019.

162. Impacts were assessed for the effects on roads of pedestrian severance, pedestrian amenity, road safety and driver delay during construction. Mitigation measures include agreeing delivery routes for lorries avoiding key sensitive areas, the use of the haul road which runs the length of the onshore cable route to reduce trips on local roads, speed control measures (limits, warning signs and markings) and sensitive timing of the works. Mitigation has also included some sensitive traffic routes being avoided altogether. For example, all Heavy Goods Vehicle (HGV) traffic would be required to travel via the A1094 or B1122 from the A12 and no traffic would be permitted to travel via alternative routes. No HGV traffic would be permitted to travel through Leiston or Coldfair Green/Knodishall or on the B1121 past Friston or Sternfield. No HGVs to travel via the B1353 towards Thorpeness as all construction traffic for the landfall would access the landfall location via Sizewell Gap. Vehicles would then travel south on a temporary haul road to the landfall location. The residual impact for all roads was assessed to be not significant.

163. Advance notice of the works will be given to minimise disruption. The Applicant's strategy for construction phase traffic and travel management is outlined in the Outline Access Management Plan, Outline Traffic Management Plan and Outline Travel Plan submitted with the DCO application. Final versions of these plans will be agreed with the Local Highway Authority prior to construction commencing.

164. Cumulative impacts with the proposed East Anglia ONE North project were assessed as being not significant. Cumulative impacts with the Sizewell B Power Station Complex have not been scoped into the assessment because there is not likely to be an overlap in peak construction periods. Cumulative impacts with the Sizewell C New Nuclear Power station may occur where construction traffic is using the same road links. The CIA identified the potential for cumulative impacts with the Sizewell C New Nuclear Power Station through a qualitative assessment.

3.2.10 Human Health

165. An assessment of activities which may have an impact on physical or mental health during the construction, operation and decommissioning of the proposed East Anglia TWO project onshore infrastructure was undertaken. Impacts

associated with offshore elements of the proposed East Anglia TWO project were not assessed as there are no sensitive receptors close enough to experience health impacts.

166. A desk based assessment was conducted to inform the human health assessment including scientific literature and desk-based data sources such as census data to inform on the population in the surrounding area. The human health effects that were considered included construction and operational noise, air quality during construction, exposure to contaminated land during construction, employment during construction and operation, and exposure to electromagnetic fields (EMF) during operation.

167. The proposed onshore development area is largely comprised of agricultural land and has been sited away from population centres and sensitive receptors, thus the potential number of sensitive receptors has been reduced through site selection and the proposed East Anglia TWO project design. The Applicant has implemented a thorough process of community engagement, including PIDs and stakeholder engagement events in order to manage the perception of risk within the local area.

168. With the implementation of the mitigation measures identified within the separate topics (such as measures to minimise construction noise and to minimise the risk of dust generation), no significant impacts were predicted throughout the construction or operation phase of the proposed East Anglia TWO project. Decommissioning impacts are expected to be no greater than those construction impacts identified.

169. The buried cable systems will produce EMFs. The Applicant's policy is to only design and install equipment that is compliant with the relevant exposure limits, in accordance with the provisions of the UK Government's Code of Practice on Compliance. As such, the conclusion of the assessment is that there would be no effect to population health due to EMFs during operation.

170. Cumulative impacts with other relevant projects (the proposed East Anglia ONE North project, Sizewell C New Nuclear Power Station and Sizewell B Power Station Complex) were assessed as being no greater than minor.

3.3 Project Wide Impacts

3.3.1 Offshore Seascape, Landscape and Visual Amenity

171. The Seascape, Landscape and Visual Impact Assessment identifies and assesses changes to the seascape and landscape features resulting from the proposed East Anglia TWO project. Following feedback to the PEIR, the Applicant investigated the potential to reduce the East Anglia TWO windfarm site

area to reduce the magnitude of effect on onshore receptors. The revised design presented in this ES therefore represents a reduction in the geographic extent of the East Anglia TWO windfarm site, whilst maintaining its electricity production. This change has resulted in a reduced lateral spread of the East Anglia TWO windfarm site, concentrated grouping of the wind turbines and an increased distance offshore.

