

#### East Anglia ONE North Offshore Windfarm

#### **Appendix 5** Pre-Phase 1 and Phase 1 Consultation

#### **Consultation Report**

Applicant: East Anglia ONE North Limited Document Reference: 5.1.5 SPR Reference: EA1N-DWF-ENV-REP-IBR-000373\_005 Rev 01 Pursuant to: Section 37(3)(c) of The Planning Act 2008

Author: Royal HaskoningDHV Date: October 2019 Revision: Version 1



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#### East Anglia ONE North Offshore Windfarm

#### **Appendix 5.1**

Newspaper Notices Advertising Phase 1 Public Information Days Locations and Dates

**Consultation Report** 

Applicant: East Anglia ONE North Limited Document Reference: 5.1.5.1 SPR Reference: EA1N-DWF-ENV-REP-IBR-000373\_005\_01 Rev 01 Pursuant to: Section 37(3)(c) of The Planning Act 2008

Author: Royal HaskoningDHV Date: October 2019 Revision: Version 1

#### **Public Information Days**

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Please feel free to drop in any time between the times shown below:		
Venue	Date	Time
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<b>Leiston</b> United Church, High Street, Leiston ,IP16 4EL	31 October 2017	12pm – 7pm
<b>Lowestoft</b> Victoria Hotel, Kirkley Cliff, Lowestoft NR33 0BZ	1 November 2017	12pm – 7pm
<b>Orford</b> Orford Town Hall, Market Hill, Orford, Woodbridge, IP12 2NZ	2 November 2017	12pm – 7pm

If you would like further information about East Anglia TWO or East Anglia ONE

North, please visit:

- www.scottishpowerrenewables.com/pages/east\_anglia\_two.aspx
- www.scottishpowerrenewables.com/pages/east\_anglia\_one\_north.aspx

ScottishPower Renewables, ScottishPower House, 320 St Vincent St, Glasgow, G2 5AD www.scottishpowerrenewables.com



East Anglian Daily Times | Wednesday, October 18, 2017

#### Football unites to pay tribute to army son of Terry Butcher

The world of football has united in mourning following the tragic death of the son of former Ipswich Town and England captain Terry Butcher.

Former Army captain Christopher Butcher, 35, died on Monday, his family announced on Facebook. He had served in Afghanistan with the Royal Artillery.

His younger brother Ed wrote: "Chris you were my hero, you were my best friend and you were someone I would throw myself in the way of a truck for.

"Thank you for everything you ever taught me. I will miss you for the rest of my life but you will never be forgotten."

He said Christopher was the "best brother", adding: "His death has hit the entire family hard." His father Terry Butcher, who

lives in Suffolk, made over 250

news

MATT STOTT matt.stott@archant.co.uk

appearances for Ipswich Town during the 1970s and 1980s. He was captain of Town in the mid-1980s before joining Rangers.

"The family are together and we will release the dates of the funeral in due time," added Ed Butcher. "We know how greatly he was loved and we're sorry that we can't call every person who knew him to tell them."

Ipswich Town managing director Ian Milne said: "All at Ipswich Town are very shocked and deeply saddened to hear the news of the passing of Terry's son Christopher.

"We have fond memories of Chris who was at a number of games at the club with Terry last season and came across as a lovely



Terry Butcher, left, is mourning the loss of his son Christopher, 35, right, a former Army captain. Pictures: PA

and charming guy who was clearly enjoying spending time with his dad.

"All our thoughts and condolences are with Terry and his family at this very sad time." The news comes ahead of the East Anglian derby between Ipswich and Norwich City at

Portman Road on Sunday. The club is planning to honour the memory of Christopher before

the midday kick-off. Kevin Beattie, a former

teammate of Terry Butcher, said

it was a "sad day for the club". He added: "It's so upsetting. You don't expect any of your shildren

don't expect any of your children to go before you. I'm so sorry for his family. Butch is a big lad but it will be a big blow. He loves his kids. It'll leave a big hole."

Football host Mark Pougatch wrote on Twitter: "Terry Butcher is among the finest & funniest of men. Please keep him & his family in your thoughts – & if you're so inclined – prayers."

Norwich City FC and Rangers FC also paid respect on Twitter.

East Anglia TWO Offshore Windfarm East Anglia ONE North Offshore Windfarm

#### news

#### **School places deadline**

5

News

Parents and carers have fewer than two weeks to apply for a secondary school place in Suffolk next year.

Applications for a maximum of three preferred places for September 2018 must be submitted either online or in the post to Suffolk County Council by midnight on Tuesday, October 31.

More than 93% of over 7,000 applicants received offers for their first preference school in Suffolk last year. Last year, 91% of

Last year, 91% of applications for a place in Year 7 from September 2017 were made online, representing a 19% increase since 2015.

Gordon Jones, cabinet member for education at Suffolk County Council, said: "I would urge all parents and carers to complete and submit their application by the closing date of October 31 to give them the best chance of securing a place at one of their preferred schools. "We recommend applying

for more than one school."

To apply, visit www.suffolk. gov.uk/admissions



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Professor Tim Whitley, managing director of research and Innovation and Adastral Park (fifth left) with some of the new graduate recruits joining BT. Picture: MARK KEMPTON

BT has welcomed its new intake of 107 graduates at its research and development headquarters at Adastral Park in Martlesham Heath.

The popular graduate scheme with the technology firm featured the new graduates taking part in an induction event as part of their welcome week. Of the group, 63 will continue their work at the BT labs in Martlesham in their roles. Managing director Professor Tim Whitley said: "Adastral Park is the home of BT's research and development. Technologies developed here now underpin many of the ways we communicate, transmit data and interact

with each other every day. "Tm delighted to welcome the 2017 intake of graduates. These are exciting times for BT and it is fabulous to see so many high calibre young people joining the company to drive us. forward. And it is especially pleasing.that so many will join us in Suffolk at our R&D Headquarters."

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If you would like further information about East Anglia TWO or East Anglia ONE North, please visit:

• www.scottishpowerrenewables.com/pages/east\_anglia\_two.aspx

www.scottishpowerrenewables.com/pages/east\_anglia\_one\_north.aspx

ScottishPower Renewables, ScottishPower House, 320 St Vincent St, Glasgow, G2 5AD www.scottishpowerrenewables.com



East Anglian Daily Times | Wednesday, October 25, 2017





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East Anglia TWO Offshore Windfarm East Anglia ONE North Offshore Windfarm

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ScottishPower Renewables, ScottishPower House, 320 St Vancent St, Glasgow, G2 SAD www.scottishpowerrenewables.com



Lowestoft Journal Friday, October 20, 2017

#### **Beccles Free School**

**The Seckford Foundation Free** Schools Trust, which runs Beccles, Saxmundham and Ixworth free schools, is celebrating its Progress 8 performance table positions, with all three schools in the top 10 secondary schools in Suffolk for the progress all students have made since they were 11. Beccles Free School is celebrating after finishing joint sixth out of 92 secondary schools in Suffolk. The overall Progress 8 score is 0.46 at Beccles Free School, which means all students progressed to achieve half a grade higher than was predicted at 11 in every GCSE subject. The school is also eighth in the league table for students who achieved the English Baccalaureate (EBacc) at grade 5 or above in English and maths, and at grade C or above in all other EBacc subjects. This is the first year where students have spent five full years of secondary education at Beccles Free School since they opened in 2012.

Graham Watson, of the Seckford Foundation Free Schools Trust, said: "We are thrilled to be in the top 10 for student progress amongst schools across the county, especially since this is the first year where we are seeing results from students who joined Beccles and Saxmundham Free Schools in Year 7."



Beccles Free School students leap for joy after recieving their GCSE results. Picture: SIMON LEE, SECKFORD FOUNDATION FREE SCHOOLS TRUST.



East Point Academy. Picture: NICK BUTCHER

The school recorded the top **Progress 8 score in the** county at +0.69, putting them in the top three per cent nationally. The achievement confirms the remarkable improvements at the academy in Kirkley Run, which joined the Inspiration Trust in special measures less than three years ago. Principal Richard Dolding said: "It is a fantastic achievement for Lowestoft that East Point Academy has the best progress score in Suffolk and is among the top 3pc in the country. 'These progress measures show that with the right encouragement and support students in our town can be the equal of any in the whole country."

**Ormiston Denes Academy, Lowestoft** 



East Anglia TWO Offshore Windfarm East Anglia ONE North Offshore Windfarm

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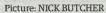
Please feel free to drop in any time betwee	en the times shown be	low:
Venue	Date	Time

Ormiston Denes Academy, Lowestoft.

**Ormiston Denes** Academy was one of the fastest improving in the country for Progress 8, which rose by 0.8 points, from -0.68 last year to 0.12 this year. In addition, the proportion of students at the school who gained the new grade 4 in English and mathematics also increased to 53 per cent up by 20 percentage points on the 2016 results.

Ben Driver, principal, said: "We are delighted that our students have performed so strongly,

demonstrating the outstanding value **Ormiston Denes adds to** their education. "It confirms how good our GCSE results were this year - record results that only happened because of dedicated teachers, the ongoing support of our parents and our sponsor, **Ormiston Academies** Trust, and most importantly the relentless hard work of a fantastic cohort of students. 'We are incredibly proud of them all and are fully expecting to



build on these results with next year's GCSEs." Nick Hudson, interim chief executive officer of **Ormiston Academies Trust. said: "Ormiston Denes Academy is** committed to raising aspirations and broadening horizons for all students. Today's figures demonstrate the positive difference the academy is making for the young people it serves, and the value it adds. We are proud to be supporting them to achieve their full potential."

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Samantha.vee@btinternet.com

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East Anglia TWO Offshore Windfarm East Anglia ONE North Offshore Windfarm

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#### LOCALVOICES

### Rising to the challenge

In my last column I wrote about the importance of the third crossing for Lowestoft,

I do believe prospects are definitely on the rise for Suffolk's second town and this is partly due to communities working together for the greater good. As Police and Crime Commissioner this is very welcome as there's a strong correlation between higher levels of deprivation and rising crime rates and antisocial behaviour and any initiative that supports development of the town is so welcome.

So what gives me this impression? Well much of this can be traced to the Lowestoft Rising work which has grown steadily in influence and has acted as a kind of catalyst fo attracting money and investment and collaboration across all sectors. This is obviously paying dividends as the reports I receive demonstrate there's a great deal of positive news. As a boy in the 1970s I found the quayside in



Lowestoft fascinating - the fishing industry never seemed to sleep and there was always something going on; trawlers landing and departing, lorries moving in and out of the town, auctions and so on.

Sadly the fishing industry has all but disappeared since the 1970s. Other major employers have closed down as well and life was difficult for many people.

Now not long ago I worked in Suffolk's tourist industry and I've always believed much more could, and should, be made of the area. High quality tourism has huge potential for the area after all it's home to Britain's most easterly point. Much is being done to build on these success stories - for example, grant applications (worth nearly £1million) to develop Ness

Friday, October 27, 2017 | Lowestoft Journal

# or a film gift from the

Point into a major international attraction stands a real chance of

success. Getting investment into the town's two piers could be a unique selling point for the whole of the East Coast. Why shouldn't Lowestoft be a resort complementing Southwold and Aldeburgh? Neither must we forget the huge contribution the offshore energy industry is making to the town.

Not all of this is down to Lowestoft Rising because it's the whole community

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rising to the challenge to make the town a much better place in which to live, work, visit and invest.

For me, Lowestoft Rising is a shining example of how the power of collaboration makes such a huge difference and long may that continue!





#### East Anglia ONE North Offshore Windfarm

#### **Appendix 5.2** Poster Advertising Phase 1 Public Information Days Locations and Dates

#### **Consultation Report**

Applicant: East Anglia ONE North Limited Document Reference: 5.1.5.2 SPR Reference: EA1N-DWF-ENV-REP-IBR-000373\_005\_02 Rev 01 Pursuant to: Section 37(3)(c) of The Planning Act 2008

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#### East Anglia ONE North Offshore Windfarm

#### **Appendix 5.3**

Venues where the Phase 1 Public Information Days Poster was Displayed

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Author: Royal HaskoningDHV Date: October 2019 Revision: Version 1



Venue where Phase 1 Public Information Day Poster was Displayed
Southwold Town Council
Lowestoft Town Council
Walberswick Parish Council
Aldeburgh Town Council
Orford Town Council
Aldringham cum Thorpe Parish Council
Leiston Town Council
Knodishall Parish Council
Kessingland Parish Council
Lowestoft Library
Co-op Kessingland
Denny of Southwold
Southwold Library
Westleton Post Office
East of England Co-op Foodstore
Leiston Library
Aldeburgh Library
SK News
The Village Store Kessingland
Kessingland Library
Coopers Pharmacy Leiston
The Village Store Wangford
Saxmundham Library
East of England Co-op Aldeburgh
East of England Co-op Saxmundham
Aldeburgh Book Shop
Sizewell Tea
Martins Saxmundham
Southwold Post Office
Pakefield Post Office
Londis local shop Yoxford
Aldeburgh Museum
Russel and Newnes
Leiston coop



#### Venue where Phase 1 Public Information Day Poster was Displayed

Nichols and Son Butchers Leiston

Orford Meat Shed

Orford garage

Waitrose Saxmundham



#### East Anglia ONE North Offshore Windfarm

#### **Appendix 5.4** Stakeholders who Received the Phase 1 Poster by Email

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Applicant: East Anglia ONE North Limited Document Reference: 5.1.5.4 SPR Reference: EA1N-DWF-ENV-REP-IBR-000373\_005\_04 Rev 01 Pursuant to: Section 37(3)(c) of The Planning Act 2008

Author: Royal HaskoningDHV Date: October 2019 Revision: Version 1



Parish or Town Council Contacted
Southwold Town Council
Lowestoft Town Council
Walberswick Parish Council
Aldeburgh Town Council
Orford Town Council
Aldringham cum Thorpe Parish Council
Leiston Town Council
Knodishall Parish Council
Kessingland Parish Council



#### East Anglia ONE North Offshore Windfarm

#### Appendix 5.5 Phase 1 Public Exhibition Boards

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# 1) Welcome and introduction to SPR

Welcome to our public information day about our proposed East Anglia TWO and East Anglia ONE North projects. Members of our project team are on hand today to answer any queries you may have.

ScottishPower Renewables (SPR) is part of Iberdrola, one of the world's largest utility companies and the leading wind energy producer.

SPR is responsible for progressing offshore windfarms throughout the world and onshore wind and marine energy projects in the UK. It is currently taking forward the development and progressing the construction of the 102-turbine East Anglia ONE offshore windfarm approximately 43km off the coast of Suffolk. This £2.5 billion project is planned to deliver energy to meet the annual demand of around 600,000 homes and should be fully operational during 2020. This project will be followed by the 1,200MW East Anglia THREE windfarm which recently received development consent.





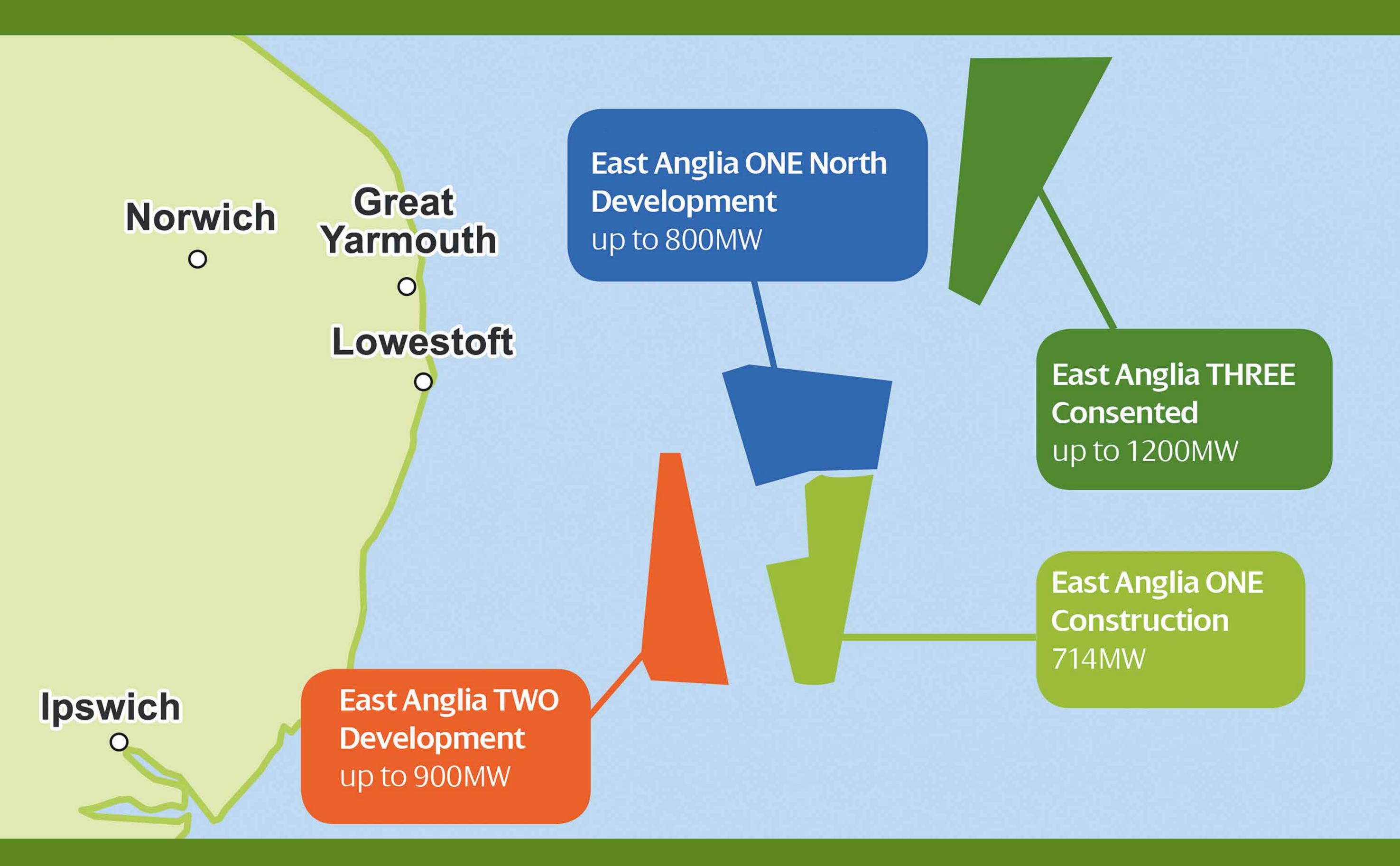
# 2) Our Projects

Building on these first two East Anglia projects, SPR is now seeking to progress development of the proposed East Anglia TWO and East Anglia ONE

# North projects.

	East Anglia TWO	East Anglia ONE North
Distance to shore (in a straight line from the edge of the windfarm)	31km from Lowestoft 32km from Southwold 40km from Orford Castle 35km from Sizewell Beach	36km from Lowestoft 42km from Southwold 60km from Orford Castle 50km from Sizewell Beach
Project area	255km <sup>2</sup>	208km <sup>2</sup>
Anticipated capacity	900MW	800MW
Proposed wind turbine height	Up to 300m	Up to 300m
Potential number of homes powered	740,000	650,000
Number of turbines	Up to 75 - exact number, layout and dimensions will be determined post consent	Up to 67 - exact number, layout and dimensions will be determined post consent

and prior to construction and prior to construction



\*Calculated taking the number of megawatts (900/800) multiplied by the number of hours in one year (8,766), multiplied by the average load factor (efficiency of electrical energy usage) for offshore wind (36.7 %, published by the Digest of United Kingdom Energy Statistics), divided by the average annual household energy consumption (3,900 kWh), giving an equivalent of powering 659,922 / 742,413 homes.



# 3 Why is offshore wind so important?

The need to reduce

The need to maximise economic

#### greenhouse gas emissions

- Global temperature rise as a result of greenhouse gas emissions in the atmosphere is associated with potential impacts on weather, ecosystems and human health and welfare.
- The UK has made commitments internationally to limit global temperature increases and has committed to a 57% reduction in carbon emissions by 2032 (compared to emission levels in 1990).
- The Committee on Climate Change has recommended that the UK government should support 1-2GW of new offshore wind per yearin the 2020's.
- Through the Climate Change Act 2008, the UK has made the commitment to an 80% reduction (compared to 1990 levels) in greenhouse gas emissions y 2050.

### opportunities from energy infrastructure investment for the UK

- A key commitment within the UK is to assist in making the UK a green industry centre by supporting the development and use of clean energy technologies.
- The Industrial Strategy sets out The Government's vision for the offshore wind industry whereby industry and government work together to build a competitive and innovative UK supply chain that delivers and sustains jobs, exports and economic benefits for the UK, supporting offshore wind as a core and cost-effective part of the UK's longterm electricity mix.
- The Centre for Economics and Business Research estimates that by 2030, offshore wind could increase the Gross

### The need for energy security

- With existing fossil fuels and old nuclear powered electricity generation coming to the end of their operational lives, there is a need to use alternative methods to generate electricity as old infrastructure is decommissioned.
- Figures show that the net import of electricity to the UK in the second quarter of 2017 was 6.9% of electricity supply. In this period generation fell by 3.3% compared with 2016, highlighting the need for new infrastructure to deliver a secure national energy supply as part of a long-term sustainable energy policy.

Domestic Product (GDP) value by 0.6% and support 173,000 jobs.

# The need to produce affordable energy

- As offshore wind technology has matured and developers have innovated there has been a significant reduction in the cost of energy produced by offshore wind in recent years.
- The price of new offshore wind has fallen significantly. Further cost reductions will continue as technologies develop in response to market pressures and consumer demand.
- The cost of new offshore wind projects starting to generate electricity from 2022-23 will be 50% lower than in 2015.

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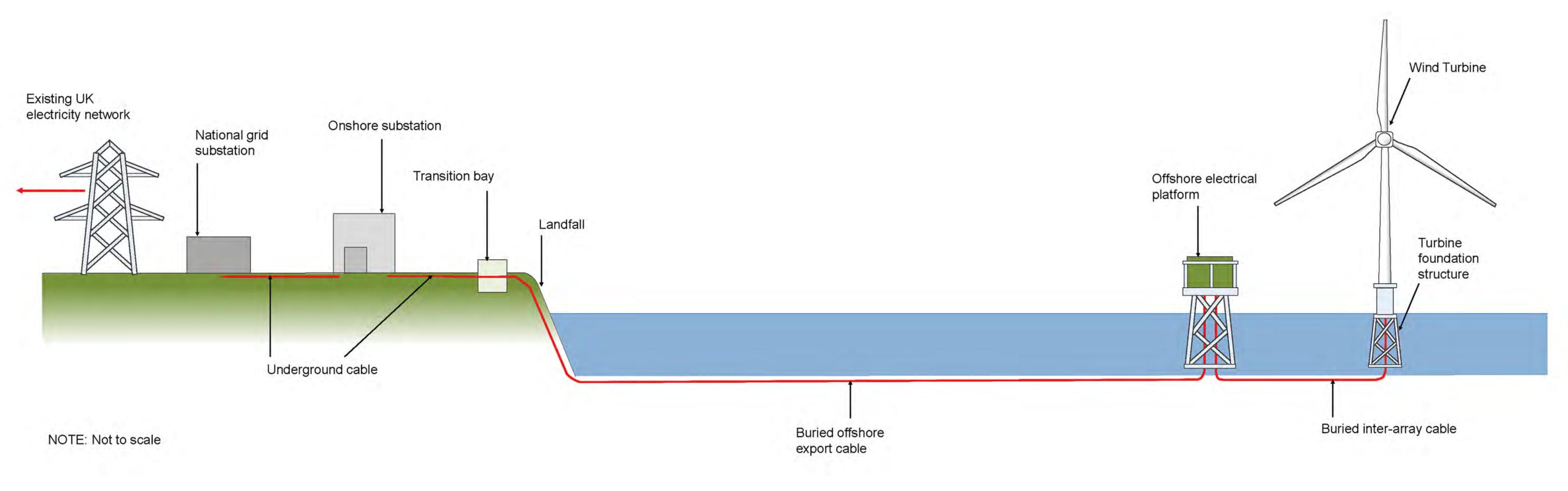


# How does an Offshore Windfarm work?

• Offshore wind turbines convert energy

• The underground onshore cables

- from the wind into electrical energy.
- Electricity is then transmitted from the wind turbines to offshore electrical platforms.
- Offshore electrical platforms are located within the windfarm site, containing electrical equipment to collect the power from the wind turbines and convert it into a more suitable form for export to shore.
- The electricity is then brought to shore from the offshore electrical platform via buried offshore export cables which are connected to underground onshore cables at the landfall via a transition bay.
- take the electricity to an onshore substation which transforms high voltage current from the windfarm to lower voltages suitable for distribution onto the national transmission network.
- Electricity is then transmitted via underground cables to the National Grid substation and then on into the national transmission network.



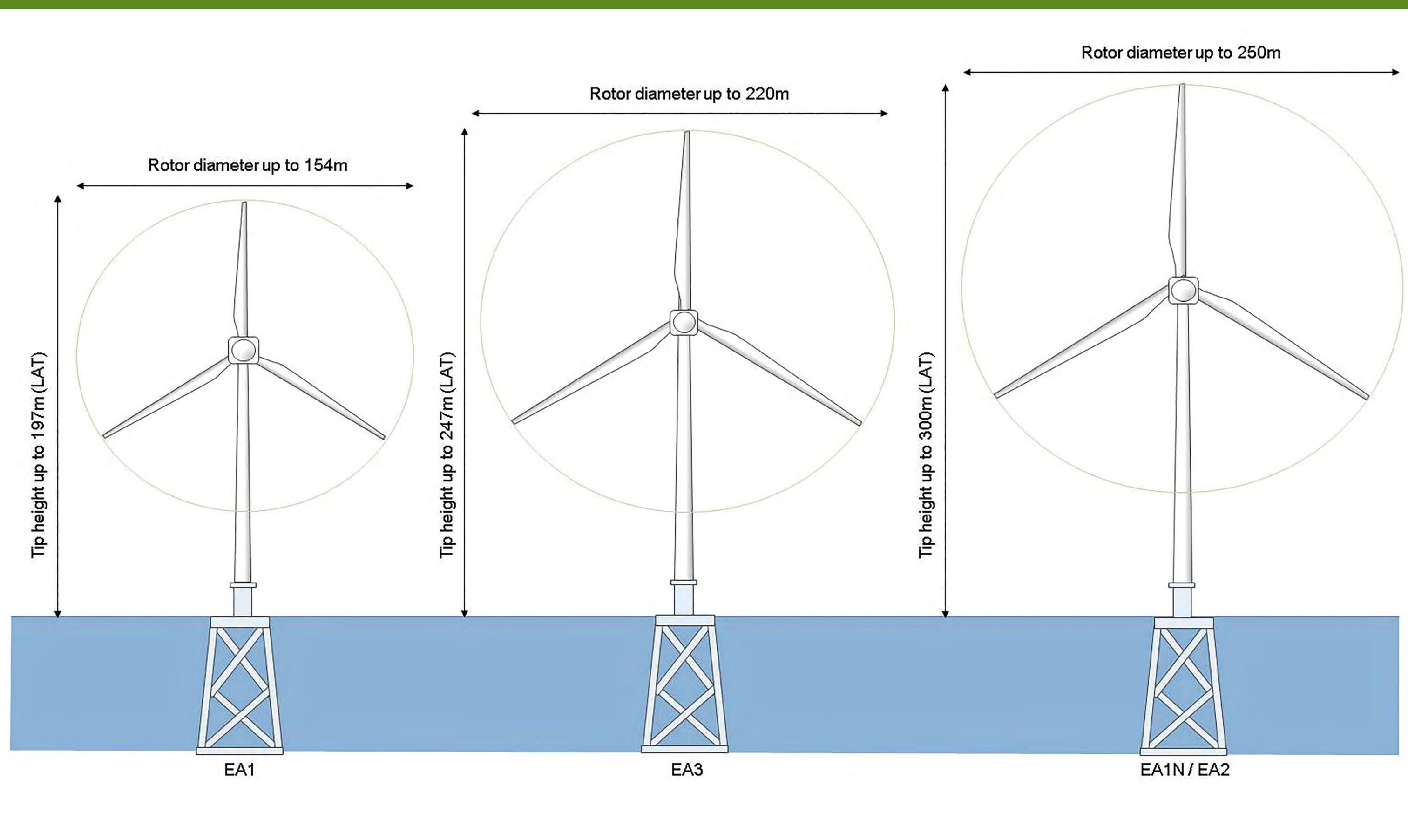


# Wind Turbine Technology

The proposed East Anglia TWO and East Anglia ONE North projects are likely to consist of up to 75 and up to 67 wind turbines respectively. the tip height or hub height which are important for the assessments.

The range of wind turbines currently being considered is 12MW – 19MW. Note that, the actual MW capacity of the wind turbine does not drive the environmental assessment process; it is the physical parameters, for example It is estimated the maximum wind turbine tip height used would be 300m with a rotor diameter of up to 250m.

The images below illustrate the dimensions and the design of a wind turbine:



The technologies used in offshore wind turbines are constantly evolving and the industry is moving towards larger more powerful wind turbines. For these projects up to 19MW wind turbines are being considered. The benefits of installing larger machines are:

- 1. Fewer foundations
- 2. Reduced installation programme
- 3. Lower costs



# How an Offshore Windfarm is Consented



WE ARE CURRENTLY HERE

PRE-APPLICATION COMMUNITY ENGAGEMENT

SCOPING

COMPLETE BASELINE SURVEYS ......

ASSESSMENT OF IMPACT Pre-application engagement with consultees and stakeholders ahead of the formal Development Consent Order (DCO) process

This stage is to agree with the regulators the issues and methodologies that will be considered within the Environmental Impact Assessment

Baseline surveys are required to inform the assessment of impacts

Once the baseline information has been collected, an assessment of potentially significant environmental impacts, as a result of the development, can be undertaken

The preliminary findings of the impact assessment are

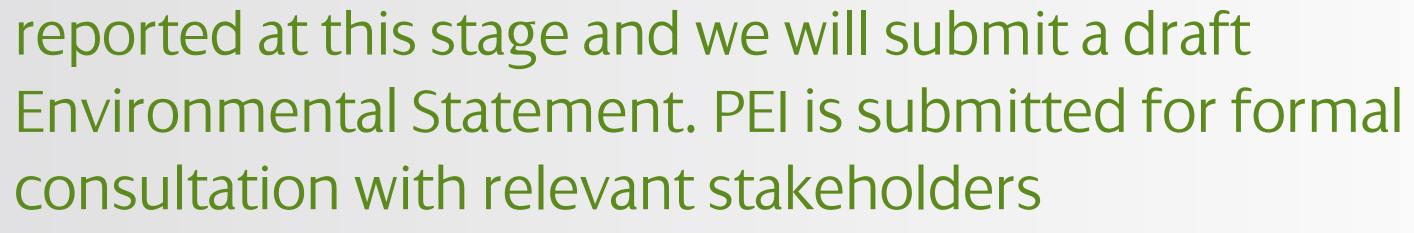
PRELIMINARY ENVIRONMENTAL INFORMATION (PEI)

#### ENVIRONMENTAL STATEMENT

CONSENT APPLICATION

EXAMINATION

DECISION



Following feedback from PEI consultation the assessment of impacts is completed and reported in the final Environmental Statement. This forms a key part of the application for development consent

The application is submitted to the Planning Inspectorate and they have 28 days to confirm acceptance

Following acceptance of the application the Examining Authority will undertake a six-month examination of the proposed development

Following the examination the Examining Authority will make a recommendation to the Secretary of State within three months. The Secretary of State then has a further three months to make a final decision on the application

Consultation is on-going throughout the consent application.

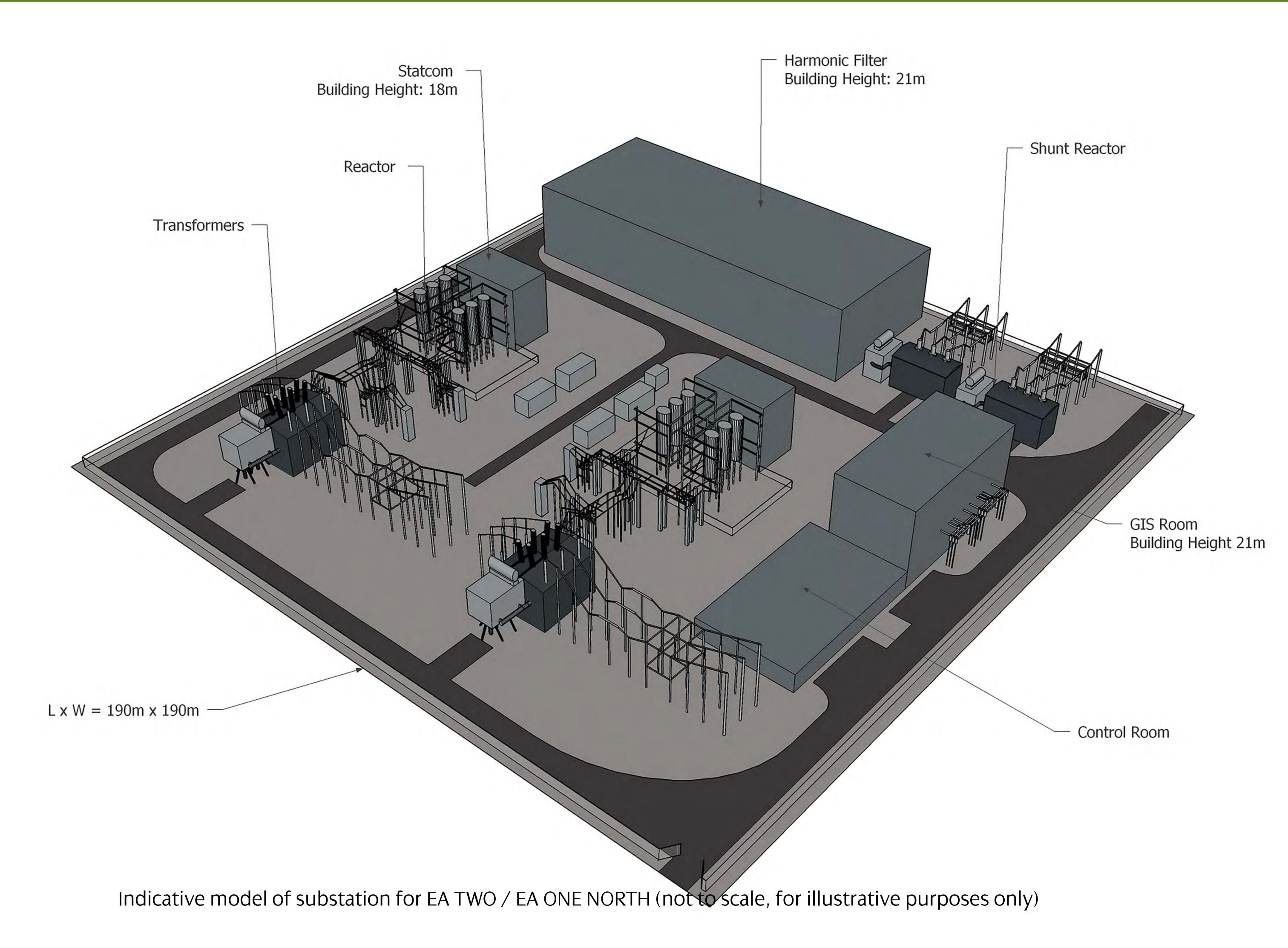


# Agreeing our grid connection

National Grid owns and operates the transmission network in England and Wales. In order to connect to the electricity transmission network SPR requires a grid connection agreement with National Grid. Both windfarms' physical connection to the electricity transmission network will be into the existing pylons along the overhead lines in the vicinity of Sizewell and Leiston, with National Grid's required infrastructure located as close as possible to existing pylons.

SPR received a grid connection offer in 2010 for up to 3.6GW at Bramford which would have allowed both the proposed East Anglia TWO and East Anglia ONE North projects to connect at that location. To comply with the statutory duties under Section 9 of the Electricity Act 1989 (HM Government 1989), the preferred connection design should be the most economic and efficient when considering both offshore and onshore works. National Grid therefore undertook a subsequent review in 2017, which concluded that connecting both the proposed East Anglia TWO and East Anglia ONE North projects in the vicinity of Sizewell and Leiston is the most economical solution, the key factor being the much shorter onshore cable route required.

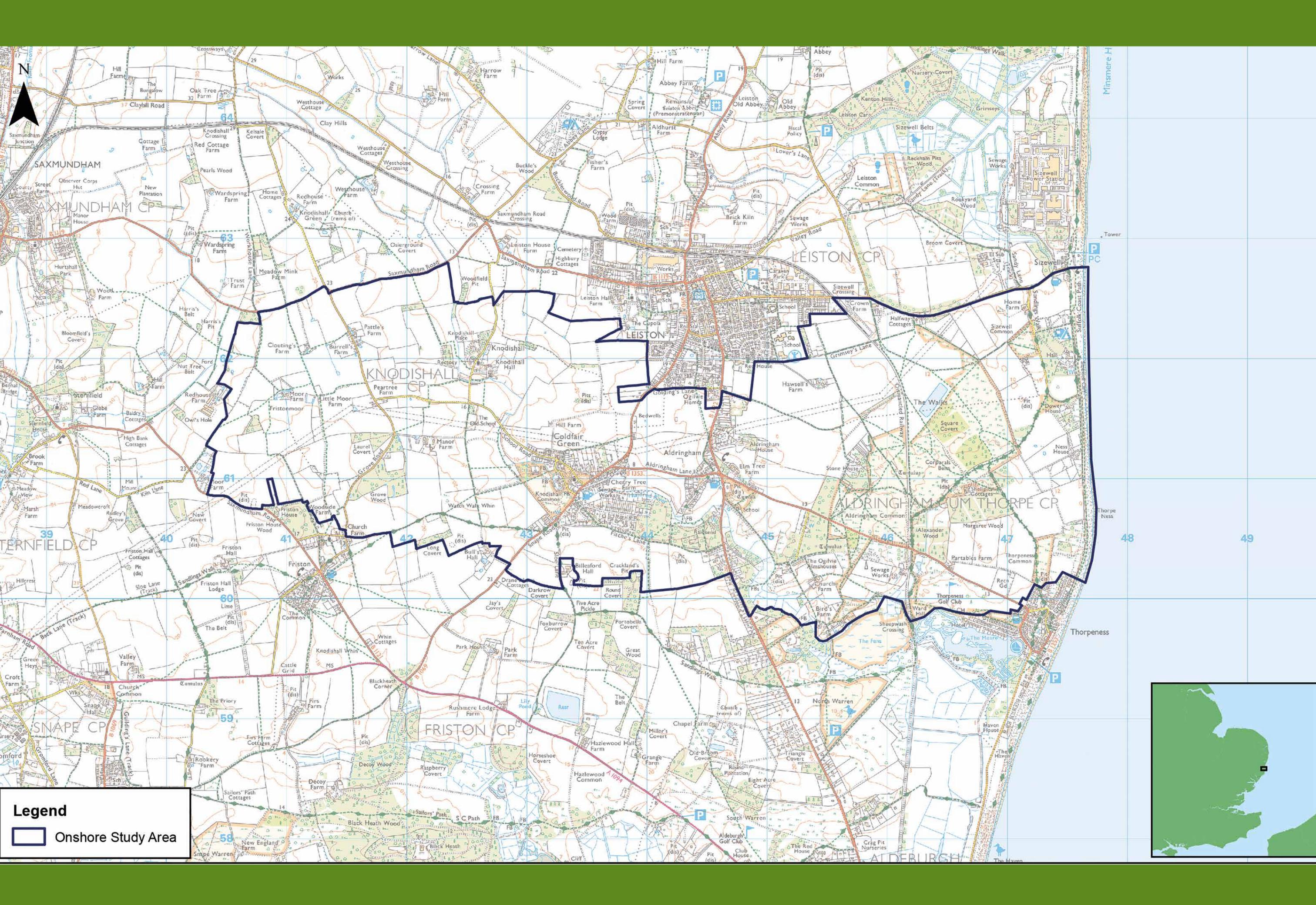
In addition to the substations for East Anglia TWO and East Anglia ONE North, a new National Grid substation will be required and additional infrastructure to connect to the UK electricity network (sealing end compounds / gantries and potentially upgrades to the existing overhead circuits). SPR will consult on and consent this infrastructure for National Grid to own and operate. At present it is anticipated that the National Grid substation will be an Air Insulated Switchgear (AIS) facility measuring up to 325m x 140m with external equipment up to 13m. The indicative model of the substation required for East Anglia TWO and East Anglia ONE North is shown below.





# Onshore Study Area for the Connection Point and Substation Footprint

The proposed East Anglia TWO and East Anglia ONE North projects will each require their own onshore substation. The site selection process is currently on-going and we are reviewing the following onshore study area, ensuring we comply with our statutory duties. Within this study area we will identify locations for the landfall, cable routes and onshore substations.



The study area has been identified considering physical and environmental constraints, a grid connection in the vicinity of Sizewell and Leiston, and a landfall between Sizewell and Thorpeness.

Each onshore substation will be located within a single compound with a mixture of warehouse style buildings and external electrical equipment and gantries and will be up to 190m x 190m, with external buildings up to 21m and external equipment up to 18m in height.



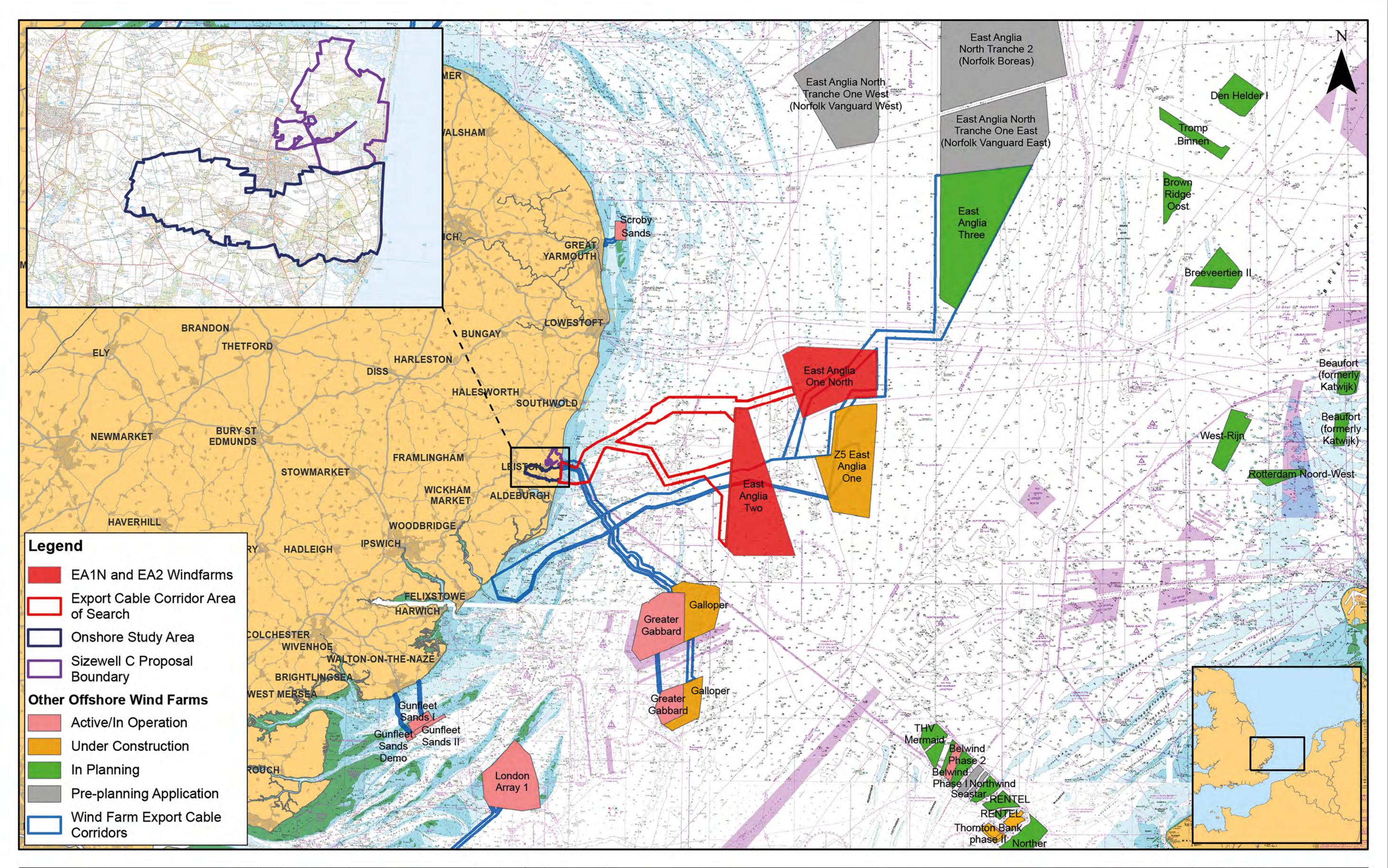
# 9 Cumulative Impact

We are aware of a number of projects that are either in the development process, have consent or are under construction. An important part of the Environmental Impact Assessment process will be to ensure that not only are the impacts of East Anglia TWO and East Anglia ONE North assessed but that impacts in combination with other projects are also assessed.

Key potential cumulative impacts being considered include:

- Construction traffic
- Construction noise
- Operational noise
- Landscape and visual (of onshore and offshore components)
- Ornithology and ecology

These impacts, along with others, will be reported in the Environmental Statement and there will be future consultation events where these can be explained further.



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		1	23/10/2017	AB	Second Issue.	Prepared:	ко	Scale @ A3	0	10	20		40	Other Windfarm Developments in the Vicinit
I	SCOTTISHPOWER	0	10/10/2017	AB	First Issue.	Checked:	вк	Source: © The Crown Estate, Not to be used for navigation.	, 2017. C	4COffshore - AWAITING LICENCE.	Charts from Marine	eFIND.co.uk Licence No EK00	A DALE MEDDOF	Anglia One North and East Anglia TWO Win
	RENEWABLES	Rev	Date	Ву	Comment	Approved:	PP	To the fullest extent permitted	Offshore d by law.	test known information at the time of GIS team to ensure the content is st we accept no responsibility or liability contained in the map and shall not b	till current before us y (whether in contra	ing the information contained ct, tort (including negligence)	on this map. or otherwise in respect of any	and Export Cable Corridor Area of Search

East Anglia ONE North and TWO
Other Windfarm Developments in the Vicinity of the East
Anglia One North and East Anglia TWO Wind Farm Site

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Rev	1	Datum: WGS 1984 Projection: Zone 31N				
Date	23/10/17					
Figure	x					

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# 10) Timeline

Following these public events we will be moving into the Environmental Impact Assessment scoping phase where we will agree the scope of the assessment with the Planning Inspectorate and other consultees. Scoping Reports will be submitted to the Planning Inspectorate in November 2017 and a formal scoping opinion provided to us before the end of the year. you up-to-date on how our plans are progressing. The next events are expected to be during summer 2018 where we will be presenting the findings from our site selection work to identify suitable locations for the landfall, the required substations and onshore cable routes.