172. Significant construction and operational effects are not anticipated to be widespread, but localised and site specific, relating to the narrow coastal edges of the Suffolk coast - consisting of specific parts of the Coastal Dunes and Shingle Ridges LCT (05) and the coastal edges of the Estate Sandlands LCT (07).

173. Nearest viewpoints at the coast (32.55km from the East Anglia TWO windfarm site) represent the worst-case likelihood of visibility for the wind turbines. At these locations, the wind turbines are likely to only be visible to the public 33% of the time under conditions of excellent visibility. Moving further from the East Anglia TWO windfarm site, the percentage likelihood of wind turbine visibility decreases. For example, at the furthest viewpoint surveyed (53.5km from the East Anglia TWO windfarm site), likelihood of visibility of the wind turbines is 15% of the time under conditions of excellent visibility.

174. The East Anglia TWO offshore windfarm area fits within the existing seascape character given the influence of existing offshore windfarms in this area of coastline. The construction and operation of the offshore infrastructure will not result in any direct changes to the current pattern of elements that define the landscape character of these areas of the coastline.

175. The effect on the perception of certain special qualities resulting from the East Anglia TWO windfarm site is assessed as significant on the perception of specific landscape, scenic and relative wildness qualities that derive from changes to views from the AONB out to sea from geographically focused areas along the immediate coastal edges of the AONB where these panoramic, long distances views offshore are an aspect of some of the special qualities.

176. Significant visual effects have been assessed from several representative viewpoint locations representing views experienced by people along the closest section of the East Suffolk coastline between Covehithe and Aldeburgh (primarily related to the East Anglia TWO windfarm site). There would be no significant visual effects from settlements (or parts of settlements) or from routes where they are not located along the coastal edge.

177. Impacts from the decommissioning of the proposed East Anglia TWO project are expected to be similar to those construction impacts but lower in magnitude.

178. Cumulative seascape impacts were assessed against the proposed East Anglia ONE North project and other existing windfarms. The revised layout of the East Anglia TWO windfarm site is likely to reduce cumulative landscape and visual effects (when compared to the assessment undertaken for PEIR). This is primarily due to the increase in open sea horizon or 'gap' between the East Anglia TWO and East Anglia ONE North windfarm sites; which increases the legibility of each as a windfarm in its own right (rather than visually merging to form one larger array).

179. In comparison to the project alone assessment, the cumulative impact assessment resulted in effects of no greater significance and the effects that were identified were impacting the same receptors as the project alone assessment.

180. The cumulative effect of East Anglia ONE North, East Anglia TWO and Sizewell C has also been assessed and in some instances the additional impact of Sizewell C has resulted in further localised significant effects on landscape character and visual amenity being identified.

181. Offshore photomontage visualisations are available to view online at the following link:

https://www.scottishpowerrenewables.com/pages/east_anglia_two.aspx

3.3.2 Landscape and Visual Amenity

182. The potential effects of the onshore infrastructure of the proposed East Anglia TWO project were assessed for landscape and visual receptors during the construction, operation and decommissioning phases of the proposed East Anglia TWO project.

183. In respect of the landfall location, significant effects would occur only during the construction phase, with no significant effects during the operational phase as there will be no above ground infrastructure.

184. Consultations with the Landscape and Visual Impact Assessment (LVIA) ETG led to the agreement of viewpoint locations for use in the assessment of the onshore substation and National Grid infrastructure, as shown in ***Figure 5***. Visual representations of the onshore substation and National Grid infrastructure have been produced, which show the location and baseline view panorama from each of the agreed viewpoints. ***Figure 5*** also shows illustrative viewpoints which were requested in consultation with the LVIA technical working group (which includes the Local Planning Authority) and demonstrate the limited visibility of the onshore substation and National Grid substation from the wider LVIA study area.

185. Photomontage visualisations are available to view online at the following link:

https://www.scottishpowerrenewables.com/pages/east_anglia_two.aspx

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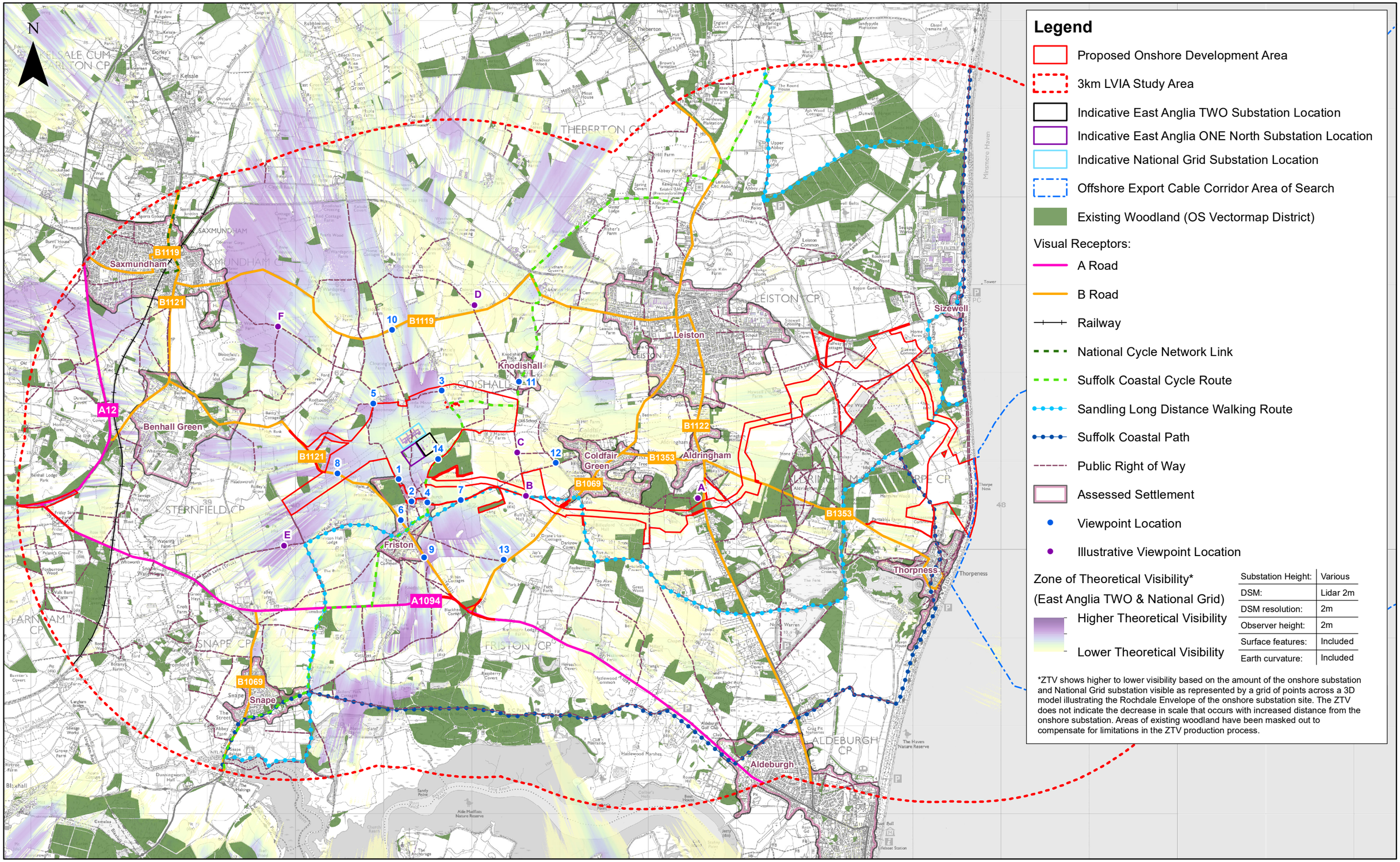

Legend

- Proposed Onshore Development Area
- 3km LVIA Study Area
- Indicative East Anglia TWO Substation Location
- Indicative East Anglia ONE North Substation Location
- Indicative National Grid Substation Location
- Offshore Export Cable Corridor Area of Search
- Existing Woodland (OS Vectormap District)

Visual Receptors:

- A Road
- B Road
- Railway
- National Cycle Network Link
- Suffolk Coastal Cycle Route
- Sandling Long Distance Walking Route
- Suffolk Coastal Path
- Public Right of Way
- Assessed Settlement
- Viewpoint Location
- Illustrative Viewpoint Location