Before we reach a position where we are able to submit our applications for consent we will be carrying out further public engagement to keep Feedback forms and a suggestion box are available today for you to share your comments.

Our anticipated timeline is detailed below:

## East Anglia TWO



2018

Autumn 2017: Public information days Winter 2017: Scoping report<sup>\*</sup> submitted

## East Anglia ONE North



Autumn 2017: Public information days Winter 2017: Scoping report<sup>\*</sup> submitted

Autumn 2018: Consultation on draft Environmental Statement 2019

Autumn 2019: Consultation on draft Environmental Statement

2019: 2019 Develop Applicat

2019: Development Consent Application



2020: Development Consent Application

2024 2024 Commence

Commence Construction

0000

2025 Commence Construction

\*Providing a description of project components and the connection route to the electricity transmission network

www.scottishpowerrenewables.com/pages/east\_anglia\_two.aspx
www.scottishpowerrenewables.com/pages/east\_anglia\_one\_north.aspx



# East Anglia ONE North Offshore Windfarm

# Appendix 5.6 Phase 1 A1 Photomontage Visuals

## **Consultation Report**

Applicant: East Anglia ONE North Limited Document Reference: 5.1.5.6 SPR Reference: EA1N-DWF-ENV-REP-IBR-000373\_005\_06 Rev 01 Pursuant to: Section 37(3)(c) of The Planning Act 2008

Author: Royal HaskoningDHV Date: October 2019 Revision: Version 1 This page is intentionally blank

# East Anglia One North Offshore Windfarm & East Anglia Two Offshore Windfarm





Photomontage view from Lowestoft showing EA1N and EA2 15/19MW turbine layouts.



### Viewing Instructions

These visualisations are designed to be printed at the paper size identified and viewed at a comfortable arm's length. Hard copies of these visualisations, printed at the right size and high print quality are the best way of viewing the images. It is preferable to view printed images rather than view images on screen. If you do view images on screen you should do so using a normal PC screen with the image enlarged to the full screen height to give a realistic impression.

### Limitations of visualisations

Visualisations can never show exactly what a wind farm will look like in reality, due to the resolution of the image and factors such as different lighting, weather and seasonal conditions which vary through time. The visualisations provide a reasonable impression of the scale of the turbines and distance to the turbines In the views. The visualisations give an impression of the proposed wind farms and provide a tool that can be compared with an actual view in the field. To form the best impression of the likely visual impacts, these images are best viewed at the viewpoint location shown.

Lowestoft



OS reference: Eve level: Direction of view:

Nearest turbine:

Horizontal field of view: Principal distance Printed viewing distance:

Paper size: Correct printed image size:

Camera: Lens: Camera height: Date and time:

654451 E 291813 N 7.3 m AOD 118° EA1N 38.8 / EA2 32.2 km

63.5° (planar projection) 812.5 mm

View flat at a comfortable arm's length 1046.7 x 841 mm 1006.7 x 260 mm

Canon EOS 5D Mark II 50mm (Canon EF 50mm f/1.4) 1.5 m AGL 12/09/17, 12:33

## East Anglia One North Offshore Windfarm & East Anglia Two Offshore Windfarm





from Orford Castle showing EA1N and EA2 15/19MW turbine layouts.



Existing view from Orford Castle

Viewing instructions These visualisations are designed to be printed at the paper size identified and viewed at a comfortable stm's length. Hard copies of these visualisations. printed at the right size and high print quality are the beal way of viewing the images. It is preferable to view printed images indire then view images on screen. If you do view images on screen you should do so using a normal PC screen with the image enlarged to the full screen height to give a realistic impression.

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# **Orford Castle**



OS reference: Eve level: Direction of view: Nearest turbine:

Horizontal field of view: Principal distance: Printed viewing distance: Paper cize:

Camera: Lens: Camera height: Date and time:

641944 E 249868 N 40.66 m AOD 73\* EA1N 62.8 / EA2 40.7 km

63.5" (planar projection) 812.5 mm View flat at a comfortable arm's length 1046.7 x 841 mm Correct printed image size: 1006.7 x 260 mm

> Canon EOS 5D Mark II 50mm (Canon EF 50mm f/1,4) 1.5 m AGL 09/09/17, 12:44

# East Anglia One North Offshore Windfarm & East Anglia Two Offshore Windfarm





Photomontage view from Sizeweil Beach showing EA1N and EA2 15/19MW turbine layouts.



### Existing view from Stzewell Beach.

#### Viewing Instructions

These visualizations are designed to be privited at the paper size identified and viewed in a confortable sum's length. Hard copies of these visualizations, privad at the right size and high print quality are the bear way of viewing the images. It is preferable to view primate images matter than view images or screen. If you do view images on screen. The could be outing a normal PC screen with the image entry of the full screen which they image on screen.

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# Sizewell Beach



OS reference: Eye level: Direction of view:

Direction of view: Nearest turbine:

Horizontal field of view: Principal distance: Printed viewing distance: Paper size:

Paper size: 1046.7 x 841 mm Correct printed Image size: 1006.7 x 260 mm

Camera: Lens: Camera height: Date and time: 647542 E 262858 N 7.24 m AOD 86\* EA1N 52.4 / EA2 35.7 km

63.5" (planar projection) 812.5 mm View flat at a comfortable arm's length

1046.7 x 841 mm 1006.7 x 260 mm Canon EOS 5D Mark II

Canon EOS 5D Mark II 50mm (Canon EF 50mm 91.4) 1.5 m AGL 12/09/17, 11:04

## East Anglia One North Offshore Windfarm & East Anglia Two Offshore Windfarm





Photomontage view from Southwold showing EA1N and EA2 15/19MW turbine layouts.



Viewing Instructions

These visualisations are designed to be printed at the paper size identified and viewed at a contintable atm's length. Hard copies of these visualisations, printed at the right size and high print quality are the best way of viewing the images. It is preferable to view printed images rether than view images on screen If you do view images on screen you should do so using a normal PC screen with the image enlarged to the full screen height to give a realistic impression.

#### Limitations of visualisations

Visualisations can never show exactly what a wind farm will look like in reality, due to the resolution of the image and factors such as different lighting, weather and sensorial conditions which very through line. The visualisations provide a reasonable impression of the scale of the turbines and distance to the turbines in the views. The visualisations give an impression of the proposed wind ferms and provide a tool that can be compared with an actual view in the field. To form the best impression of the likely visual impacts, these images are best viewed at the viewpoint location shown.





OS reference: Eve level: Direction of view:

Nearest turbine:

Horizontal field of view: Principal distance: Printed viewing distance: Paper cize:

Correct printed Image size: 1006.7 x 260 mm

Camera: Lens:

Camera height: Date and time:

651072 E 276454 N 11.07 m AOD 102\* EA1N 44.0 / EA2 31.5 km

63.5\* (planar projection) 812.5 mm View flat at a comfortable arm's length 1046.7 x 841 mm

Canon EOS 5D Mark II 50mm (Canon EF 50mm f/1.4) 1.5 m AGL 12/09/17, 11:04



# East Anglia ONE North Offshore Windfarm

# Appendix 5.7 Phase 1 Landowner Information Pack

## **Consultation Report**

Applicant: East Anglia ONE North Limited Document Reference: 5.1.5.7 SPR Reference: EA1N-DWF-ENV-REP-IBR-000373\_005\_07 Rev 01 Pursuant to: Section 37(3)(c) of The Planning Act 2008

Author: Royal HaskoningDHV Date: October 2019 Revision: Version 1 This page is intentionally blank

East Anglia TWO Offshore Windfarm and East Anglia ONE North Offshore Windfarm

# Landowner Information Pack



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3	Landowners	5
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# East Anglia ONE North and East Anglia TWO

## **1 Project Overview**

## 1.1 What and Where

ScottishPower Renewables (SPR), part of the Iberdrola group, is one of the world's largest utility companies and wind energy producers. SPR plans to transform East Anglia into a world leader in offshore wind energy and are in the early stages of investigating the potential for two new offshore windfarm projects, East Anglia ONE North and East Anglia TWO.

- East Anglia ONE North is located approximately 36 km from Lowestoft and 42 km from Southwold, covering an area of 209 km<sup>2</sup>.
- <sup>2.</sup> East Anglia TWO is located approximately 31 km from the town of Lowestoft, covering an area of 257 km<sup>2</sup>.
- Initial studies have shown that both projects are capable of generating a maximum capacity of 1,700 megawatts (900 megawatts for East Anglia TWO and 800 megawatts for East Anglia ONE North), which has the potential to provide energy for approximately 1.3 million homes per year.

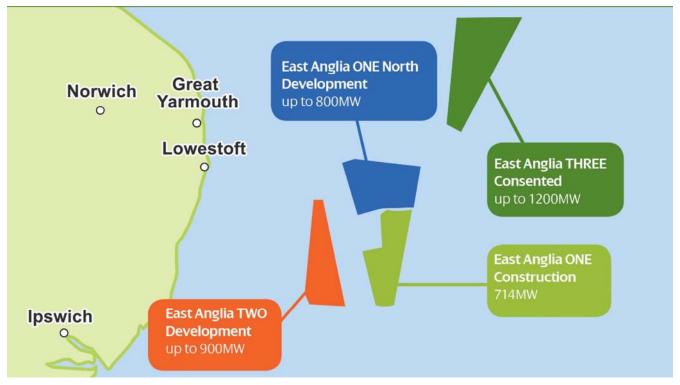


Figure 1 - location of proposed / consented SPR windfarms - EA ONE, EA ONE North, EA TWO & EA THREE

4. National Grid has offered SPR a grid connection point at Sizewell. Underground electrical cables will run from a landfall site at the coast and connect to new substations in the Sizewell or Leiston areas. The cable route, landfall and substation locations are yet to be identified; however, a search area is being investigated.

## 1.2 How

- 5. The East Anglia ONE North and East Anglia TWO offshore windfarm projects will become part of the UK's growing renewable energy infrastructure. Due to their size and importance the projects are classed as a Nationally Significant Infrastructure Project (NSIP).
- 6. Under the Planning Act 2008, decisions for these projects are decided at national level using strict criteria set out by the Government. As part of these criteria, a Development Consent Order (DCO) must be prepared by the developer, SPR, and submitted to the Planning Inspectorate and the Secretary of State. The Secretary of State then has the authority to allow projects in the national interest to go ahead.
- z. East Anglia ONE North and East Anglia TWO are currently progressing through the pre-application phases, which include site selection, community engagement and impact assessment, ahead of formally submitting DCO applications. Other East Anglia projects have already been through this process, with East Anglia ONE being granted a DCO in June 2014 and East Anglia THREE being granted a DCO in August 2017.

## 1.3 Why is this happening?

- 8. In 2008 the Climate Change Act committed the UK to reducing greenhouse gas emissions and generating more energy from renewable sources.
- Energy is an increasingly important topic in the UK and globally as old fossil fuel based energy generating infrastructure is being phased out. The UK has agreed to meet national and global targets such as the Paris Agreement, agreed between more than 200 countries at COP21 in December 2015. Renewable energy will help to meet these global agreements and could provide up to 30% of the UK's total energy demand. It is therefore Government policy to encourage the development of renewable energy generation to help secure the UK's energy supply for future years, whilst also seeking to fulfil our climate change obligations.

## 1.4 Whose Project?

Once completed, the transmission and generation elements of the projects will be owned separately. The transmission elements comprising the cables from the offshore substation to the National Grid connection will be owned by an "Offshore Transmission Network Owner" (OFTO - see below), whilst the windfarm itself will be retained by SPR.

## 1.5 What is an OFTO?

<sup>11.</sup> Offshore Windfarm Owners are not permitted to own the transmission assets which connect the offshore windfarm to the National Grid. That means that once built, SPR is required to sell the offshore substation, onshore substation and electrical cables to an OFTO. This process is regulated by the Office of Gas and Electricity Markets (Ofgem).

# 2 Project Timeline

## 2.1 Development Phase

The project plans to undertake the following activities on these indicative timescales:

Public Information Days (informal community engagement)	October 2017
Scoping (consultation with statutory consultees)	November – December 2017
Site Selection and Survey Area finalised	January - March 2018
Archaeology (geophysics & trial trenching)	March – September 2018
Site investigation	February 2018 – March 2018
Statement of Community Consultation	February 2018
Preliminary Environmental Information (Consultation with statutory consultees and communities on the findings of the environmental impact assessment)	Autumn 2018
Ongoing Community Consultation	August 2017 – March 2019
Submission of full Consent Application for East Anglia TWO	Mid 2019
Submission of full Consent Application for East Anglia ONE North	Mid 2020

Once consent is granted, construction work will commence and be completed over a number of years.

## **3 Landowners**

### 3.1 Site Identification

- <sup>12.</sup> SPR will carry out a site search over a large area of land in the general Sizewell area to identify locations capable of supporting the East Anglia ONE North and East Anglia TWO project requirements. This site search will identify the numerous property titles and title boundaries within the area of search.
- <sup>13.</sup> This exercise will also enable SPR to collate landownership information so that initial contact can be made with the various landowners identified.
- <sup>14.</sup> SPR will liaise with all landowners and hope to take on board any suggestions and ideas which may help feed into the overall design of the project and finalised cable route corridor and substation locations.

## 3.2 Initial Investigations

- <sup>15.</sup> The landowner of any land that SPR may be interested in for ether a substation or cable route will be contacted and the project may request access to land for surveys in 2018.
- <sup>16.</sup> Alongside the initial site search and site investigation process, environmental, consenting and engineering considerations of potential sites will be progressed in parallel.

### 3.3 Land Acquisition

- 17. Once a final cable route, substation site and land for other associated works (i.e. accesses, compounds etc.) have been defined, SPR will seek to enter into agreements with the various landowners for the necessary rights to land. In addition to the cable route and substation, SPR will also seek to engage with landowners to identify suitable locations for construction compounds and access routes. These areas will be included within the wider landowner agreements.
- It may not be necessary to buy land or property outright as SPR may just need rights to lay a cable underground, meaning that agricultural activities can continue following construction or, for example, SPR may seek to share the use of an access. This is SPR's preference, as this will allow the continued use of land for agricultural purposes following the initial construction phase.
- <sup>19.</sup> Landowners will be able to seek advice from a land agent and solicitor prior to entering into any such agreements. However, please seek further information relating to the project and fee reimbursement from Savills in the first instance.

## **4 Further Information**

- <sup>20.</sup> Should you want to keep up to date on what is happening on the project, please have a look at the Scottish Power East Anglia Website: <u>https://www.scottishpowerrenewables.com/pages/east\_anglia\_projects.aspx</u>
- 21. The website is updated regularly with upcoming project activities such as surveys, public consultations and key documents.
- 22. ScottishPower Renewables also has a dedicated Stakeholder Manager who engages with the local communities and land owners to ensure that we can quickly respond to your questions, concerns and ideas. For any queries please contact:

Darragh Healy Project Manager



### Acting on behalf of ScottishPower Renewables

 Tel:
 +44 (0) 845 149 1415

 Email:
 eastanglia@savillsprojects.com



# East Anglia ONE North Offshore Windfarm

# Appendix 5.8 Summary of Environmental Considerations

## **Consultation Report**

Applicant: East Anglia ONE North Limited Document Reference: 5.1.5.8 SPR Reference: EA1N-DWF-ENV-REP-IBR-000373\_005\_08 Rev 01 Pursuant to: Section 37(3)(c) of The Planning Act 2008

Author: Royal HaskoningDHV Date: October 2019 Revision: Version 1 This page is intentionally blank

East Anglia ONE North Offshore Windfarm

# East Anglia ONE North Offshore Windfarm

Summary of Environmental Considerations



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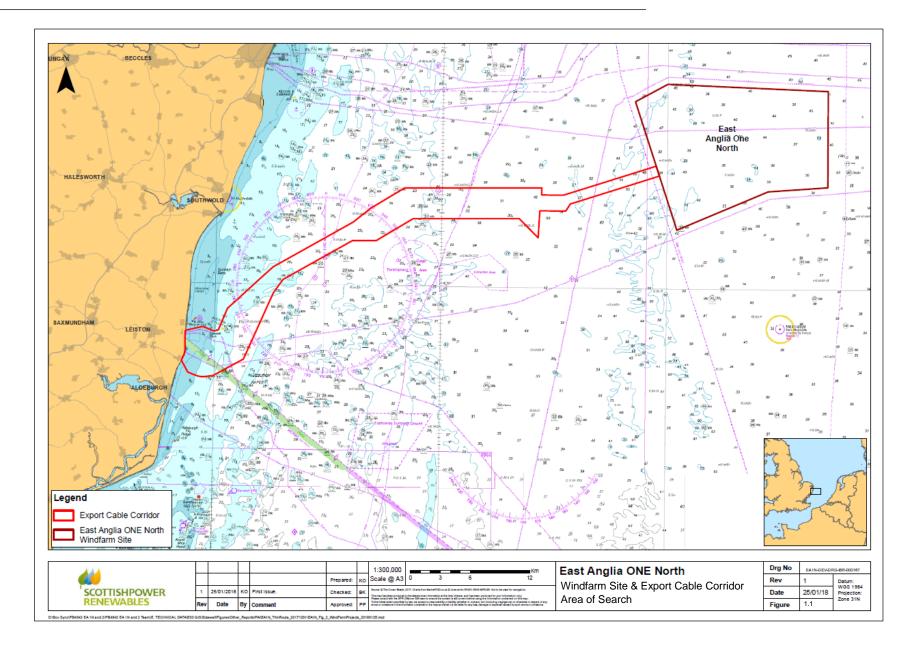
## **1** Introduction

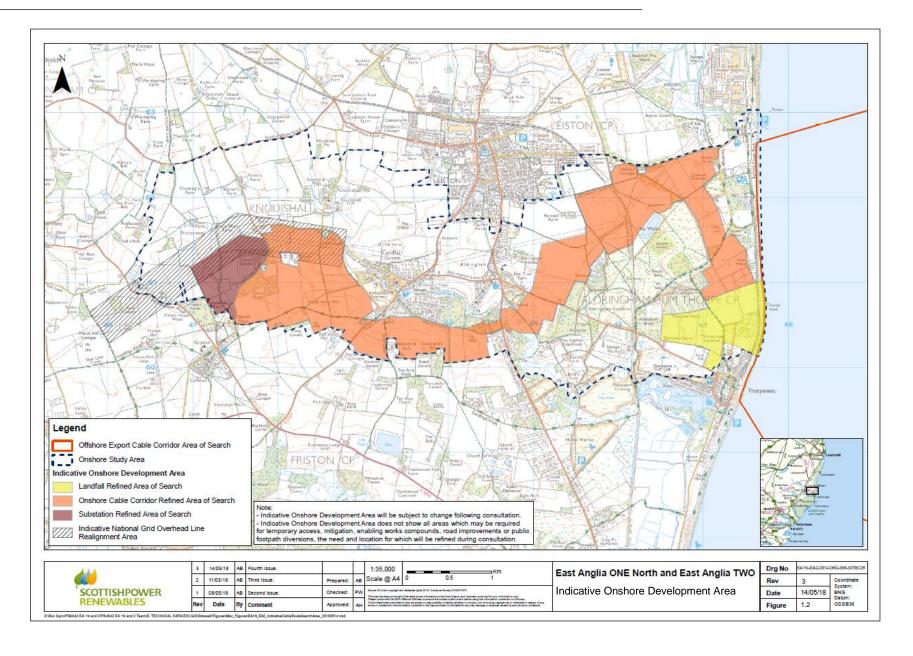
- This document provides an updated high level summary of the environmental topics that will be considered in the Environmental Impact Assessment (EIA) for the proposed East Anglia ONE North offshore windfarm following submission of the East Anglia ONE North Windfarm Scoping Report in November, 2017. It outlines the approach to be taken to the EIA and the key potential impacts to be considered in the EIA.
- ScottishPower Renewables (SPR) is part of the Iberdrola Group, a world leader in clean energy with an installed capacity of over 28,000MW, and the leading wind energy producer worldwide. SPR is at the forefront of the development of the renewables industry through pioneering ideas, forward thinking and outstanding innovation which, in turn, drives economic success.
- 3. SPR is helping to drive the Iberdrola Group's ambition of being the "Utility of the Future" and, since late 2017, has 40 operational windfarms in the UK producing over 2,500MW of clean energy, including two offshore windfarms. We manage all of our operational sites, including our international offshore portfolio, through our innovative and world leading Control Centre at Whitelee Windfarm.
- 4. SPR is currently building the 102 wind turbine East Anglia ONE offshore windfarm approximately 43km off the coast of Suffolk. This £2.5 billion project is planned to deliver energy to meet the annual demand of over 588,000 homes<sup>1</sup> and should be fully operational during 2020. This project will be followed by the 1,200MW East Anglia THREE offshore windfarm which received development consent in 2017. Building on these first two projects within the East Anglia portfolio, SPR now seek to formally progress development of the proposed East Anglia TWO and proposed East Anglia ONE North projects.
- 5. The environmental topics will be assessed in accordance with the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations). The results of the proposed East Anglia ONE North project EIA will be published in an Environmental Statement (ES) which will accompany the application for consent.
- The topics outlined herein have been identified and included within a Scoping Report, which was submitted to the Planning Inspectorate on 10<sup>th</sup> November 2017 by ScottishPower Renewables. A summary of topics to be considered within the EIA is provided in Section 3.
- 7. For a full overview of the proposed East Anglia ONE North project, this document should be read in conjunction with the East Anglia ONE North Windfarm Scoping Report. The Scoping Report is available on the Planning Inspectorate website:

<sup>&</sup>lt;sup>1</sup> 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 (36.7 %, published by the Digest of United Kingdom Energy Statistics), divided by the average annual household energy consumption (3,900 kWh), giving an equivalent of powering 588,578 homes.

https://infrastructure.planninginspectorate.gov.uk/wpcontent/ipc/uploads/projects/EN010077/EN010077-000030-EA1N%20-%20Scoping%20Report.pdf.

- 8. Figure 1.1 shows the East Anglia ONE North windfarm site and export cable corridor area of search. Figure 1.2 shows the East Anglia ONE North project indicative onshore development area.
- 9. Initial outputs from the EIA will be published in the East Anglia ONE North Preliminary Environmental Information Report (PEIR), due for submission in Q1 2019 as part of Section 42 consultation.

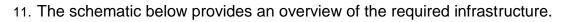


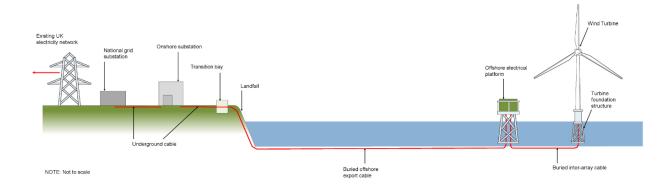


## **2 Project Description**

10. The proposed East Anglia ONE North project would require the following infrastructure;

- Up to 67 offshore wind turbines, constructed on foundations that would be secured to the seabed.
- Offshore electrical platforms to collect power generated by the wind turbines.
- Offshore export cables to export generated power to shore.
- A landfall, including a transition bay, which would join the offshore export cable to the onshore export cable.
- Onshore export cables to transport power from the windfarm to an onshore substation.
- National Grid infrastructure which would allow power from the onshore substation to be exported into the national electrical grid.