Zone of Theoretical Visibility*
(East Anglia TWO & National Grid)

- Higher Theoretical Visibility
- Lower Theoretical Visibility

Substation Height:	Various
DSM:	Lidar 2m
DSM resolution:	2m
Observer height:	2m
Surface features:	Included
Earth curvature:	Included

*ZTV shows higher to lower visibility based on the amount of the onshore substation and National Grid substation visible as represented by a grid of points across a 3D model illustrating the Rochdale Envelope of the onshore substation site. The ZTV does not indicate the decrease in scale that occurs with increased distance from the onshore substation. Areas of existing woodland have been masked out to compensate for limitations in the ZTV production process.

SCOTTISHPOWER RENEWABLES

Rev	Date	By	Comment
4	29/08/2019	SH	Fourth Issue (OPEN)
3	27/08/2019	LA	Third Issue (OPEN)
2	25/07/2019	LA	Second Issue (OPEN)

Prepared:	LA
Checked:	SM
Approved:	LT

1:40,000
Scale @ A3

0 0.5 1 2 Km

East Anglia TWO

Onshore Substation ZTV (with Visual Receptors)

Drg No	EA2-DWF-ENV-REP-IBR-000921
Rev	4
Date	29/08/19
Figure	5

Coordinate System: BNG
Datum: OSGB36

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186. In respect to the onshore cable route, there will be no significant effects during the operational phase as there will be no above ground infrastructure. The only significant operational effects are north of Fitches Lane (Aldringham Court Nursing Home) and the Aldeburgh Road due to the removal of woodland. These significant impacts will be mitigated through the establishment of heathland habitat and the partial reinstatement of woodland north of Fitches Lane, at the end of the construction phase.

187. In terms of the onshore substation and National Grid infrastructure, significant effects will occur during the construction phase however these will be short-term and temporary. During operation, potentially significant impacts at the onshore substation and National Grid substation would be largely contained within the local landscape. Significant operational (15 years post construction with mitigation) visual effects would be experienced at Friston Church (Viewpoint 2), Friston, Grove Road (Viewpoint 4), Public Right of Way near Moor Farm (Viewpoint 5), Saxmundham Road (Viewpoint 8), Aldeburgh Road (Viewpoint 9), Friston Area A (comprising Viewpoints 1, 2 and 4) and Friston Area C (comprising Viewpoint 9). The mitigation landscape planting will be introduced and designed with the aim of reducing these identified impacts (see ***Figure 4*** for the outline landscape mitigation plan that provides an illustration of areas for landscape mitigation planting). The planting includes areas of fast growing woodland species as this will provide the height required, as well as the density, to ensure effective screening. The landscape mitigation plan has been developed in consultation with statutory consultees and the local community. In locations where it is possible to achieve advanced planting, this will be undertaken in consultation with the local community to allow growth prior to completion of construction and commencement of operation. Further detail regarding planting and the landscape mitigation plan are provided in the OLEMS, submitted with the DCO application. Decommissioning impacts are expected to be no greater than those construction impacts identified.

188. Cumulative effects with the proposed East Anglia ONE North project are assessed as causing potentially significant cumulative impacts with the proposed East Anglia TWO project during construction and operation. Significant construction impacts would be experienced at viewpoints surrounding Friston and these impacts would be short term and temporary. Significant operational visual cumulative effects would be experienced at the same viewpoints as for the proposed East Anglia TWO project alone, plus Grove Road Section B Grove Wood (Manor Farm) to northern edge of Friston, and Suffolk Coastal Cycle Route: Section B Grove Wood (Manor Farm) to northern edge of Friston.

189. Cumulative impacts with the Sizewell B Power Station Complex have not been scoped into the assessment due to the magnitude of the works and there being

no inter-visibility of the Sizewell B Power Station Complex and the proposed East Anglia TWO project. Assessment with Sizewell C New Nuclear Power Station identified significant cumulative impacts in terms of both visual and landscape effects during the construction phase. There is no inter-visibility between the Sizewell C New Nuclear Power Station and the onshore substation and National Grid infrastructure. Therefore, there is no cumulative effect identified with the operational phase of Sizewell C New Nuclear Power Station.