## Schematic 1- Infrastructure required for the proposed East Anglia ONE North project

- 12. The East Anglia ONE North project is proposed to have an overall installed capacity of up to 800MW. When operational the project would have the potential to provide around 660,000 homes<sup>2</sup> with power.
- 13. SPR is committed to exploring synergies between the proposed East Anglia ONE North and East Anglia TWO projects. Construction of the East Anglia ONE North and East Anglia TWO projects may, subject to regulatory certainty, be undertaken concurrently. However the projects may also be constructed in isolation, one after the other. The EIA will ensure the potential impacts of both construction scenarios will be fully assessed and mitigation designed appropriately."

<sup>&</sup>lt;sup>2</sup> Calculated taking the number of megawatts (800) multiplied by the number of hours in one year (8,766), multiplied by the average load factor for offshore wind (36.7 %, published by the Digest of United Kingdom Energy Statistics), divided by the average annual household energy consumption (3,900 kWh), giving an equivalent of powering 659,922 homes.

## 3 Onshore Topics for Environmental Impact Assessment

14. The following onshore topics will be assessed in the East Anglia ONE North project EIA.

## 3.1 Ground Conditions and Contamination

- 15. The proposed East Anglia ONE North project has committed to lay onshore cables underground and it is therefore important to consider the geology of the area, as well as current and historical land use that may have resulted in contamination.
- 16. The onshore study area is largely agricultural in nature, which represents potential for various sources of pollution to be present in relation to current agricultural activities. Settlements within or adjacent to the onshore study area include Leiston, Aldringham, Friston, Knodishall and Coldfair Green – developed areas also have the potential for historic sources of ground contamination.
- 17. Potential impacts which will be considered for geology and land quality include:
  - Impacts on ground conditions and groundwater through potential mobilisation of contaminants during excavation; and
  - Impacts associated with any potential interaction with historic contamination.

## 3.2 Air Quality

- 18. As with many onshore developments, construction and operational activities associated with the East Anglia ONE North onshore infrastructure may affect local air quality as increased numbers of vehicles and machinery would be active and dust maybe generated, particularly during construction.
- 19. The onshore study area is within the Suffolk Coastal District Council's (SCDC) jurisdiction. An initial review of the baseline air quality conditions indicates that there are no Air Quality Management Areas (AQMA) within the onshore study area, indicating that there are no current issues with air quality.
- 20. Potential impacts which will be considered for air quality include;
  - Impacts associated with generation of dust and particulates; and
  - Impacts associated with exhaust emissions from construction traffic.

## 3.3 Water Resources and Flood Risk

21. It is important to understand any impacts that the East Anglia ONE North onshore infrastructure could have on nearby rivers and water sources.

- 22. There are two rivers located within or adjacent to the onshore study area. The Hundred River passes through Knodishall and on towards Thorpeness; and a small tributary of the River Alde passes through Friston and discharges at Ham Creek.
- 23. The Environment Agency has produced flood zone maps that show areas at risk of flooding. These maps indicate that most of the onshore study area is within a low flood risk area (Flood Zone 1). There are no flood defences or coastal sea defences within the onshore study area.
- 24. Potential impacts which will be considered for water resource and flood risk include;
  - Impacts to groundwater and surface water resource, including identified sensitive areas; and
  - Changes to flood risk.

## 3.4 Land Use

- 25. The land use in the onshore study area is predominantly agricultural including a mix of arable and grazing pasture. A number of settlements are located within or adjacent to the study area including: Leiston, Aldringham, Friston, Knodishall and Coldfair Green. There are areas of 'non-agricultural' land, comprised of woodland areas and waterbodies (e.g. rivers and ponds) within the onshore study area.
- 26. Other land uses include the Suffolk Coast Path, which runs along the coastline between Felixstowe and Lowestoft and is present within the onshore study at the coast between Sizewell and Thorpeness. Inland there numerous Public Rights of Way (PRoWs), bridleways and other footpaths.
- 27. Potential impacts which will be considered for land use will include;
  - Impacts on soil structure and drainage systems;
  - Impacts on farming;
  - Impacts to PRoWs and cycle ways;
  - Impacts on utilities; and
  - Impacts on human health.

## 3.5 Terrestrial Ecology

- 28. The onshore study area includes the coastline between Sizewell and Thorpeness, and covers an inland area that comprises a predominantly agricultural landscape including a mix of arable and grazing pasture, with hedgerows acting as field boundaries, and occasional pockets of woodland. Part of Sandlings Special Protection Area is located within the onshore study area and represents a notable area of woodland and heathland to the east of Leiston.
- 29. The strip of coastline includes coastal shingle / dune habitat in the northern area, and shingle leading into low sandy cliffs at the southern extent. The majority of the coastal

strip within the onshore study area is designated as a Site of Special Significant Interest for vegetated shingle.

30. Potential impacts which will be considered for ecology will include;

- Impacts to qualifying features of statutory and non-statutory designated conservation sites;
- Impacts of permanent and temporary loss of habitat;
- Impacts to habitats (noise, air quality, lighting);
- Impacts to legally protected species; and
- Impacts due to invasive species.

## 3.6 Archaeology and Cultural Heritage

- 31. Significant archaeological discoveries have been made across Suffolk and there is a high potential for further archaeological remains to be discovered within the onshore study area. The settlements of Leiston, Aldringham, Friston, Knodishall and Coldfair Green are likely to have archaeological or cultural heritage assets associated with them. Within the onshore study area there are five Scheduled Monuments, one Grade II\* and 13 Grade II listed buildings.
- 32. Potential impacts that will be considered for archaeology and cultural heritage include;
  - Impacts to buried archaeological remains from excavations during construction;
  - Impacts on the setting of designated and non-designated built heritage assets through the presence of construction works and operational infrastructure; and
  - Impacts on the historic landscape through the presence of construction works and operational infrastructure.

## 3.7 Noise and Vibration

- 33. Whilst the majority of the onshore study area comprises of agricultural land, noise receptors within the onshore study area include residential and commercial properties in Leiston, Aldringham, Friston, Knodishall and Coldfair Green. There are also numerous discrete residential properties and farms throughout the onshore study area.
- 34. Locations for onshore infrastructure will consider noise impacts to local residents and how any impacts can be minimised.
- 35. Potential impacts that will be considered for noise and vibration include;
  - Impacts on human and ecological receptors associated with noise;
  - Impacts on noise sensitive human and ecological receptors associated with vibration;
  - Impacts due to operational substation noise; and
  - Cumulative impacts with other noise generating activities.

## **3.8 Traffic and Transport**

- 36. The nearest main road to the onshore study area is the north-south running A12 London to Great Yarmouth road which was de-trunked in 2001 and is managed by Suffolk County Council.
- 37. The route between the A12 and the Leiston / Sizewell area has previously been used for the construction of Sizewell A and Sizewell B nuclear power stations, as well as more recently for the Sizewell Dry Fuel Store and Galloper Wind Farm. This route exits the A12 at Yoxford heading east along the B1122 leading around the north of Leiston and then heading towards Sizewell as "Lover's Lane".
- 38. Further information for the traffic and transport EIA will be gathered through survey, desk-based assessment and consultation with local authorities.
- 39. Potential impacts considered for traffic and transport will include;
  - Impacts on driver journeys, including driver delay;
  - Impacts to accessibility, including severance;
  - Impacts to pedestrian and cycle amenity;
  - Impacts on road safety; and
  - Cumulative impacts with other proposed developments.

## 3.9 Health

- 40. Potential impacts to human health will be considered within EIA, these will include impacts from noise and vibration, flooding, traffic, air quality, and ground contamination. The assessment of impacts to humans will be based on the latest public information available.
- 41. The assessment will identify potential impacts on the health of the local population in relation to the proposed project. Receptors that are sensitive to potential health impacts will be identified within the relevant ES chapters, and a review of these will be presented within the health impact assessment.
- 42. Potential impacts to be considered for health will include;
  - Disturbance or reduced amenity value;
  - Impacts due to changes in air quality;
  - · Impacts due to exposure to contaminated land; and
  - Impacts during operation due to electro-magnetic fields (EMF).

## 3.10 Seascape Character and Visual Amenity

43. Seascape is defined as the coastal landscape and adjoining areas of open water, including views from land to sea, from sea to land and along the coastline. Landscape starts at the coastline and includes all areas inland.

- 44. The East Anglia ONE North windfarm site is located within the East Anglian Shipping Waters Seascape Character Area. The key characteristics of this area are a high level of offshore industrial activity and include important shipping routes, large offshore windfarms, offshore gas platforms and other offshore commercial activities, such as fishing and dredging.
- 45. There are a number of important landscape areas in the wider seascape study area which have the potential to be affected by offshore infrastructure and will be considered in the EIA. These include the Suffolk Coast and Heaths Area of Outstanding Natural Beauty (AONB), Suffolk Heritage Coast and the Norfolk and Suffolk Broads National Park.
- 46. Visual receptors within the seascape study area include the Suffolk and Norfolk coastlines, including coastal settlements, recreational walking and cycling routes and visitors to local tourist and historic interest features.
- 47. Potential impacts to be considered for seascape, landscape and visual amenity include;
  - Visibility of construction activity on onshore receptors;
  - Visibility of construction activity on offshore receptors;
  - Visibility of operational wind turbines;
  - Cumulative impacts with other development.

## 3.11 Landscape Character and Visual Amenity

- 48. At a National level, the onshore study area is within the Suffolk Coast and Heaths National Character Area (NCA) and the South Norfolk and High Suffolk Claylands NCA.
- 49. Assessment of the potential impacts on landscape designations from onshore infrastructure (substation, National Grid infrastructure, etc.) will consider the Suffolk Coast and Heaths AONB, Suffolk Heritage Coast and the Norfolk and Suffolk Broads National Park.
- 50. The assessment will consider works at the landfall, along the onshore cable corridor, at the substation, and at the National Grid infrastructure, and will consider receptors with potential views of those works.
- 51. Potential Impacts to be considered for landscape character and visual amenity include;
  - Landscape and visual impacts of the landfall and onshore cable corridor within the LVIA study area.
  - Landscape and visual impacts of the onshore substation and required National Grid infrastructure.
  - Cumulative impacts of the onshore substation and required National Grid infrastructure.

## 3.12 Socio-Economics

- 52. The East Anglia ONE North windfarm represents the continuation of investment to the East Anglia region by SPR following the commencement of construction of East Anglia ONE and the consenting of East Anglia THREE.
- 53. The proposed East Anglia ONE North offshore windfarm would require large-scale investment and would need to be supported by a substantial supply chain. There would be direct expenditure on key elements of the windfarm, such as wind turbines, foundations and cables. The project would also require wider services to the supply chain such as the supply of goods (e.g. fuel, paints, other consumables) and services (e.g. accommodation, catering, security, transport), some of which would result in economic impacts. The likely project expenditure for the proposed East Anglia ONE North offshore windfarm is not yet known, however, RenewableUK estimates that capital expenditure costs of developing and constructing an offshore windfarm are around £3 million per MW and the investment on East Anglia ONE by SPR is £2.5 billion.
- 54. Impacts may be direct (e.g. employment of construction workers), indirect (e.g. employment in the supply chain), or induced (e.g. employment / revenue in the wider economy, such as hotels and other services).
- 55. Potential impacts that will be considered for socio-economics will include;
  - Direct economic impacts, such as jobs directly related to the development;
  - In-direct economic impacts, such as jobs in the supply chain and other services; and
  - Induced economic impacts- jobs and spending in the wider economy.

## 3.13 Tourism and Recreation

- 56. Tourism is an important element of the New Anglia Local Enterprise Partnership, County, and District economy. In 2015, tourism and culture employed about 74,000 people and was worth £1.3bn to the region. In the Suffolk Coastal and Waveney Districts, tourism the economy was valued at £590m and provided 13% of all employment in 2015. Visitors to Suffolk are attracted by the character, culture, festivals, music, art, food, drink, clean beaches and spectacular coastline, river valleys, and the outstanding countryside and wildlife.
- 57. Important tourist features include the Suffolk Coast and Heaths AONB and seaside towns and villages along the coastline. The area is also important for tourists looking to undertake various recreational activities such as walking, cycling and horse riding throughout the AONB. Recreational sailing and angling are also important in the coastal and offshore area.

58. Potential impacts that will be considered for tourism and recreation include;

- Impacts to tourism and recreational features due to construction activities; and
- Impacts to tourism and recreational during operation from the presence of infrastructure.

## 4 Offshore Topics for Environmental Impact Assessment

59. The following offshore topics will be assessed in the East Anglia ONE North project EIA.

## 4.1 Marine Geology, Oceanography and Physical Processes

- 60. The East Anglia ONE North windfarm site would cover an area of approximately 208km<sup>2</sup> off the coast of East Anglia. Water depths within the site range from 33m to 67m. Waves in this area of the southern North Sea tend to be generated by the wind and are variable in terms of size and direction.
- 61. Sandbanks are common seabed formations in the region and are present within the East Anglia ONE North windfarm site and export cable corridor Area of Search (AoS). Seabed sediment within the East Anglia ONE North windfarm site and export cable corridor AoS is expected to be mainly sand, with some muds and gravels.
- 62. Potential effects that will be considered in terms of physical processes will include;
  - Effects to waves and tidal currents;
  - Effects on sediments and sedimentary structures;
  - Effects on suspended sediment concentrations and transport;
  - Interactions with other windfarms; and
  - Interactions with other activities.

## 4.2 Water and Sediment Quality

- 63. Suspended sediment and contaminant levels (e.g. hydrocarbons and heavy metals) are indicators of water quality both in the near-shore and offshore environments. Disturbing sea bed sediments so that they are released into the water would make the water cloudier and could also release contaminants held within those sediments, which can potentially reduce water quality.
- 64. There are two designated bathing water beaches at Southwold and the export cable corridor AoS passes through the Suffolk Coast Water Body.
- 65. Data collected for previous projects (East Anglia ONE and East Anglia THREE) suggests that sediment contamination in the vicinity of the East Anglia ONE North windfarm site is generally low.
- 66. Potential impacts that will be considered for water and sediment quality will include;
  - Impacts to water and sediment quality from increased suspended sediment and the resuspension of contaminants; and
  - Impacts to water and sediment quality from the release of contaminants from vessels and plant.

## 4.3 Benthic (seabed) Ecology

- 67. A broad scale survey of the seabed ecology of the former East Anglia Zone was conducted from June 2010 to January 2011. These studies included a combination of samples taken from the seabed using a grabbing device, fishing gear which was trawled across the seabed and underwater video imagery.
- 68. The analysis defined four distinct sediment types across the former East Anglia Zone based upon the quantities of sand, gravel and silt within each sample. The sediments in the East Anglia ONE North windfarm site are mainly sand and gravelly sand.
- 69. Sabellaria spinulosa is a type of worm which builds important reefs. Sabellaria was commonly recorded during the benthic survey and there is the potential for reef to be present in the East Anglia ONE North windfarm site and export cable corridor AoS.
- 70. Potential impacts that will be considered for benthic ecology will include;
  - Physical disturbance due to construction activities, including seabed preparation, and operational maintenance activities;
  - Smothering and impacts of suspended sediments during construction and operational maintenance;
  - Disturbance and distribution of contaminated sediments during intrusive works;
  - Underwater noise and vibration during construction;
  - · Loss of habitat from the physical presence of infrastructure; and
  - Colonisation of foundations.

## 4.4 Fish and Shellfish Ecology

- 71. Fisheries landings data for the whole of the UK is collected by the Marine Management Organisation. Fisheries data is available for the East Anglia ONE North windfarm site and export cable corriodr AoS. This data provides a good indication of fish species likely to be present within the windfarm and which species are likely to be dominant.
- 72. The landings data show that the main species caught are plaice, sprat, cod, sole, skates and rays, edible crab and whelks. There are several protected species that are potentially present such as Atlantic salmon, lampreys and Shad.
- 73. Potential impacts to be considered for fish and shellfish ecology include;
  - Physical disturbance due to construction activities, including seabed preparation, and operational maintenance activities;
  - Increased suspended sediment and smothering during construction and operation;
  - Disturbance to protected species;
  - Disturbance and distribution of contaminated sediments during intrusive works;
  - Underwater noise and vibration disturbance during piling, vessel movement, seabed preparation and cable installation;
  - · Loss of habitat from the physical presence of infrastructure; and
  - Electromagnetic Fields (EMF) during operation.

## 4.5 Marine Mammals

74. The southern North Sea, including the area of the East Anglia ONE North windfarm site,



generally has a relatively low numbers of cetaceans with the potential exception of harbour porpoise, white-beaked dolphin and seasonal occurance of minke whale. Whilst whitebeaked dolphins and minke whale are relatively rare, harbour porpoise are commonly seen. Two species of seal are also known to be present in the area, these are harbour seal and grey seal.

75. Monthly marine mammal aerial survey data is currently being collected for the East Anglia ONE North windfarm site. In 10 months of survey, unidentified cetacean and harbour porpoise being the most commonly recorded species. The East Anglia ONE North windfarm site is within the Southern North Sea candidate Special Area of Conservation (cSAC) as it is thought to be an important area for harbour porpoise. The cSAC covers both winter and summer habitats of importance to harbour porpoise.

76. Potential impacts that will be considered for marine mammals will include;

- Underwater noise due to construction activities;
- Underwater noise from vessels (during construction and operations);
- Underwater noise during operation;
- Barrier effects from underwater noise;
- Electromagnetic fields;
- Disturbance to protected areas (cSAC and seal haul out sites); and
- Impacts on prey resource.

## 4.6 Birds

77. Bird data is currently being collected within the East Anglia ONE North windfarm site. The results of survey data collected to date, as well as data available from the surrouding area indicates that the key species of concern for the impact assessments are migrating birds and non-breeding birds.

June, 2018

- 78. Data suggest that there are generally low numbers of most species of bird across within the East Anglia ONE North windfarm site and surrounding area. Species of particular interest within the East Anglia ONE North windfarm site and export cable corridor AoS are expected to be; kittiwake, gannet, lesser black-backed gull and red throated diver.
- 79. Potential impacts which will be considered for birds will include;



- Disturbance due to the presence of vessels;
- Disturbance due to construction activities;
- Collision risk and barrier effects due to the presence of turbines;
- Impacts due to effects on habitats and prey species; and
- Cumulative impacts with other projects for collision, barrier and disturbance effects.

## 4.7 Commercial Fisheries

80. The majority of commercial fishing activity in and around the East Anglia ONE North windfarm site is undertaken by UK, Dutch and Belgium registered fishing vessels. These fishing boats are mainly beam trawlers aiming to catch sole and plaice in autumn and winter. Cod is caught by longlines (baited hooks attached to a fishing line) in the winter and spring. The longliners also catch rays, spurdog and bass throughout the year.

81. The inshore fishery along the export cable corridor AoS is mainly by boats using longlines, gillnets and pots. The main species fished inshore include sole, cod, plaice, skate and cockles.

- 82. Potential impacts which will be considered for commercial fishing will include;
  - Impacts on commercially exploited species;
  - Loss or restricted access to traditional fishing grounds;
  - Displacement of fishing activity;
  - · Loss or damage to fishing gear;
  - Increased collision risk; and
  - Increased steaming times.



## 4.8 Shipping and Navigation

- 83. Shipping activity near the East Anglia ONE North windfarm site includes the passage of merchant vessels, ferries, fishing vessels, recreational craft, military vessels, and vessels engaged on specialist operations such as aggregate dredgers. There is a Deep Water Route to the east of the East Anglia ONE North windfarm site which is an important navigational route.
- 84. Shipping traffic within the East Anglia ONE North windfarm site mainly consists of cargo vessels, typically travelling between the Netherlands and eastern UK ports such as Harwich, Immingham, Hull and Teesport. There are also several passenger ferry routes within the wider study area, including routes from Harwich to Hoek and Rotterdam (Netherland) and a route from Hull to Zeebruge (Belgium).
- 85. Fishing and recreational vessels are likely to be found in the export cable corridor AoS.
- 86. Potential impacts which will be considered for shipping and navigation include:
  - Impacts on vessel routing;
  - Increased collision risk during construction and operation;
  - Displacement of commercial and recreational users;
  - Impacts to Search and Rescue services; and
  - Impacts to vessel anchoring.

## 4.9 Civil and Military Aviation and Radar

- 87. The nearest airport to the East Anglia ONE North windfarm site is Norwich International Airport which is approximately 74km away. The second nearest UK airport is London Stansted, which is 152km away. The nearest European airport is Schiphol Airport in the Netherlands, which is approximately 148km from the East Anglia ONE North windfarm site.
- 88. There is a military radar located at Trimmingham which is approximately 80km to the north west of the East Anglia ONE North windfarm site. There are four military bases in East Anglia and the East Anglia ONE North windfarm site overlaps with the Lakenheath South Aerial Tactics Area.
- 89. Potential impacts which will be considered for civil and military aviation and radar include:
  - Impacts on military and civilian radar systems due to construction vessels and permanent structures;
  - Interference with military and civilian aircraft routes;
  - Impacts on aircraft and helicopter main routes; and
  - Impacts on military training areas.

## 4.10 Marine Archaeology and Cultural Heritage

- 90. Archaeological features include maritime sites (wrecks and wreckage from prehistory to the present), aviation sites and submerged prehistoric archaeological sites. Archaeological features are identified through a combination of interpretation of different seabed survey types, records held by national inventories and other sources.
- 91. Whilst SPR are currently in the process of collecting and analysing new data from the East Anglia ONE North windfarm site and export cable corriodor AoS, previous studies within the former East Anglia Zone indcate that wrecks and anomalies are spread relatively evenly throughout the area.
- 92. Potential impacts which will be considered for marine archaeology and cultural heritage include:
  - Impacts to known and unknown heritage assets within the footprint of the proposed scheme or the footprint of activities such as seabed clearance and anchoring;
  - Increase/decrease in protection of heritage assets as a result of sediment accretion and changes to physical processes;
  - Impacts on the historic seascape through the presence of permanent infrastructure; and
  - In-combination effects on multiple heritage assets.

## 4.11 Infrastructure and Other Users

- 93. There are eight other offshore windfarm developments within 50km of the proposed East Anglia ONE North offshore windfarm, the closest being the East Anglia One offshore windfarm (1.3km) and the East Anglia THREE offshore windfarm (16.6km). The proposed East Anglia TWO offshore wind farm would be 10.1km away when built.
- 94. There is no oil and gas infrastructure within the East Anglia ONE North windfarm site.
- 95. Export cables for Galloper Wind Farm and Greater Gabbard Offshore Wind Farm are adjacent to the export cable corridor AoS, making landfall to the south of the existing Sizewell Nuclear Power Station infrastructure.
- 96. The southern North Sea has a significant number of cables, primarily telecommunication connections between the UK and continental Europe. The Ulysses 2 telecommunications cable runs from Lowestoft to IJmuiden in the Netherlands and intersects the East Anglia ONE North windfarm site.
- 97. Potential impacts which will be considered for marine infrastructure and other users include:
  - Interactions with other windfarms;
  - Physical impacts on subsea cables and pipelines;
  - Impacts on disposal sites;
  - Impacts on Ministry of Defence activities; and

• Impacts on Sizewell nuclear power station offshore infrastructure.

## 4.12 Topics Not Included in the EIA

- 98. From our experience undertaking EIA for the nearby consented East Anglia ONE and East Anglia THREE windfarms, it is not anticipated that the East Anglia ONE North offshore windfarm would have significant impacts on the following topics, and therefore it is proposed that they are not included within the EIA;
  - Offshore airborne noise;
  - Offshore air quality; and
  - Telecommunications and radar.
- 99. Justification for not including these topics within the EIA is provided in the East Anglia ONE North offshore windfarm Scoping Report, which was submitted for consultation on 10<sup>th</sup> November, 2017.



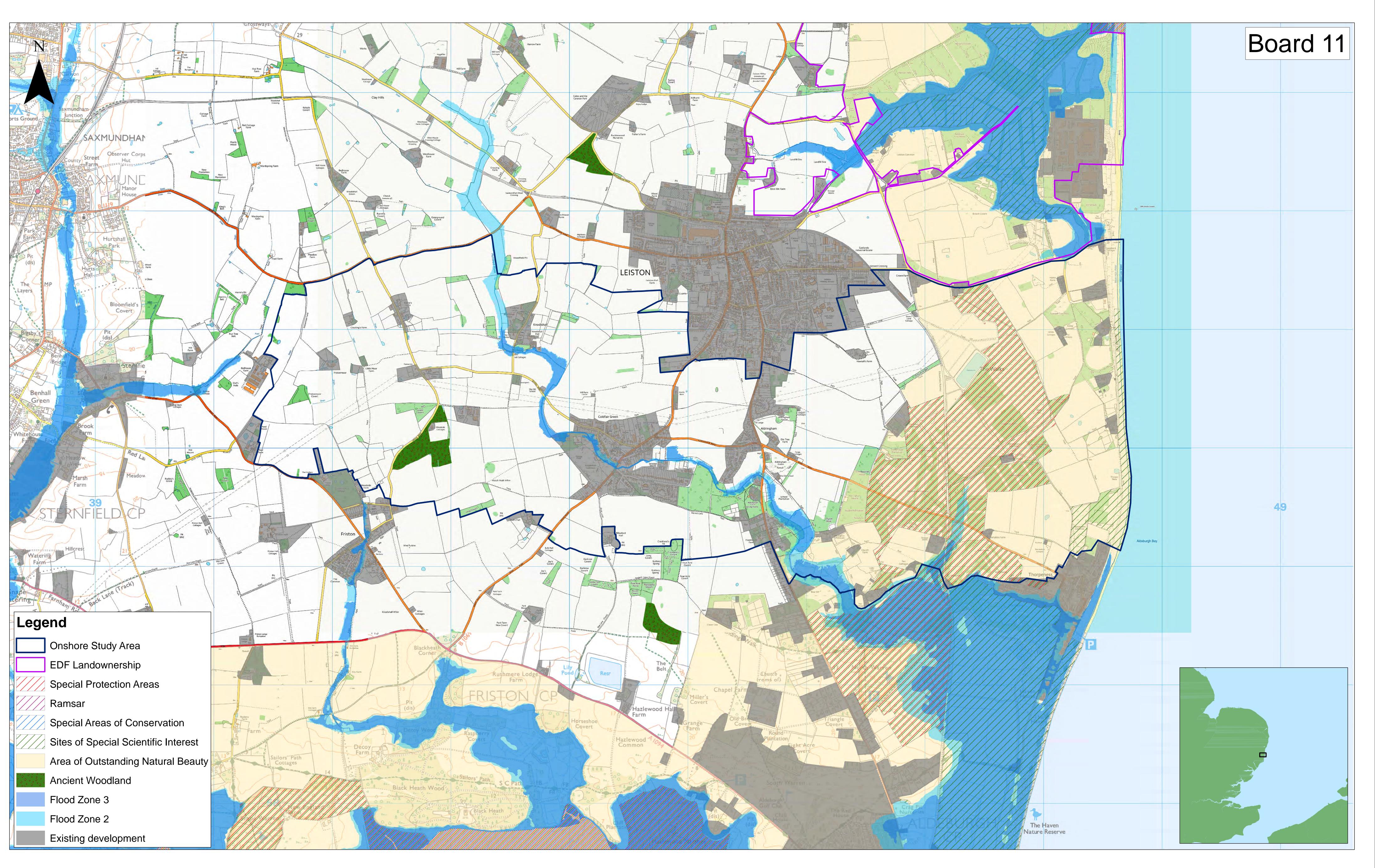
# East Anglia ONE North Offshore Windfarm

# Appendix 5.9 Phase 1 A0 Interactive Map

### **Consultation Report**

Applicant: East Anglia ONE North Limited Document Reference: 5.1.5.9 SPR Reference: EA1N-DWF-ENV-REP-IBR-000373\_005\_09 Rev 01 Pursuant to: Section 37(3)(c) of The Planning Act 2008

Author: Royal HaskoningDHV Date: October 2019 Revision: Version 1 This page is intentionally blank



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# East Anglia ONE North and T Onshore Study Area

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# East Anglia ONE North Offshore Windfarm

# Appendix 5.10 East Angle Newsletter (Winter 2017/2018)

### **Consultation Report**

Applicant: East Anglia ONE North Limited Document Reference: 5.1.5.10 SPR Reference: EA1N-DWF-ENV-REP-IBR-000373\_005\_10 Rev 01 Pursuant to: Section 37(3)(c) of The Planning Act 2008

Author: Royal HaskoningDHV Date: October 2019 Revision: Version 1 This page is intentionally blank

THE LATEST NEWS FROM SCOTTISHPOWER RENEWABLES

# THE EAST ANGLE

EAST ANGLIA OFFSHORE WINDFARM PROJECTS | WINTER 2017/18

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East Anglia ONE contracts placed...p4-5 Skills workshops...p6 Archaeological works...p8-9

Jobs

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Skills

### Environment

Investment

SCOTTISHPOWER



## **East Anglia Projects**

#### East Anglia Projects at a Glance



# Welcome

Welcome to the latest edition of our East Anglia newsletter. Since the last edition, we have commenced onshore construction works for our East Anglia ONE offshore windfarm and received planning consent for our East Anglia THREE offshore windfarm.

Looking to the wider offshore wind industry, the Government's latest Contracts for Difference<sup>3</sup> auction saw huge cost reductions, demonstrating that offshore wind is in pole position to be the foremost low carbon power source, with the UK as the global market leader.

In a little over a decade, our sector has delivered substantial amounts of green electricity for the UK, supported billions of pounds of UK investment and created thousands of high quality jobs. No other sector ticks all of the boxes in its ability to support the Government's plans for rebalancing the economy and promoting economic diversity through the Industrial Strategy.



We have already awarded a number of major contracts for East Anglia ONE and, with the support of a highly-skilled supply chain, our East Anglia projects will further enhance the UK's position as a world-leader in offshore wind, with East Anglia right at the heart of it.

You can find out more about our work in the region on the coming pages and if you would like further information please visit spreastanglia.co.uk

**Best wishes** 

C. Tordan

Charlie Jordan Project Director, East Anglia ONE

# East Anglia ONE Update



Construction underway at Bramford

Since the Spring of 2017, we have seen great progress on our East Anglia ONE project. With onshore construction works having commenced, East Anglia ONE is currently the most cost effective offshore windfarm to go into construction in the UK.

Onshore pre-construction works, such as highways improvements, have been successfully carried out. We have also set up construction compounds at agreed locations along the 37km buried cable route.

Construction activities have commenced on the substation site at Bramford, where the clean energy generated by the offshore windfarm will flow through buried cables into our new substation and to the National Grid. Initial works have started to build the temporary haul road, which will stretch the length of the cable route and enable construction traffic to reach the works area from designated access points.

Another important part of the work we have been carrying out is the archaeological investigations, which have seen up to 400 archaeologists working along the route to ensure any items of historical significance are recorded, removed and archived.

We have held a number of public information events over the last few months to share details of the works and answer any questions. Three archaeology open days have also been held by Wardell Armstrong in villages along the cable route.

## **East Anglia Projects**

## East Anglia THREE Receives Planning Consent

#### **O**n 7th August 2017, we received planning consent for our East Anglia THREE offshore windfarm.

This will be our second consented offshore windfarm off the coast of East Anglia and will have a capacity of up to 1,200 megawatts using larger, more efficient 'next generation' turbines.

Located 69km off the coast of Norfolk with an area of up to 305 square kilometres, the windfarm could produce enough electricity to power the annual demands of nearly one million homes<sup>2</sup>.

As part of the development process we contracted a range of consultancy services in order to complete environmental assessments and other works required to satisfy the stringent requirements of the UK planning system. This required over 60 staff to complete activities such as technical impact assessments, drafting of an environmental statement and other related reports, supporting consultation with regulators and stakeholders, and helping refine project design along the way.

Following consent, offshore survey works began to further examine the seabed along the offshore cable route and windfarm site. Geophysical, geotechnical and unexploded ordinance surveys are taking place to explore the make-up of the seabed and identify any unexploded objects.

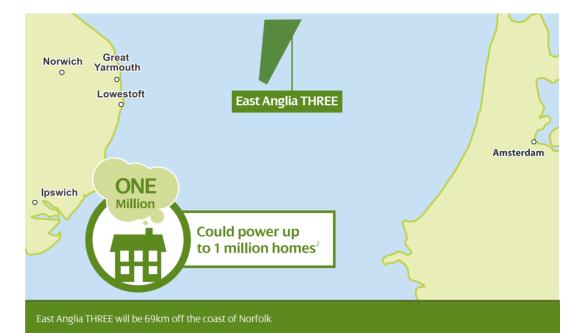
We are now preparing the project for the next phase. The regulatory framework in the UK requires that offshore windfarm developers enter pre-qualified projects into a Contracts for Difference (CfD)<sup>3</sup> auction process, where the most economic projects are selected to receive a contract. If successful in future CfD auctions, we would like to commence construction around 2022, with the project operational by 2025.

1) Based on the following calculation: 714 MW (installed capacity) x 0.367 "offshore wind" average load factor (Digest of UK Energy Statistics) x 8,760 hours (hours per year)/3,900kwh (average domestic annual consumption) = 588,578 homes powered equivalent

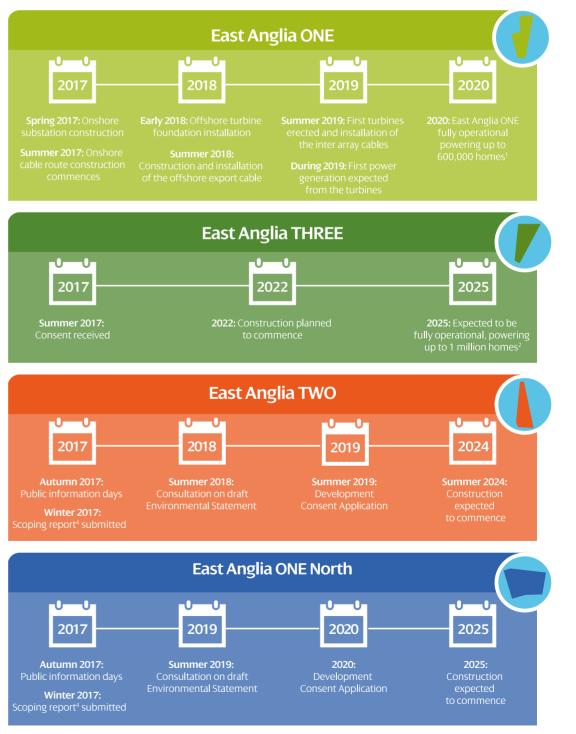
2) Based on the following calculation: 1200 MW (installed capacity) x 0.367 "offshore wind" average load factor (Digest of UK Energy Statistics) x 8,760 hours (hours per year) / 3,900KWh (average domestic annual consumption) = 989,200 homes powered equivalent

3) www.gov.uk/government/publications/contracts-for-difference/contractfor-difference

 Providing a description of project components and the connection route to the electricity transmission network.



# **Project Timelines**



## East Anglia ONE Supply Chain and Local Contracts

# Investing in the UK and Creating Local Employment



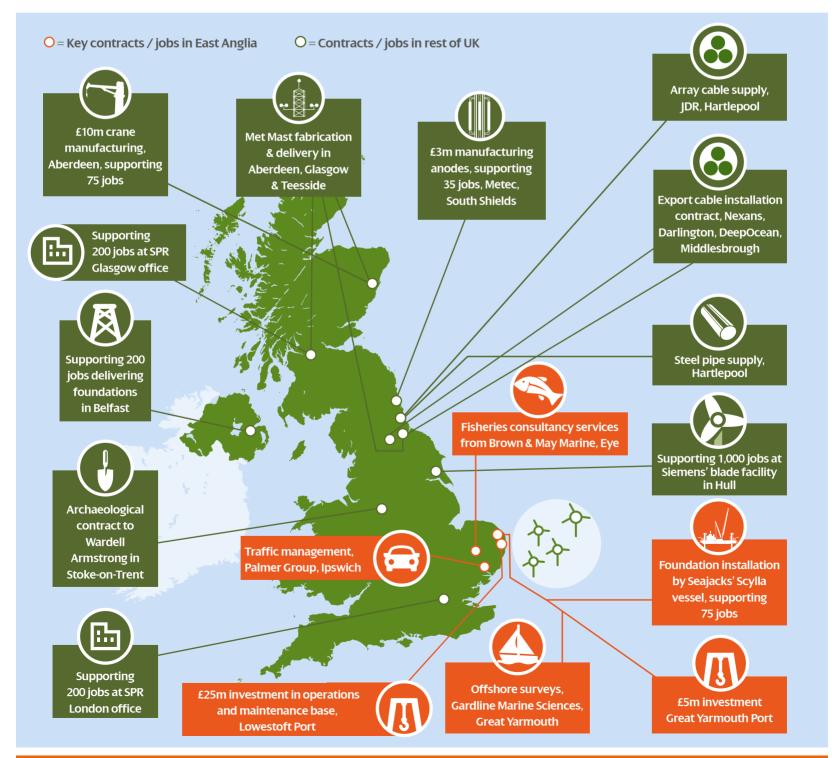
ScottishPower Renewables is committed to maximising the investment and economic opportunities for communities close to its projects.

We are leading the way with our target of spending 50% of the  $\pounds$ 2.5bn East Anglia ONE project investment in the UK.

East Anglia ONE will sustain up to 3,000 jobs during construction of the project and up to 100 skilled long-term jobs for the 30-year expected lifespan of the windfarm. The Port of Lowestoft will be the operations and maintenance hub for 30 years, an agreement worth £25m. We have also co-invested £5m in preparing Great Yarmouth Port for offshore windfarm construction activity, securing its long-term potential.

We have provided input to the Supply Chain innovation for Offshore Renewable Energy (SCORE) funding programme to support small and medium businesses across East Anglia developing new working practices or technologies for the industry. East Anglia ONE will sustain up to 3,000 jobs during construction of the project and up to 100 skilled long-term jobs for the 30-year expected lifespan of the windfarm.

East Anglia ONE is the first of the four windfarms we are planning off the coast of East Anglia and we are committed to long-term investment and creating lasting opportunities in the region.



# East Anglia Contracts

Delivering investment to East Anglia is a major commitment for ScottishPower Renewables. We have hosted several strategic events in partnership with the East of England Energy Group (EEEGR).

One such example is the recent supply chain event, held at the Norfolk Showground, which saw a number of our East Anglia ONE contractors present to the audience about the scope of works to be carried out. Each contractor also detailed the services they would be looking to utilise to carry out the works and explained how businesses could get involved in the project. Hundreds of people from businesses across the region and further afield attended the event to hear about the opportunities on the project and network with key individuals.

We have already placed a number of important contracts for different elements of the construction work for our East Anglia ONE windfarm. These significant contracts placed with our Tier 1 and Tier 2 suppliers have also led to a raft of subcontracts being placed with companies in East Anglia and across the UK. One example is the contract we have awarded to Roadbridge for site enabling, access and welfare along the cable route, which, at the time of writing, has resulted in a further 53 subcontracts being awarded.

We strongly encourage all of our suppliers to place subcontracts within the UK and particularly with companies based in East Anglia, where possible. Roadbridge has awarded subcontracts to a number of East Anglian companies such as Agri Hire, Tippers R Us, Toppesfield, Collins Waste and many more.

An example of some of the East Anglia-based companies we are working with on the construction of our East Anglia ONE windfarm can be seen below.



Charlie Jordan, East Anglia ONE Project Director, speaking at the Supply Chain event



Tier 1 and Tier 2 suppliers hold a Q&A sessior



#### Palmer Group

Ipswich-based Palmer Group is undertaking traffic management along the onshore cable route. The family company supported the implementation of highways improvements and continues to assist with traffic measures such as temporary lights and signage about any works affecting a public road.

#### Brett

Martlesham-based Brett is providing aggregates for the substation site. Aggregate, which consists of small pieces of stone and gravel, is being used to make concrete to construct 'man holes' at the substation to enable the surface water to drain away from the site.





#### Brown & May Marine Ltd

Brown & May Marine, based in Eye, has been working on East Anglia ONE for a number of years conducting ecological studies, surveys and analysis, as well as ongoing liaison with the fishing community. Through this partnership the Commercial Fisheries Working Group was established.

#### Mann Farms Ltd

Mr Mann is one of the landowners along the cable route and his farming business has been contracted to assist with removing vegetation within the cable route construction sites. This includes ground maintenance such as removing weeds, cutting grass and clearing crops.



### **Skills Update**

### Work Skills for Varsha



Varsha Gunness

A fter completing a degree in Energy Engineering with Environmental Management at the University of East Anglia, Varsha Gunness joined us for a six-week work placement this summer, enabled by East Coast Energy Internships and supported by The Ogden Trust.

Commenting on her time with us, Varsha said: "During my placement with the East Anglia ONE team I've gained real industry experience and awareness of the huge range of career paths in renewables.

"I'm so glad that I applied; I've learnt about all aspects of building an offshore windfarm and discovered the project management side really appeals to me, so I'm now considering a masters in Environmental Management to specialise and build up my knowledge in the area.

"My confidence has grown so much in the last six weeks. I know this placement will be invaluable for my future in the energy sector."

# Suffolk Show

We teamed up with Mad Science to impress the crowds at The Suffolk Show. Members of the project team were on hand to talk to show-goers about the windfarm and answer any questions. Those who wanted to know what a windfarm is really like tried out our virtual reality headsets, allowing them to experience climbing up inside a turbine and looking out at the view from the top.



Mad Science inspiring young minds at the Suffolk Show



'Helium Helen' delivers STEM workshop at Bramford Primary School

# Mad Science School Workshops

We are committed to inspiring future generations of engineers and scientists to work in the offshore wind industry, through the implementation of our East Anglia ONE Skills Strategy.

Nearly 1,000 young minds across Norfolk and Suffolk were inspired by the wonder of wind power in a series of hands-on workshops delivered by Mad Science on our behalf. The sessions were held at twelve primary and secondary schools across East Anglia, providing assemblies and workshops packed with 'windy' science experiments. Matthew Green, teacher at Bucklesham Primary School, near Martlesham, Suffolk, said: "The children were really engaged by Mad Science's assembly and workshops; that sort of hands-on learning is invaluable. The activities were great fun for the pupils, with experiments and predictions. This type of activity really inspires them to investigate a world full of science."

### Careers Talks and Lowestoft Skills Conference



Ana Rodridguez, Electrical Engineer, giving a careers talk

A n Electrical Engineer and Environment Manager from ScottishPower Renewables gave careers talks at East Norfolk Sixth Form College, Lowestoft College and Thorpe St Andrew School to give an insight into their jobs, our variety of windfarm projects and the range of opportunities available locally in the offshore wind industry.

We also held two workshops at the Lowestoft Skills Conference at East Point Academy, with our East Anglia ONE turbine provider, Siemens. Students aged 13-16 had the opportunity to meet a wind turbine engineer and ask questions about their exciting workplace.

### **Skills Update**

# **New UEA Scholarships Awarded**



Since 2016, ScottishPower Renewables has donated £100k each year to the ScottishPower Foundation to fund Masters scholarships in the UK for students wishing to continue their studies in energy engineering and environmental sciences. Through this donation to the Foundation, four postgraduate students were successfully supported through their Masters courses at the University of East Anglia in 2016/17.

This academic year, 2017/18, we are once again supporting four students to achieve their Masters qualification.

Following a rigorous interview process, four outstanding students have been selected to receive a ScottishPower Foundation scholarship to study at the University of East Anglia this academic year. The ambitious scholars: Stefan Bartlett, studying Energy Engineering, and Stella Foster, Harry Bransby and Holly Diggins, studying Environmental Sciences, receive funding to cover the full enrolment costs as well as a living allowance. Through the scholarship the students will also have additional opportunities including meeting leading industry professionals at events like Offshore Wind Week at OrbisEnergy in Lowestoft, and special excursions such as a behind-the-scenes visit to ScottishPower's Cruachan Hydro Power Station in Scotland.

Supporting young people through education and training to equip them with the skills required to lead the energy industry into the future is not only a key part of our East Anglia ONE Skills Strategy but is one of ScottishPower Renewables' core business objectives. Please visit www.scottishpower.jobs for more information.



The four 2016/17 UEA scholars visit ScottishPowe Cruachan Hydro Power Station, Scotland



Virginia Ruiz Albacete

# Women in Engineering

A s members of the Women in Engineering Society, we actively encourage young women to consider a career in the wind industry.

One of our award-winning engineers, Virginia Ruiz Albacete, gave an inspirational talk to 200 young people at a Women in Engineering celebration event at Wherstead Park, Ipswich, Suffolk, organised by Connect Education and Business. Virginia said: "With women making up just 10% of the engineering sector, inspiring and supporting them through career decisions is a very important part of our commitment to East Anglia. We want to help bring the sector to life for young people and broaden their minds to what's out there for them."



Young women discuss opportunities in engineering with Virginia

Winter 2017/18 spreastanglia.co.uk

### **Onshore Survey Works**

**P**rior to construction, we conducted extensive environmental surveys and ecological mitigation to ensure we minimise the impact to the local wildlife and environment.

We have an Ecological Clerk of Works who is based on site and works closely with our environmental team, monitoring the works and providing advice to protect wildlife, identify new ecological risks and plan correct mitigation.

Regular bird surveys have been conducted to monitor specific behaviours and, as a result, the successful fledging of chicks has been confirmed. Where breeding territories are identified, buffer zones are implemented for the breeding season.

To ensure clear communication between all parties working on the project, we have developed a live environmental constraints matrix which details any ecological environmental issues within our construction zone. It has been carefully designed to clearly communicate constraints and mitigation measures, ensuring the workforce, from contractors working on site to the wider project team, understand the risks, requirements and consequences.

### **Offshore Survey Works**

**G** reat Yarmouth-based marine survey company, Gardline, has been undertaking benthic and unexploded ordinance (UXO) surveys along the offshore windfarm area for East Anglia ONE.

UXO surveys include the use of non-intrusive methods (sidescan sonar, magnetometer and 3D seismic) in order to identify any potential UXO that need to be further investigated.

Benthic surveys detect areas of potential reef, subsequently investigated using drop-down video or grab sampling techniques (benthic ground-truthing). The remotely operated vehicle attached to the benthic ground-truthing vessel also looks for items of potential archaeological interest, like shipwrecks.