3.3.3 Tourism, Recreation and Socio-Economics

190. The assessment is based upon a desk based review of data sources, including employment statistics and tourism information. The desk-based assessment combined with consultation enabled an identification of the important recreational and tourism features such as Public Rights of Way (PRoW).

191. Construction impacts to tourism (enhancement and disturbance) and construction employment (including the onshore and offshore elements of the proposed East Anglia TWO project). Operational impacts assessed long term employment and tourism trends.

192. No significant tourism and recreation impacts were predicted as a result of the proposed East Anglia TWO project during the construction and operation phases. Tourism and recreation receptors would experience minimal visual impacts and only temporary physical obstruction, noise and traffic impacts.

193. The proposed East Anglia TWO project would provide significant beneficial employment impacts during both construction and operation phases of the proposed East Anglia TWO project. Peak employment was estimated at over 300 staff per day during onshore construction. Offshore construction is expected to generate 100 to 300 Full Time Equivalent (FTE) jobs within East Anglia. Decommissioning impacts are expected to be no greater than those construction impacts identified.

194. Cumulative impacts with the proposed East Anglia ONE North project result in significant beneficial employment impacts during both construction and operation phases and no significant adverse impacts.

195. The cumulative impact assessment with the onshore Sizewell C New Nuclear Power Station project and other offshore windfarm projects concluded that there would be significant beneficial cumulative impacts to short-term, long-term and tourism employment. Cumulative impacts with the Sizewell B Power Station Complex have not been scoped into the assessment because limited employment information has been provided in the Sizewell B Power Station Complex EIA and amenity and recreation impacts have been assessed by Sizewell B Nuclear Power Station Complex as not significant.

4 Conclusions

196. All of the offshore technical assessments conclude that the proposed East Anglia TWO project will not result in significant impacts. In many cases this is a result of the sensitive siting of the East Anglia TWO windfarm site and offshore export cable corridor to avoid adverse impacts. Where any potentially significant impacts have been identified, mitigation has been proposed to reduce the impact to not significant in EIA terms.

197. Sensitive site selection alongside embedded and additional specific mitigation will deliver a project that avoids the vast majority of the potential onshore impacts assessed within the ES. Potential adverse impacts identified through the worst case assessment are of minor to moderate adverse significance and are typically temporally and geographically limited.

198. Temporary moderate adverse impacts having been identified in ***Chapter 22 Onshore Ecology*** due to the precautionary approach taken in the assessment the impact on bats of potential losses of roosting and foraging habitat during the temporary construction phase. These will reduce to not significant impacts over the long term (3-7 years).

199. Some potentially significant adverse impacts have been identified in ***Chapter 24 Onshore Archaeology and Cultural Heritage***, ***Chapter 28 Offshore Seascape, Landscape and Visual Amenity*** and ***Chapter 29 Landscape and Visual Impact Assessment*** for certain receptors.

200. Potentially significant beneficial impacts were identified in ***Chapter 30 Tourism, Recreation and Socio-Economics*** in terms of short and long term employment during construction and operation.

201. Positive impacts from the proposed East Anglia TWO project, such as direct employment and supply chain job creation are long term, and aligned with the UK Government's Clean Growth Strategy to help to boost productivity and grow and decarbonise the economy of the East of England and the UK as a whole.

202. The generation of electricity from renewable energy sources can have a direct and measurable effect on climate change and in meeting the UK's climate change and emissions reduction targets. The proposed East Anglia TWO project would make a significant contribution to the achievement of the UK's national renewable energy targets and to the UK's contribution to global efforts to reduce the effects of climate change.

5 Contact us

204. This document provides a non-technical summary of the ES for the proposed East Anglia TWO project. If you wish to see more detailed information, the Scoping Report (SPR 2017) and the Planning Inspectorate Scoping Opinion (Planning Inspectorate 2017) for the proposed East Anglia TWO project together with the full ES are available online at the following link:

https://infrastructure.planninginspectorate.gov.uk/projects/eastern/east-anglia-two-offshore-windfarm/?ipcsection=docs

205. If you have any further questions on the Environmental Impact Assessment process please feel free to get in touch. Visit our project website and register your interest in the project to receive updates:

https://www.scottishpowerrenewables.com/pages/east_anglia_two.aspx