Results from these surveys are then analysed in conjunction with the planned cable route to judge whether any adjustments are required.

Gardline's contract with ScottishPower Renewables, worth over £6m, also includes offshore surveys for both East Anglia ONE North and East Anglia TWO.

# **Archaeological Works**



The top soil has been stripped to allow archaeological works to take place

# A s part of the pre-construction works for the onshore cable route for East Anglia ONE, a large archaeological project is being carried out to identify sites of archaeological interest and mitigate the impact of the cable route on the historic environment.

We have appointed Wardell Armstrong to carry out and manage all of the archaeology works along the route.

Based on the results of geophysical survey and trial trenching undertaken in previous years, a substantial number of sites have been identified with significant archaeological potential. As part of the required works, Wardell Armstrong's archaeologists worked in conjunction with the Ipswich and District Metal Detector Club to complete a metal detecting survey of sites along the cable route. This took about two months.

The local detectorists recovered a range of items from prehistory, Roman, Anglo-Saxon and Medieval periods, from the ploughsoil.

Dave Cummings, chairman of Ipswich and District Metal Detector club, said: "The collaboration with archaeologists at Wardell Armstrong has given us a unique opportunity to investigate little studied parts of the region and discover more about our local history. Everyone who took part has learnt a great deal and firm friendships have been forged."

Leading the survey was Megan Stoakley, Finds and Archives Manager at Wardell Armstrong. She said: "I was really impressed with the metal detectorists' knowledge, enthusiasm and dedication. The close co-operation between archaeologists and the local metal detecting community has been exceptional; their contribution to the



The Mayor of Woodbridge, Clare Perkins, visits a site to see the works

### East Anglia ONE Archaeological and Survey Works

Winter 2017/18 spreastanglia.co.uk



Archaeological teams have excavated a range of features

project has been invaluable. It has been a real privilege to work with local people to help them to discover their heritage."

Following the completion of the metal detecting survey, the archaeological excavation fieldwork commenced. Up to 400 archaeologists have been involved in the work over 60 hectares since February, with as many as 250 on-site at any given time.

The close co-operation between archaeologists and the local metal detecting community has been exceptional; their contribution to the project has been invaluable.

The project will reveal a great deal about life in this part of Suffolk through the millennia, enhancing our understanding of past settlement and land use activities in the region. At present, evidence from the Bronze Age, Iron Age, Roman, Anglo-Saxon and into the Medieval period has been found.

Additionally, two students who recently completed Archaeology degrees, after studying the subject at One Sixth Form College, have been employed as site assistants excavating on the project. James Sinclair (pictured in the trench above) and Cameron Bate have played a pivotal part in these excavations.

We have been working closely with Suffolk County Council Archaeology Service and Historic England to ensure appropriate safeguards for the historic environment are in place. These works will be completed by the end of 2017 ahead of the onshore cable installation works. Once all of the findings have been recorded, removed, analysed and archived, we will share information on what was found.



mage above: Archaeological surveying mage below: Local detectorists have recovered a range of items from Roman, Anglo-Saxon and Medieval periods



### **Construction Works**



New 7MW Siemens turbines

## Investment in Innovation to Drive Down the Cost of Offshore Wind

The cost of offshore wind is reducing rapidly, with costs falling 50% in the last two years. Innovation is a key element in driving down the cost of offshore wind so we are continually seeking out new technologies.

We have tested a range of technologies to combat seabed erosion, including 'frond mats', a pioneering concept using synthetic sea grass. Designed by Great Yarmouth-based SSCS, the technology acts in a similar way to sea grass, slowing the flow of water at the base of underwater structures, to protect it against scour erosion.

We're using Siemens' state-of-the-art 7MW turbines which have 75 metre glass fibre blades, use direct drive technology, provide cost savings and have increased capability.

We designed innovative three-legged jacket foundations which have advantages from manufacturing, transportation and installation perspectives.

Special 66kV cables will allow more turbines to be connected on the same circuit, reduce the cable length required and decrease losses.

We have also worked in partnership with The Carbon Trust to carry out sea trials of an innovative method of monitoring weather at sea.



A scale model of East Anglia ONE jackets undergoing tests at HR Wallingford



Construction has begun on the substation at Bramford

# East Anglia ONE makes East Anglia a Construction Hotspot

n a report issued by industry analyst Barbour ABI and Construction Products Association, East Anglia ONE has been credited for boosting the region into the leading position for construction contracts in 2016.

The report compared regional construction contract values in 2016 against the average of the last four years, resulting in 'hotspots' and 'coldspots' for last year's commissioned projects in the residential, commercial and infrastructure sectors.

Norwich and East Norfolk led all districts across the UK with more than £2.7bn worth of construction contracts, with the largest of these contracts credited to be from our East Anglia ONE offshore windfarm.

# **Public Information Days**

Since our last East Anglia newsletter we have held several public information events for local residents, at various places along the cable route, to share details about the work we are undertaking locally for our East Anglia ONE project.

Each event is organised and attended by our stakeholder team, as well as other members of the project team such as construction, logistics and archaeology.

At the drop-in events plans for upcoming works are shared and team members are on hand to answer any questions and provide further details.

As the works continue, additional public information days will be held to share information with the communities surrounding the works. Please check spreastanglia.com for details.



Photos of interest on display



Members of the public learn about upcoming works

## **Construction Works**

# **Construction Works Underway**

Works have commenced for the new East Anglia ONE substation, which is being built adjacent to the existing National Grid substation. This is where electricity from the windfarm connects to the grid.

At Bramford the substation site is being stripped and levelled, with special drainage systems installed, including ponds which will form an area of wet woodland. Once these initial works are complete the main civil contractor will construct the substation.

Construction works for the cable route, which runs from landfall at Bawdsey to the substation in Bramford, have also started. The 37km cable route has now been fenced off to restrict access to the site whilst works are taking place. Initial activity along the route includes building site compounds, stripping topsoil and laying a temporary access road. The archaeological works are scheduled to be complete by the end of 2017, following which we will commence works at the Bawdsey landfall site in early 2018. This will be followed by the supply, delivery and installation of cable ducts and cables, via the excavation of trenches and Horizontal Directional Drilling (HDD).

The majority of the access roads and highway improvements have been completed.

The ducts which house the underground cables will be installed by open cut trenching and, at 20 sites along the route (for example where the route crosses a major road or river), by the pioneering technique of Horizontal Directional Drilling. The cables will then be delivered to the sites on large reels and installed.

There are only 19 permitted access points along the 37km cable corridor and therefore

a temporary stone haul road will also be installed along the length of the route, within the construction fence boundary, to allow construction traffic to access the works area.

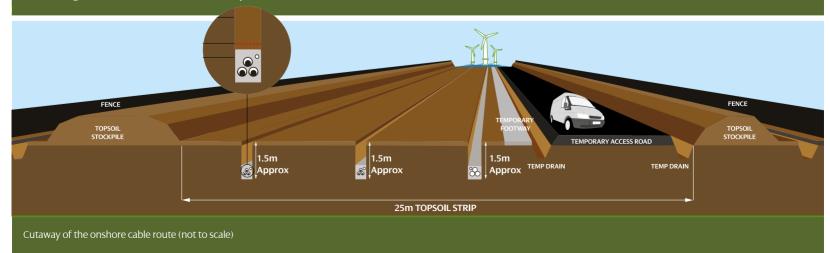
A Traffic Management Plan and Code of Construction Practice have been agreed with Suffolk County Council and are strictly adhered to.



New haul road entrance at Sandy Lane, Woodbridge

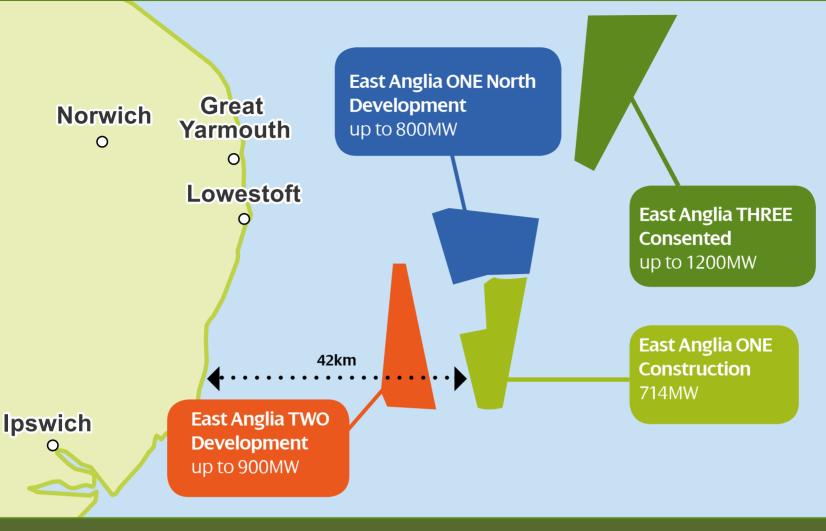


The East Anglia ONE cable route runs from Bawdsey to Bramford



### East Anglia TWO & East Anglia ONE North update

Winter 2017/18 <u>spre</u>astanglia.co.uk



Our East Anglian windfarms

East Anglia TWO and East Anglia ONE North are the third and fourth offshore windfarms we are planning to develop off the coast of East Anglia and we hope to commence construction for the windfarms around 2024/2025.

While East Anglia ONE and East Anglia THREE are proposed to connect to the existing National Grid substation at Bramford, we are exploring an alternative coastal connection point with National Grid for East Anglia ONE North and East Anglia TWO.

It is anticipated these projects will connect to the grid in the vicinity of Sizewell and Leiston. The exact position of connection is yet to be determined, but we are mindful that a coastal location minimises the infrastructure needed and, as such, the onshore impacts.

The potential cable route areas and methods of connection are being refined and consultation is underway with local agencies regarding possible constraints.

It is likely that each project would require an onshore substation, to which power from the offshore windfarm would flow via underground cables. An underground circuit would then provide connection to the existing National Grid infrastructure with details of final works to be determined.

A connection near Sizewell should not require any new overhead transmission lines and would not affect proposed nuclear power station Sizewell C's planned export capacity.

In order to further minimise onshore construction impacts, similar to our East Anglia ONE and East Anglia THREE projects, we are proposing to install ducting for East Anglia ONE North during construction of East Anglia TWO where the routeing is the same.

#### What happens next?

We will work with National Grid and others to further develop our plans.

In November 2017 the projects will move into the Environmental Impact Assessment scoping phase. During this process we seek to quantify the scope of the environmental assessment with The Planning Inspectorate and other consultees. In 2018 we will finalise our proposals for East Anglia TWO. Building on our 2017 engagement, we will communicate in detail what is proposed and what the anticipated environmental impacts are through the publication and consultation of a draft Environmental Statement. East Anglia ONE North will follow.

Public Information Days and briefings will be held throughout the process.

#### Contact us

If you have a query regarding East Anglia ONE, please contact Ed Rees or Nikki Berry. For queries relating to the other East Anglia projects, please contact Joanna Young at **jyoung@scottishpower.com** 

Edward Rees Community Liaison Officer M: +44 (0) 7710 049240 E: erees@scottishpower.com



Nikki Berry Community Liaison Officer M: +44 (0) 7928 655088 E: nberry@scottishpower.com





If you would like to find out more about our work in the East Anglia area, please visit: spreastanglia.com ScottishPower Renewables, Room 101, OrbisEnergy, Wilde Street, Lowestoft, Suffolk, NR32 1XH



# East Anglia ONE North Offshore Windfarm

# Appendix 5.11 Phase 1 Feedback Form

### **Consultation Report**

Applicant: East Anglia ONE North Limited Document Reference: 5.1.5.11 SPR Reference: EA1N-DWF-ENV-REP-IBR-000373\_005\_11 Rev 01 Pursuant to: Section 37(3)(c) of The Planning Act 2008

Author: Royal HaskoningDHV Date: October 2019 Revision: Version 1 This page is intentionally blank

East Anglia TWO Offshore Windfarm East Anglia ONE North Offshore Windfarm	
Public Information Day	
Feedback Form	
1.       How did you hear about today's information day?            □ Local newspaper         □ Word of mouth         □ Poster         □ Other (please specify)         □ Other (please specify)         □ Dther (please specify)	:
<ul> <li>Did you find the event helpful in informing you about our proposals</li> <li>Yes</li> <li>If no, why not:</li> </ul>	?
2 Mould you be interested in attending future public information day	-2
3. Would you be interested in attending future public information days         □ Yes       □ No	• {
4. Were our boards clear and understandable	
If not why not? What would help improve them?	
5. We are searching a large area to find a suitable location for substatio (see Board 8). Our preferred location would be the most economic ar impact. Options to the south west of Leiston will involve undergrour cables being laid in the grounds of properties on the Aldeburgh Road may require the purchase of property, and are therefore not our pre Options to the south east of Leiston could potentially affect the Suff and Heaths Area of Outstanding Natural Beauty (AONB).	nd efficient with least nd electrical d and as such ference.
Have you seen Board 11 regarding constraints to development? If ye place our substations?	s, where would you
<ul> <li>In your view would it be acceptable to have a direct impact on reside</li> <li>Yes</li> <li>No</li> </ul>	ential property?
<ul> <li>In your view would it be your preference for it to be as close to existing infrastructure (i.e. the overhead power lines and other substations) a possible?</li> <li>Yes</li> <li>No</li> </ul>	0
<ul> <li>Are you aware of any other constraints SPR should take into account when making a decision on connection points?</li> </ul>	
www.scottishpowerrenewables.com	SCOTTISHPOWER
P.T.O.	RENEWABLES

East Anglia TWO Offshore Windfarm East Anglia ONE North Offshore Windfarm

• Are you aware of any other organisations / people SPR should talk to who may have information that could inform this decision?

 Please use the space below to provide any other additional comments about today's Public Information Day or about our proposals for East Anglia TWO or East Anglia ONE North

Please continue on a blank piece of paper if necessary. Please place your completed form in the boxes provided. Alternatively you can return it to ScottishPower Renewables.

If you would like to be informed of further consultation, please provide us with your contact details below:

Name: Address: Telephone: Email: Organisation (if appropriate):

To learn more about our proposals, or to contact us please use one of the following:

#### Website:

East Anglia TWO:www.scottishpowerrenewables.com/pages/east\_anglia\_two.aspx East Anglia ONE North: www.scottishpowerrenewables.com/pages/east\_anglia\_one\_north.aspx

#### Email:

East Anglia TWO: eastangliatwo@scottishpower.com East Anglia ONE North: eastangliaonenorth@scottishpower.com

#### Write to us:

ScottishPower Renewables EA2 and EA1N RTLY-RLGH-GKSE FREEPOST 25 Priestgate Peterborough PE1 1 JL

The data you provide here is being collected and securely stored by Athene Communications on behalf of ScottishPower Renewables. Your personal information will be used solely for the purposes of communicating with you about the project. Your responses to this feedback form will be collated to ensure your identity is protected. The collated results will be reviewed by the project team and wherever possible your feedback will help to shape the plans.



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# East Anglia ONE North Offshore Windfarm

# **Appendix 5.12** Evidence Plan (February 2017)

### **Consultation Report**

Applicant: East Anglia ONE North Limited Document Reference: 5.1.5.12 SPR Reference: EA1N-DWF-ENV-REP-IBR-000373\_005\_12 Rev 01 Pursuant to: Section 37(3)(c) of The Planning Act 2008

Author: Royal HaskoningDHV Date: October 2019 Revision: Version 1 This page is intentionally blank

# East Anglia TWO and ONE North Offshore Wind farms Evidence Plan

Final- 2017

# **REVISION CONTROL**

Revis	Revision and Approvals						
Rev	Date	Reason for Issue	Originated by				
01	09/05/2016	Working draft for comment	МК				
02	17/06/2016	Draft final for approval	МК				
03	08/07/2016	Final	МК				
04	06/02/2017	Update of project programme and ETG detail	RHDHV				

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# **1** Introduction

#### 1.1 Aims

An evidence plan is a mechanism to agree upfront what information an applicant needs to supply to the Planning Inspectorate (PINS) as part of a Development Consent Order (DCO) application to ensure compliance with the Habitats Regulations. It aims to reduce the risk of major infrastructure projects being delayed by Habitats Regulations issues at the DCO examination stage.

It also provides clarity on complex issues for the Examining Authority and decision-makers by:

- Addressing evidence requirements systematically at the pre-application stage to reduce the likelihood of unexpected issues or disagreements arising during the examination; and
- Providing an audit trail of areas of agreement/disagreement.

This should lead to more robust and streamlined decision-making.

#### 1.2 Benefits

It offers benefits to those engaged in the process by providing:

- Greater certainty in the confidence which can be placed on existing information, additional evidence requirements and suitable survey methodologies to fill data gaps;
- An opportunity to make good use of time and resources by focussing on the issues that matter early on, avoiding revisiting "old ground" at a later stage;
- Clarity and direction for survey work, analysis and interpretation of findings; and
- A reference of discussions and audit trail.

The Evidence Plan process is a non-statutory, voluntary process, and there are no legal obligations associated with it. It does not replace and should not duplicate existing requirements and stakeholder engagement processes.<sup>1</sup>

#### 1.3 Guidance on Evidence Plans

Guidance on Evidence Plans has been produced by Defra<sup>2</sup> in 2012. This provides an overview of the process and roles of the parties. The focus of this document is on compliance with Habitats Regulations and PINS Advice Note 10. However, since this time, some applicants have chosen to broaden the Evidence Plan process to incorporate certain environmental impact assessment (EIA) topics. Since the publication of the Guidance, Defra's Major Infrastructure and Environment Unit (MIEU) have pulled back from chairing Evidence Plans.

#### 1.4 The Projects

This Evidence Plan has been produced by ScottishPower Renewables (UK) Limited (SPR, 'the Applicant') for the proposed East Anglia ONE North and East Anglia TWO Offshore Wind Farms ('the Projects'). The Projects are described in **Section 2**. It is intended to be a "plan for a plan." to document how the evidence plan process will work incorporating timeframes, tools and expectations for the Projects.

#### 1.5 The Steering Group

The evidence requirements and processes for reaching agreement will be monitored by a Steering Group. The role of the Steering Group will be:

- To oversee progress of the evidence plan and processes and ensure that schedules are met;
- To resolve any issues or agree approaches to issues that emerge from the Expert Topic Groups;
- To provide 'sign-off' for decisions of Expert Topic Groups. 'Sign off' being defined as reaching a clear position on behalf of the representative party; and

<sup>&</sup>lt;sup>1</sup> Where appropriate the relevant agency cost recovery mechanism maybe utilised

<sup>&</sup>lt;sup>2</sup> https://www.gov.uk/government/uploads/system/uploads/attachment\_data/file/69601/pb13825-habitats-evidence-plans.pdf

• To clarify and agree how to address HRA and key EIA consenting risks to the Projects, on receipt of advice from Expert Topic Groups.

This Steering Group will consist of the following bodies:

- PINS who will chair the group and ensure clarity and common understanding on issues;
- The Applicant and its Lead EIA consultant will lead on reporting issues arising from ETG meetings;
- Natural England who will be the lead Statutory Nature Conservation Body (SNCB) and are authorised to exercise JNCC's functions as a statutory consultee in this respect see Table 5.
- The Marine Management Organisation (MMO) will provide advice and input.

Roles and responsibilities are set out in Section 4.

The Steering Group will meet quarterly, or as necessary to maintain progress. Meeting dates have been suggested to tie in with key programme dates. These are: initial meeting in 2016 (first meeting held 26<sup>th</sup> April 2016), pre-scoping progress (Autumn 2017), East Anglia TWO pre-Preliminary Environmental Information (PEI) submission (Spring 2018), East Anglia TWO pre-DCO submission winter 2018), with pre-PEI and DCO submission meetings for East Anglia ONE North following in 2019. This is intended to be a guideline and will need to be sufficiently flexible to align with availability of members and emerging issues. An indicative programme of key dates and activities for the Projects is set out in **Table 1**.

#### 1.6 Expert Topic Groups (ETGs)

Expert Topic Groups (ETGs) will be convened to discuss the detail of data requirements and will report to the Steering Group. (See 3.1 for further details). These will comprise experts from relevant bodies and will have the following functions:

- Agree the relevance, appropriateness and sufficiency of baseline data for the specific assessment (including both site specific and contextual, determine whether to continue or halt specific survey work and / or analysis);
- Agree the methods for data analysis;
- Agree worst case parameters for the assessment(s);
- Agree methods for assessment(s) (including where possible interpretation of impact and levels of significance);
- Agree key focus areas for post consent monitoring and mitigation;
- Agree how to deal with new emerging evidence (e.g. whether and when to change the evidence requirements, updating the plan and timetable as necessary; and
- Utilise tools to record discussions and outcomes
- Identify and prioritise HRA and key EIA consenting risks to the Projects and communicate these to the Steering Group

If matters cannot be agreed, then reasons for differences should be clearly documented. Tools including risk registers and agreement trackers will be used to provide a systematic approach to this. This is detailed further in **Section 4** with examples included as appendices.

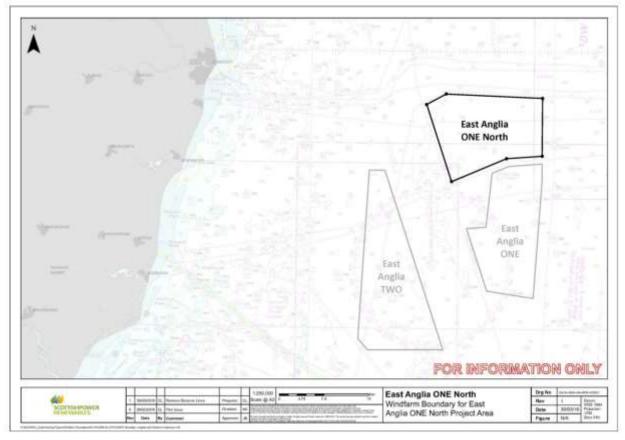
#### 1.7 Review

This version of the Evidence Plan is based on a draft circulated to the Steering Group, shortly after its first meeting on 26 April 2016, with views from the Steering Group now incorporated. This Evidence Plan will be kept under review and updated by the Applicant at a frequency to be agreed by the Steering Group.

# 2 The Projects

#### 2.1 East Anglia ONE North

The East Anglia ONE North project lies immediately to the North of East Anglia ONE and is delineated by a deep water shipping route to the west, cables to the North and designations and shipping to the East. The proposed offshore array covers an area of approximately 208 km2 and is situated 36km from Lowestoft and 42km from Southwold at its closest point. It lies in water depths of 33m – 59m. Its expected capacity is 600MW – 800MW.

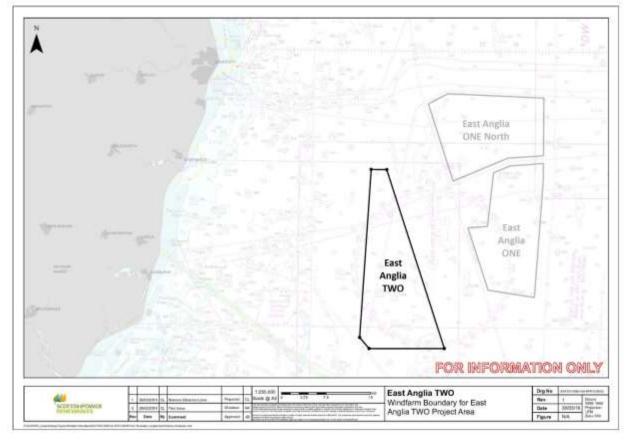


#### Figure 1. East Anglia ONE North

#### 2.2 East Anglia TWO

The East Anglia TWO project lies to the West of East Anglia ONE and is delineated by the Outer Thames Estuary Special Protection Area (SPA) to the North, the zone boundary to the west and shipping and navigation channels and proximity to Galloper Offshore Wind Farm (3.5nm) to the South. The proposed offshore array covers an area of 257km<sup>2</sup> and is situated approximately 31km to Lowestoft and 32km Southwold at its closest point. It lies in water depths of 30m, extending to 72m in west. Its expected capacity is 600MW – 800MW.

#### Figure 2. East Anglia TWO



#### 2.3 Infrastructure

It is expected that each Project would consist of the following infrastructure:

- up to 115 turbines;
- options for jacket/tripod, concrete gravity base, monopile, and steel suction caisson foundations;
- up to five offshore electrical platforms, connected by cables
- high voltage electrical cables (interconnector cables) between the project area and another wind farm within the zone;
- high voltage electrical cables (export cables) from the wind farm are to the landfall point onshore and then from there on to the connection point to the National Grid network;
- an onshore substation facility; and
- up to two meteorological masts.

#### 2.4 Grid connections

Both Projects will connect at Bramford substation, west of Ipswich.

The Applicant will continue to refine the designs for the Projects and will update the Steering Group should any significant changes be made.

#### 2.5 Timeframes

The Projects are being taken forward together as far as scoping in September 2017 and will be developed separately from then onwards. See **Table 1** for an indicative project programme. East Anglia TWO currently has a target date for submission of its DCO application to PINs in February 2018, with East Anglia ONE North to follow approximately 12 months later. This Evidence Plan and process will cover both Projects jointly until scoping, whereupon separate documents and processes will be developed.

#### Table 1: Indicative Project Programme

	Key dates	Significance for Stakeholders			
Critical path decisions and key activities in 2017					
	April 2017	Ornithology ETG- Bird survey evidence requirements and survey strategy to be agreed.			
	April 2017	Benthic Ecology ETG- Agreement of benthic ecology and fish data gathering strategy (either through Benthic ETG meeting or through written agreement) and confirmation of approach of physical processes modelling.			
	April 2017	Marine mammals survey evidence requirements and survey strategy to be agreed			
Surveys and scoping					
	October 2016	Ornithology ETG-Winter seabird and marine mammal surveys commence			
	Summer – Autumn 2017	Benthic and other surveys underway			
	September 2017	Scoping Reports for both Projects submitted to PINS. Opinion requested. Benthic ecology survey methodology and EIA approach to be agreed Q1/Q2 2017, ornithology and marine mammal EIA methodology to be agreed pre-scoping if possible.			
	November 2017	Response from PINS			
	October 2017	EA2 ornithology surveys complete			
	October 2017 – July 2018	Onshore ornithology surveys undertaken (if required).			
	October 2018	EA1N ornithology surveys complete			
EA TWO application timetable					
	February / March 2018	HRA screening consultation			
	July 2018	Commence Section 42 consultation on draft ES. Complete offshore geophysical, benthic, ornithology and marine mammal survey dataset would be available to inform PEI. Full onshore ornithology surveys, if required, would be included in ES.			
	November 2018	Receive Section 42 consultation responses			
	Q1 2019	Submit Application to PINS			

#### East Anglia TWO and ONE North Evid

Evidence Plan	6 <sup>th</sup> February, 2017				
EA ONE North application timetable					
	Q2 2019	Commence Section 42 consultation on draft ES			
	Q3 2019	Receive Section 42 consultation responses			
	Q4 2019	Submit Application to PINS			

## **3 Scope and Timetable**

The evidence plan process will focus on core topics where, from previous experience, the Applicant considers that:

- there are known HRA issues for offshore wind farms which are not fully addressed by its ongoing and proposed wider stakeholder consultation arrangements;
- where it will be important for the Projects to gain consensus on the robustness of data and requirements for new data; and
- where there may be differences of expert opinion regarding data requirements, methodologies, survey design and assessment.

#### 3.1 Expert Topic Groups

•

It is the Applicant's intention to focus time and resources through the evidence plan process on three Expert Topic Groups (ETGs):

- Onshore and offshore ornithology;
- Marine Mammals; and
  - Benthic Ecology<sup>3</sup> including
    - Physical Processes
      - Fish Ecology
      - Benthic and intertidal ecology

These topic groups have been identified based on the experience of the Applicant through the EA THREE offshore windfarm Evidence Plan process and, before that, evidence requirements for East Anglia ONE. The Applicant intends to capitalise and build on existing relationships and regular scheduled meetings to address remaining EIA/HRA issues with all the relevant stakeholders (as defined in Section 3.3). It is considered that this represents the most efficient and streamlined approach for all concerned. However, should this prove to be problematic or not sufficiently transparent, then the approach will be reviewed.

#### 3.1.1 Membership

It is envisaged that specialists from NE and the MMO/Cefas will be key to the groups, given their statutory functions. The Applicant's in house Offshore Environment Team (OET) and Lead EIA consultants will lead and support ETG engagement and meetings. NGOs will be invited to participate in the relevant groups, as appropriate, including the RSPB, The Wildlife Trusts and the Whale and Dolphin Conservation Society.

#### 3.1.2 Meeting Frequency

It is envisaged that meeting frequency will be as follows, but with flexibility to respond to any technical issues which emerge or delays in data provision.

- Offshore and Onshore Ornithology
  - March/April 2017 Introduction, survey strategy and outline methodology
  - Feb 2018 HRA Screening
  - Pre-PEI/ During PEI
  - Pre-DCO

#### Marine Mammal ETG

- April 2017 Introduction, survey strategy and outline methodology
- Feb 2018 HRA Screening
- Pre-PEI/ During PEI
- Pre-DCO
- Benthic Ecology
- March/April 2017 Introduction, survey strategy and outline methodology
- Feb 2018 HRA Screening
- Pre-PEI / During PEI (if required)
- Pre-DCO

<sup>&</sup>lt;sup>3</sup> It is anticipated that the requirement for meetings will be minimal beyond agreement of survey / modelling approaches

#### 3.2 Evidence Plan Timetable

An indicative programme of Evidence Plan meetings is suggested in **Table 2**. Dates have been suggested to align with the Projects' timetable in **Table 1**. This reflects that the focus in 2016 was on reviewing existing data and proposed survey methodologies for both projects, with input to scoping and impact assessment in 2017.

Project phase	Meeting dates	Group	Purpose
Groups established			
	April 2016	SG Meeting 1	Kick-off meeting. Remit and quarterly programme of meetings agreed.
	April May 2016	Ornithology ETG – Meeting 1	Expert Topic Groups (ETGs) established. Project familiarisation. Identify and log key issues. Remit and programme of meetings agreed
Review existing data a	and proposed survey <b>i</b>	methodologies	
	March 2017	All	Method statements and papers circulated for meetings
	March / April 2017	Ornithology ETG Meeting 2	Project Update Survey strategy discussion (survey duration & EA2 breeding season gap and existing data) Preliminary methodology discussion and next steps
	March / April 2017	Benthic Ecology ETG Meeting 1	ETG established Project Update Survey strategy discussion (benthic and fish survey) Physical process method statement (expert based rather than modelling) Preliminary methodology discussion and next steps
	April / May 2017	Marine mammals ETG 1	ETG established Project Update / Introduction Survey strategy and data Preliminary methodology discussion and next steps
PEI and HRA screenin	g (EA2)		
	Jan / Feb 2018	All	Method statements and papers circulated for meetings including draft HRA screening
	Feb/March 2018	Ornithology ETG Meeting 3	Project update Baseline data overview Key receptors EIA methodology HRA screening
	Feb/March 2018	Benthic Ecology ETG Meeting 2	Project update HRA screening
	Feb/March 2018	Marine mammals ETG 2	Project update Baseline data overview

#### East Anglia TWO and ONE North

Evidence Plan			6 <sup>th</sup> February, 2017
			Noise modelling results Key receptors EIA methodology HRA screening
	June 2018	All	Papers circulated for meetings (OR THIS DURING PEI AS PER EA3)
	June 2018	Ornithology ETG Meeting 4	Project update Impact assessment results HRA
	June 2018	Benthic Ecology ETG Meeting 3	If required
	June 2018	Marine mammals ETG Meeting 3	If required HRA
HRA and ES (EA2)			
	November 2018	All	Papers circulated for meetings including Project response to PEI comments and draft HRA
	November 2018	Ornithology ETG Meeting 5	Project update PEI response discussion HRA results discussion
	November 2018	Marine mammals ETG Meeting 4	Project update PEI response discussion HRA discussion
	November 2018	Benthic Ecology ETG Meeting 4	If required

\*It is assumed that the majority of agreements made for EA2 will also apply to EA1N, EA1N then has a series of meetings in 2019.

#### 3.3 Wider stakeholder engagement

Good stakeholder engagement is a key element of the Applicant's approach to project development. The Applicant recognises that the building long-term relationships with local communities and other key stakeholders is critical to its ambitions to develop further projects. It therefore wishes to build on existing relationships developed through the East Anglia ONE and THREE projects. These include a local authority steering group, onshore and offshore topics groups (e.g. archaeology) as well as strategic monthly meetings with national stakeholders. A summary of wider stakeholder engagement, which is the backdrop to this Evidence Plan, is set out at **Appendix 5.4**.

The Applicant will ensure that consultation processes taking place outwith the formal Evidence Plan process are transparent, and that consultation outcomes are recorded systematically and responded to. It will seek to align the timings and locations of meetings of the Local Authority Steering Group and Evidence Plan Steering Group and consider what other information can be usefully shared to enable members of both groups to have oversight, but without information overload. Should this approach not prove satisfactory, then the Applicant commits to reviewing it and making changes, to be advised by both steering groups.

# **4 Working Principles**

The Evidence Plan members support the following set of working principles.

#### 4.1 Effective ways of working

It is considered helpful to adopt the use of project management tools, including agreement logs and risk registers, to focus discussion on the issues that matter, to track progress in reaching agreement and to escalate concerns from the ETGs to the Steering Group.

Examples are provided in **Appendix 5** of an agreement log and risk register which can be used, with modifications, as templates by the ETGs.

The following will help facilitate focussed group working and transparent decision making:

- ETG meetings open and close with agreement log updates;
- Risk registers prioritise key issues, with a traffic light system, with red denoting urgency or severity of risk (or both);
- It will be for the ETGs to agree what works best for them concerning the definitions/meaning of amber and green in the traffic light system; and
- The steering group's role is to review risk registers and prioritise key issues for action.

#### 4.2 Ground rules

The following set of ground rules will help ensure that best use can be made of time spent in meetings:

- Documents are to be circulated a minimum one week prior to meetings (unless otherwise agreed);
- Steering group agendas and documents to be shared with PINS a minimum of two weeks prior to meetings (unless otherwise agreed);
- Agreed deadlines for comments will be adhered to, or adequate notice given;
- Preparation for meetings should include any requirement to secure views on organisational positions, with the exception of PINS – See Table 3 for PINS role as impartial chair; and
- Participants to log time spent on Evidence Plan.

#### 4.3 Change in Evidence Requirements

Evidence requirements will only change following:

- The assessment of evidence provided by the Applicant identifying new areas of concern;
- Relevant evidence, information or research coming to light that would have an impact on what information is required; or
- A material change to the NSIP proposal that is likely to change the potential impacts and therefore the evidence requirements to address these.

#### 4.4 Project Data and confidentiality

PINS will publish a high level note of steering group meetings. Minutes from the meetings will be circulated by the Applicant to steering group members and others on request. Records of the ETG meetings - risk registers, minutes and agreement logs - will be circulated by the Applicant to relevant parties in draft form for comment prior to finalisation.

Parties should be aware that all communications and documents may be subject to Freedom of Information (FoI) and Environmental information Requests (EIR) as information held by public bodies which it may be judged to be in the public interest to disclose. The Information Commissioner's Office has produced guidance for organisations on how to apply the FoI Act 2000<sup>4</sup> and EIR Regulations 2004<sup>5</sup>. Documents should be marked appropriately in line with guidance and legislation.

It is recognised that statements by participants reflect an organisational view at that time which will have been expressed on the basis of available information. They do not reflect statutory advice on an application nor a final position.

<sup>&</sup>lt;sup>4</sup> https://ico.org.uk/for-organisations/guide-to-freedom-of-information/

<sup>&</sup>lt;sup>5</sup> <u>https://ico.org.uk/for-organisations/guide-to-the-environmental-information-regulations/</u>

#### 4.5 Roles and Responsibilities

Roles and responsibilities in general terms have been set out in Defra's 2012 evidence plan publication, with the exception of the Chair of the Steering Group which will be PINS, rather than the MIEU. More detail has been provided by the Evidence Plan participants in the following tables.

#### Table 3. PINs roles and responsibilities as Chair of Steering Group

	PINs acting as chair will:
1.	Attend all Steering Group (SG) meetings, provided that sufficient notice of dates is given
2.	Review all information provided in advance of the meeting
3.	Open and close the meeting on time
4.	Manage the agenda sent out for each SG meeting
5.	Lead the meeting according to the agenda
6.	Maintain good order at the meeting
7.	Ensure fairness and equality at the meeting
8.	Ensure clarity and common understanding on issues discussed amongst all attendees
9.	Summarise points of agreement/disagreement and actions arising against each agenda item as required as the meeting progresses
10.	Where necessary prompt attendees on outstanding issues and actions to ensure progress in the process is maintained
11.	Review the prepared meeting minutes to ensure they are correct and fairly represent the events of the meeting
12.	Publish a meeting note on the National Infrastructure Planning webpage containing only the following information: attendees, location of meeting, high-level agenda items (not summaries of comments made), and a summary of any s51 advice provided. The meeting note will be agreed with Scottish Power Renewables (SPR) before publication.
	PINs acting as chair will not:
1.	Be responsible for organising the meetings or setting the agenda (those roles falling to SPR in consultation with the stakeholders);
2.	Be responsible for producing information in advance of the meeting (that role falling to SPR. SPR to ensure the information is provided to PINS at least two weeks prior to the meeting);
3.	Be responsible for note taking or production of minutes;
4.	Normally participate in the separate topic group meetings; and
5.	Act as arbitrator or decision maker on any issues arising from or discussed at the SG meetings.

#### Table 4. The Applicant's roles and responsibilities

The Applicant will:		
1.	Draft and maintain accurate logs of agreement/disagreement, risk registers and Statement(s) of Common on an on-going basis until delivery is agreed by steering group to be complete;	
2.	Chair and administer ETGs	
3.	Collect, analyse, review and share evidence with other Plan participants at regular intervals. Update the relevant SNCB(s), PINS and other consenting bodies of modifications to the Projects. Provide updates to the Steering Group on progress;	
4.	Ensure that all reports, documents etc. are provided in sufficient(to allow review/comment within agreed time periods (at least one week); and	
5.	Work with the ETGs and Steering Group to resolve as many issues as is practicable at the pre-application stage using the evidence plan process to do this.	

#### Table 5. Natural England's roles and responsibilities

	NE will :
1.	Engage with the Applicant at the start of pre-application to discuss the Projects' possible environmental impacts with a focus on issues relating to the EIA and HRA regulations.
2.	Discuss and agree an initial Plan within 3 months (or longer if agreed) ensuring that evidence demands are proportionate to the potential impacts of the Project(s);
3.	Assess and review evidence provided by the Applicant under our Discretionary Advice Service at agreed regular reviews, giving written feedback on progress to timescales agreed within the ETGs;
4.	Attend expert topic groups
5.	Ensure that the Applicant has access to any relevant public domain information (e.g. conservation objectives, monitoring reports, site condition assessment data; grey literature) which they hold to inform the assessment;
6.	Review evidence requirements and propose changes, when applicable, which are realistic and proportionate. Clear rationale for any evidence changes will be required;
7.	Ensure consistency of approach to advice between these Projects and other NSIPs;
8.	The representative(s) on the steering group (or ETG) can outline Natural England's formal position on evidence requirements for HRA and EIA and, when requested under our Discretionary Advice Service, provide site-specific advice to the Applicant on evidence requirements for the Projects. Evidence requirements will only change following the situations set out in section 4.3.
9.	Work with the Applicant to resolve as many issues as possible during pre-application, to agreed timescales, including through the Statement(s) of Common Ground. Consultation and timescales/deadlines should be agreed within Expert Topic Groups or the Steering Group.
10.	Engage with other relevant agencies on specific evidence requirements, as required.
	JNCC Delegated Authority
	Pursuant to an authorisation made on the 9th December 2013 by the JNCC under paragraph 17(c) of Schedule 4 to the Natural Environment and Rural Communities Act 2006, Natural England is authorised to exercise the JNCC's functions as a statutory consultee in respect of applications for offshore renewable energy installations in offshore waters (0-200nm) adjacent to England. These Projects are included in that authorisation and therefore Natural England will be providing statutory advice in respect of that delegated authority. JNCC retains responsibility for the (joint) management of offshore designated sites and, where applicable, Natural England will consult directly with JNCC to provide the Statutory Nature Conservation Bodies (SNCBs) advice to the applicant/examiners
	Natural England is not authorised to:
1.	Provide advice outside of English territorial waters including transboundary issues
2.	Speak on behalf of other Defra bodies (unless agreed otherwise) and NGOs.

#### Table 6. The MMO and Cefas roles and responsibilities

	The MMO will :
1.	Assess and evaluate evidence provided by the Applicant at agreed regular reviews, giving feedback on progress;
2.	Propose changes to the evidence requirements which are proportionate and based on findings of the evidence assessed;
3.	Provide any relevant public domain information (e.g. monitoring reports, grey literature) which they hold;
4.	Ensure that the representative(s) on the steering group (or any expert topic group) have the authority that any position formally agreed in writing within the Plan process is an agreed corporate position and not the advice of the officer only; and
5.	Work with the Applicant to resolve as many issues as possible during pre-application and to be concluded through the Statement(s) of Common Ground.
	Cefas will :

1. Provide advice as requested by the MMO; and

#### Cefas will :

2. Attend expert topic groups as directed by the Steering Group in order to provide advice to the MMO on the relevant expert topic groups.

#### 4.5.1 Environmental NGOs

The RSPB, Wildlife Trust and Whale and Dolphin Conservation Society will be invited to participate in ETGs, as appropriate and notes from the SG meetings shared with them, should they wish. This is to provide an opportunity for them to input on evidence requirements at early stage. The Applicant wishes to ensure positive working relations with NGOs, but recognises that NGOs may wish to reserve their positions on matters for submission at examination and that input at an early stage may be restricted by resource constraints. Other mechanisms will be sought to engage with NGOs as appropriate e.g. by consultation on agreement logs.

# **5** Appendices (confidential)

- 5.1 Example Agendas for ETG and SG meetings
- 5.2 Example EA3 Agreement log
- 5.3 Example risk register
- 5.4 Wider stakeholder engagement extract from draft Stakeholder Engagement Strategy

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# East Anglia ONE North Offshore Windfarm

# **Appendix 5.13**

Friston Parish Council Meeting Onshore Substation Site Selection PowerPoint Presentation 5th March 2018

#### **Consultation Report**

Applicant: East Anglia ONE North Limited Document Reference: 5.1.5.13 SPR Reference: EA1N-DWF-ENV-REP-IBR-000373\_005\_13 Rev 01 Pursuant to: Section 37(3)(c) of The Planning Act 2008

Author: Royal HaskoningDHV Date: October 2019 Revision: Version 1 This page is intentionally blank



# **Friston Parish Council Meeting**

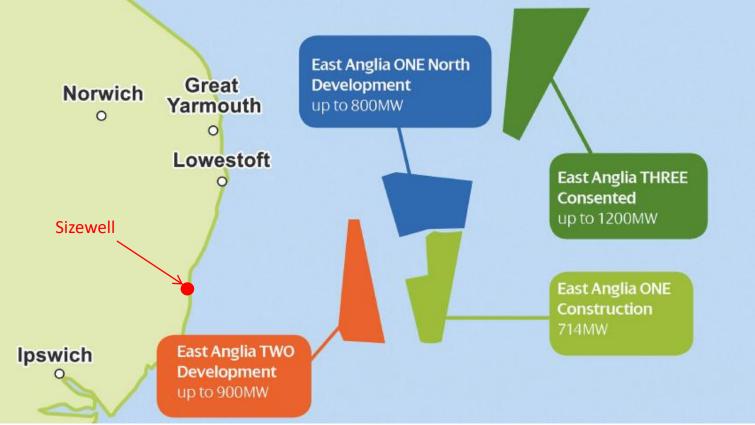
Onshore Substation Site Selection - EA1N / EA2

Phil Rew-Williamson Alex Hampson Jo Young (SPR) 5 March 2018 **Confidential** 

# What are we seeking from today?

- Inform update on project progress
- Communicate site selection principles
- Development of our onshore study area (that went into Scoping) and preferred zones
- Listen to your feedback and report back to the Project Team
- Answer as many questions as you might have

#### East Anglia TWO & East Anglia ONE North - introduction



3 Friston Parish Council Meeting | 5 March 2018

#### East Anglia TWO & East Anglia ONE North – input to site selection

- JULY 2017: NG update on CION process & move to Sizewell location briefing with Suffolk CC and Suffolk Coastal & Waveney DC
- SEPTEMBER 2017: onshore study area workshop with SCC and SCDC
- onshore study area update following LPA feedback & substation zone locations **OCTOBER 2017:** Public Information Days in various locations
- **DECEMBER 2017:** results of RAG assessment, workshop on preferred zones &
- **FEBRUARY 2018:**

- eastern zones site visit
- update on site selection works, workshop and all zones site visit

# **Site selection process – technical considerations**

## **SPR Substations**

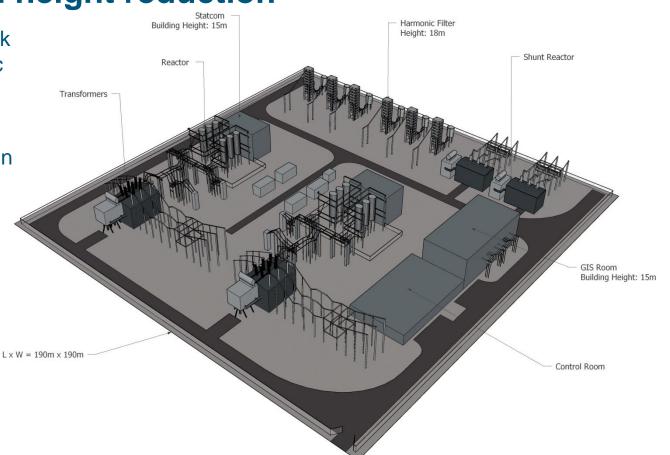
- Number: 2
- Area: 3.61ha
- Footprint: 190x190m
- Height: 18m (was 21m)
- Land for temporary construction works required

### **NG Substation**

- Number:
- Area: 4.55ha
- Footprint: 140x325m
- Height: 13m
- Gantries: 21x21m
- Land for temporary construction works required

# **SPR** substation height reduction

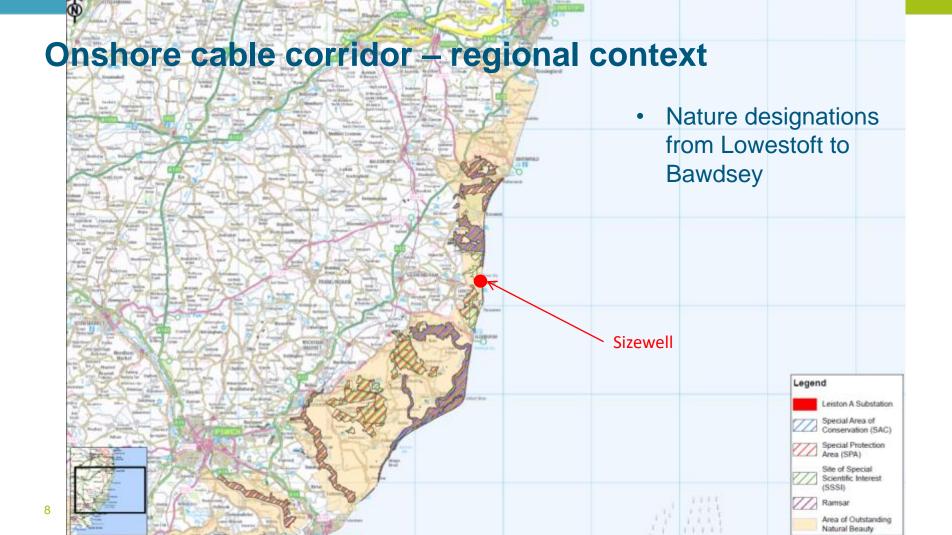
- Listened to feedback from LPA and public
- Early engagement with our supply chain
- Commitment to reducing substation building height from 21m to 15m



# **Site selection principles**

# Fundamental principles

- Shortest route preference for cable routeing & minimise footprint for the onshore cable routes as well as minimising cost (hence ultimately reducing the cost of energy to the consumer) and transmission losses;
- Avoidance of key sensitive features where possible and where not, seek to mitigate impacts;
- Minimise the disruption to populated areas; and
- Accommodate the range of technology sought within the design envelope, and exclude options outside the envelope (i.e. ruling out overhead lines).



# **Development of the onshore study area**

- Sizewell/Leiston grid connection offer.
- Landfall between Sizewell A and Thorpeness.
- Siting infrastructure adjacent to the overhead lines is the optimal solution. Study area therefore runs along the overhead lines, approximately 1km either side.
- EDF land not included.
- Initial study area as far west as Aldeburgh road as crossing it would mean interacting with residential title or woodland.
- LPA asked SPR to extend west potential impacts on the AONB.
- PIDS in October and November 2017 avoid interacting with residential title.
- Crossing west would mean utilising the woodland south of Aldringham Court Nursing Home and require the removal of some trees.

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# Substation site selection – Sizewell A

#### Footprint

- Care and maintenance programme / space for ongoing inspection and refurbishment
- Interaction with Sizewell B Safety Case – proximity to existing operation asset Negotiations / leasing land
  - Intermediate Level Waste maintenance and emptying – continues until 2048
  - Condition of land (former nuclear site)
  - OFTO process & challenges



Legend

Sizewell A Reactor Building

maintained for ongoing decommissioning

35x170m

**Onshore study area** 

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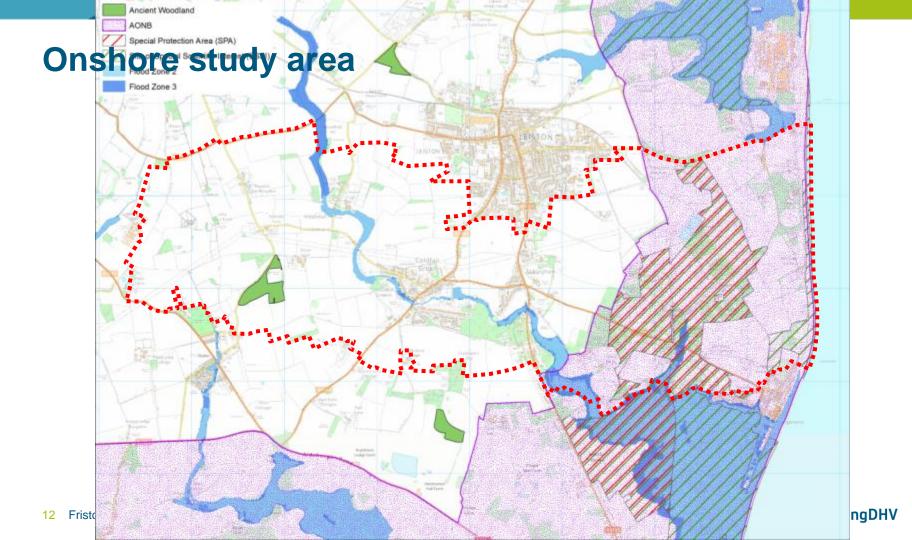
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EDF land not included

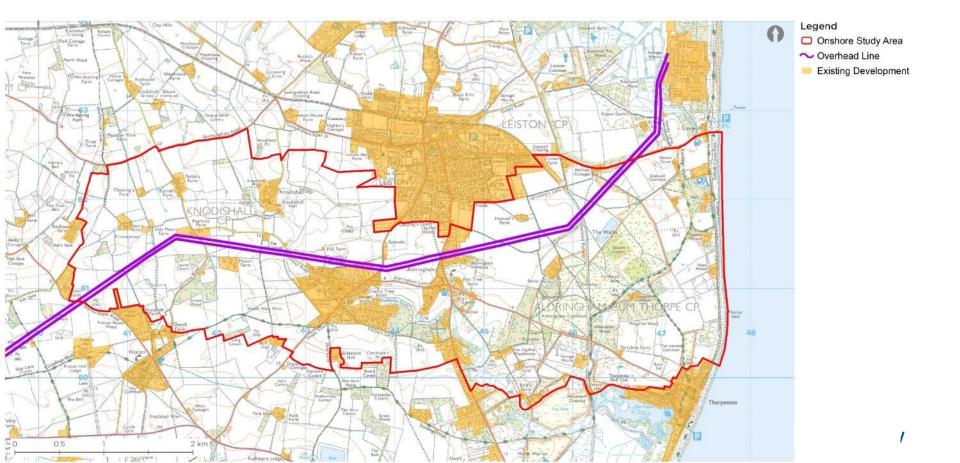
Area included for landfall options

ngDHV

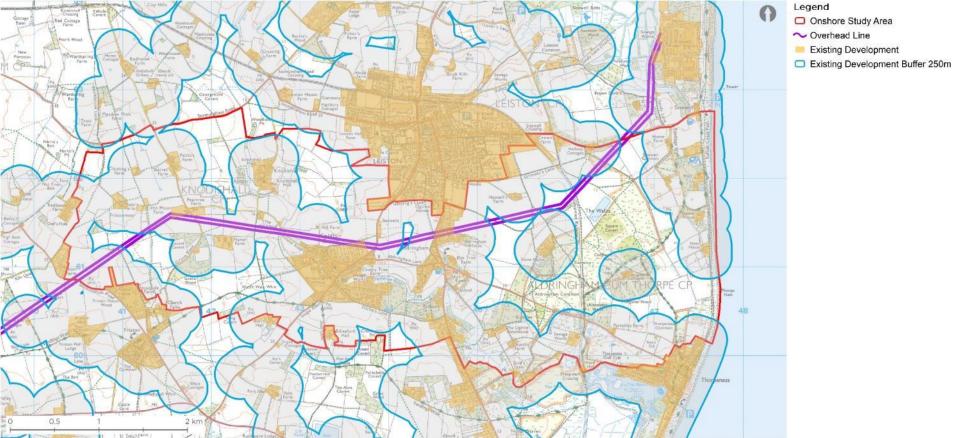
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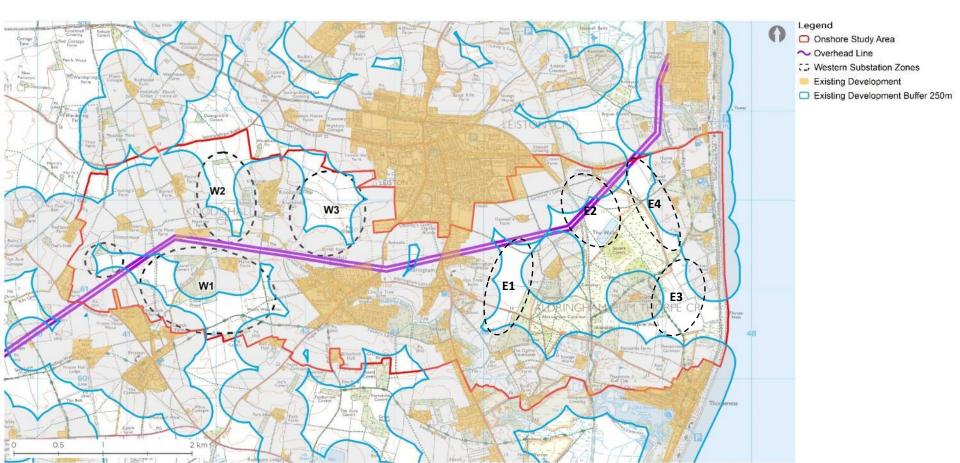
# Substation zones – existing development



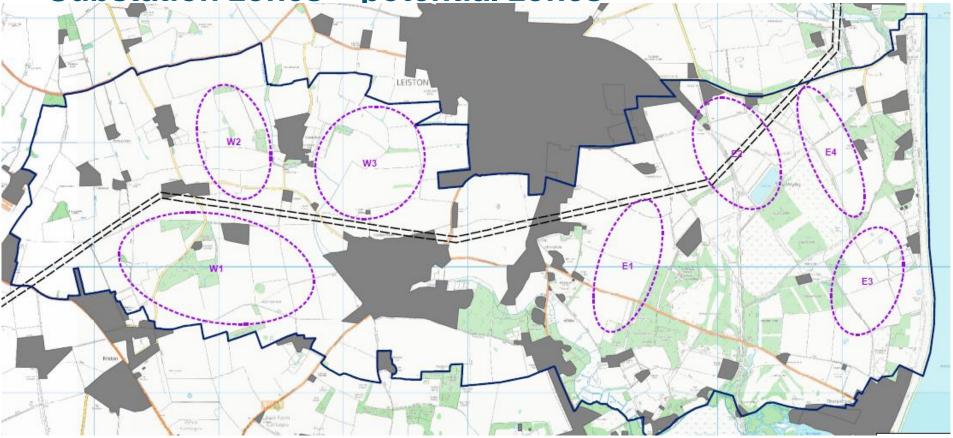
# Substation zones - existing development buffer (250m)



# Substation zones – potential zones



### Substation zones – potential zones



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# **RAG** assessment

- Comparison between similar sites (optimal locations), assessed separately
  - 2 x SPR substations RAG
  - 1 x NG substation RAG
- Development considerations on 26 (SPR) and 24 (NG) parameters:
  - Community, property & planning
  - Landscape & visual
  - Engineering
  - Ecology
  - Archaeology
  - Hydrology / hydrogeology
- Ranking: defined parameters, professional judgement or relative to other options
- Red score does not eliminate an option

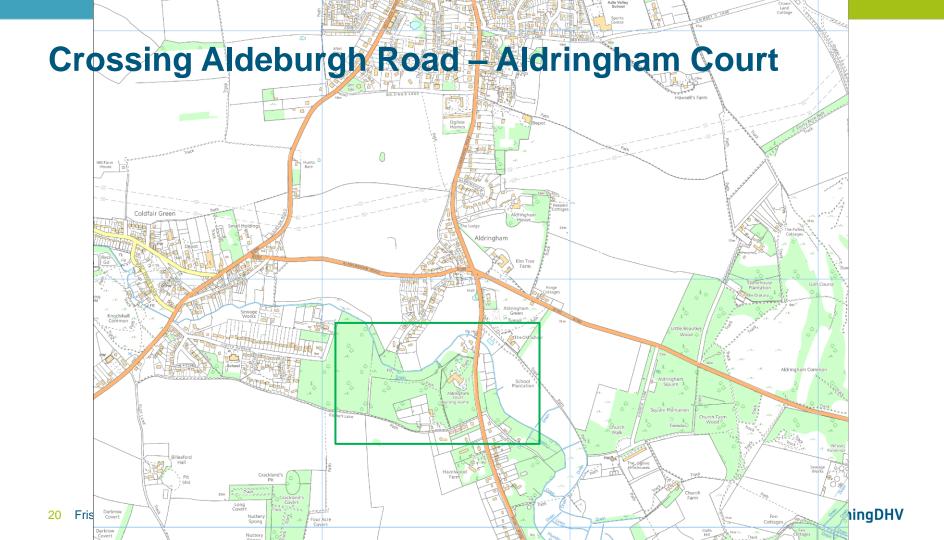
# **AONB** special qualities appraisal

- 'Natural beauty' indicators identified in Section 2.0 of the AONB 'Special Qualities Report'
- Indicators of the landscape qualities of the AONB:
  - Landscape qualities
  - Scenic qualities
  - Relative wildness
  - Relative tranquility
  - Natural heritage features
  - Cultural heritage features
- Each substation zone assessed against each 'natural beauty' indicator
  - AONB indicator present in the baseline of substation zone? (prevalent/notable/limited/not present)
  - magnitude of change to special quality? (high/medium/low/none)
  - potential effect on AONB special quality? (significant/not significant)

	LDĂDESIGN
	Suffolk Coast and Heaths Area of Outstanding
	Natural Beauty (AONB)
	Natural Beauty and Special Qualities Indicators
	V1.6
	Version Date: 21 November 2016
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# **AONB** special qualities appraisal

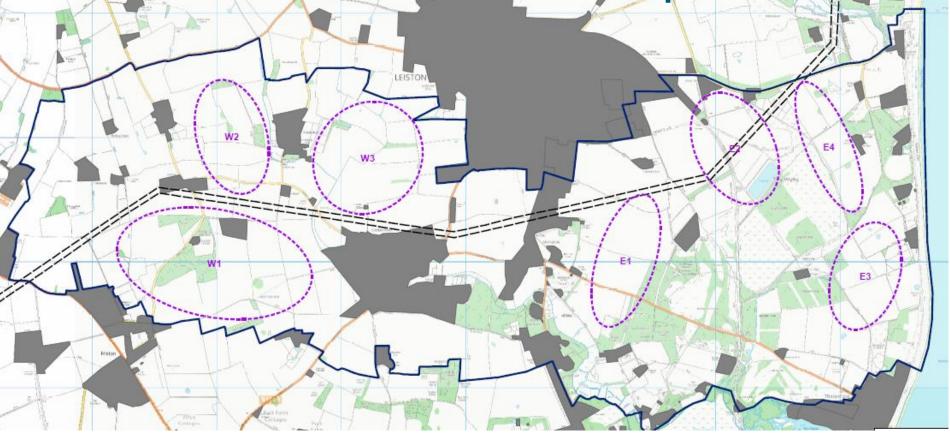
- Eastern zones (E1, E2, E4) would have some significant effects on special qualities of AONB, particularly:
  - E1 & E2 setting of AONB / Sandlings Forests that form backdrop and on 'gateways' to AONB (via PRoW and Thorpeness Rd)
  - E4 consolidates and intensifies significant effects of energy generation and transmission infrastructure, but avoids wider spatial effect on other qualities of AONB
- NPF para 116 'except in <u>exceptional circumstances</u> and where it can be demonstrated that they are in the <u>public interest</u>'.
- Landscape rationale for substations to be sited as close as possible to Sizewell to avoid effects on other parts of AONB and communities further inland, however:
- Western zones (W1, W2, W3) would avoid significant effects on special qualities of AONB
- Significant effects on local character and views would still arise (just not on AONB)
- Mitigation measures more capable of being delivered and effective in western zones (through existing woodland screening and further planting)



# **RAG assessment – SPR substation results**

- AONB special qualities appraisal
- Crossing Aldeburgh Road
- LPA position paper steer toward Zone W1
- Visual impact mitigation measures are more capable of being delivered and effective in western zones (through existing woodland screening and further planting).
- Improved connectivity between woodland habitats through landscape mitigation in western zones
- Conclusion: Western zones more preferable but no decision has been made. Consultation through PC meetings and PIDs

### **RAG** assessment – SPR substation outputs



22 Friston Parish Council Meeting | 5 March 2018

# Programme

- Scoping submission:
- Scoping response:
- Public Information Days:
- Red Line Boundary definition:

10<sup>th</sup> November 2017 20<sup>th</sup> December 2017

17-18<sup>th</sup> & 24-25<sup>th</sup> March 2018

**Summer 2018** 

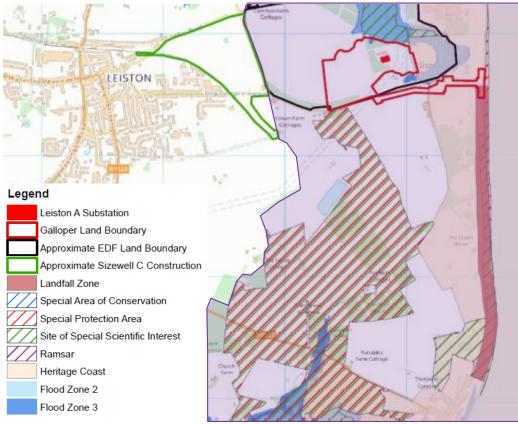
- Preliminary Environmental Information Report: Autumn 2018
- Environmental Statement:

Q2 2019

- Comments can be submitted to SPR at any time
  - <u>eastangliaonenorth@scottishpower.com</u>
  - <u>eastangliatwo@scottishpower.com</u>

# **AOB / Questions?**

### Landfall search area



#### Constraints

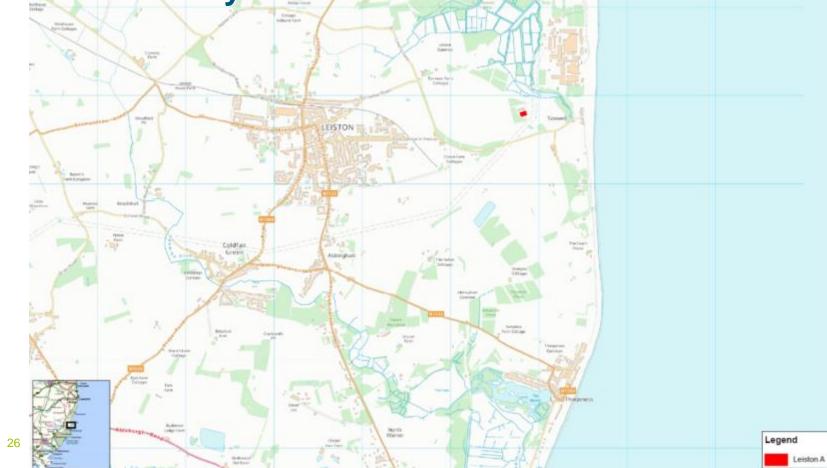
- Existing OFTO assets
- SSSI / vegetated shingle
- Heritage Coast
- Coastal erosion
- AONB

#### Friston Parish Council Meeting | 5 March 2018

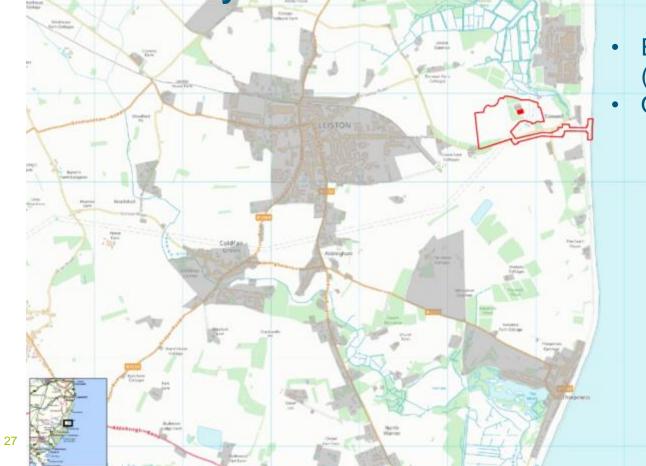
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**Onshore study area** 

60



## **Onshore study area - infrastructure**

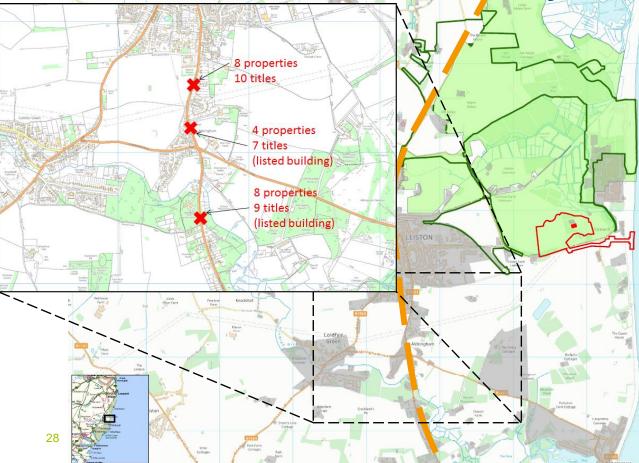


- Existing development (urban areas)
- OFTO assets land



### Substation site selection - study area

6

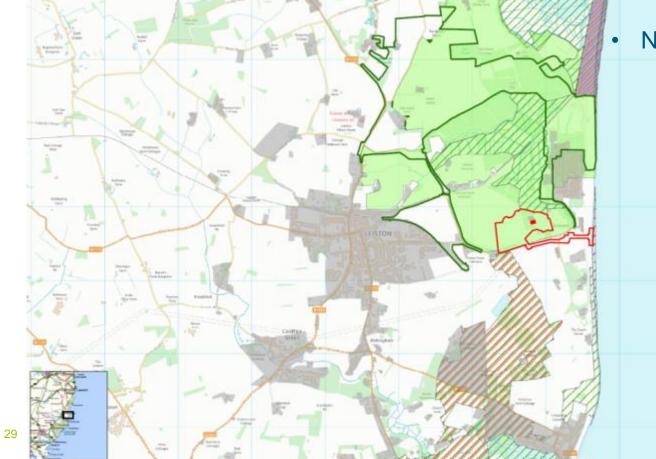


- Sizewell C proposed development footprint
- Sizewell C proposed landscaping and enhancement



## Substation site selection – study area

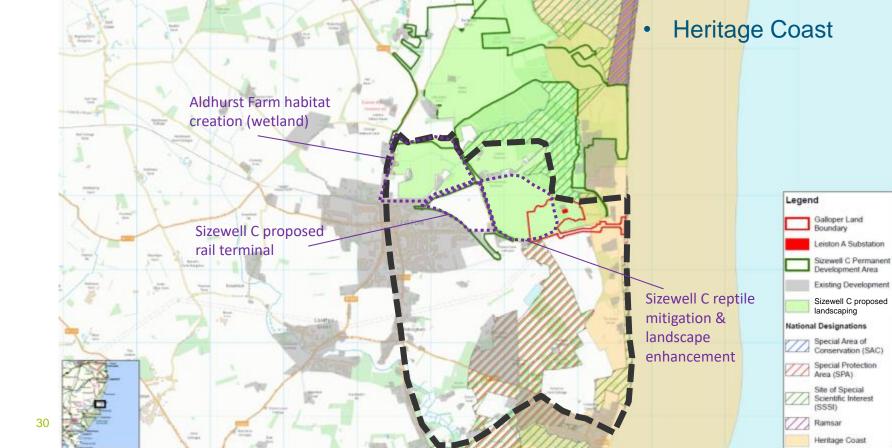
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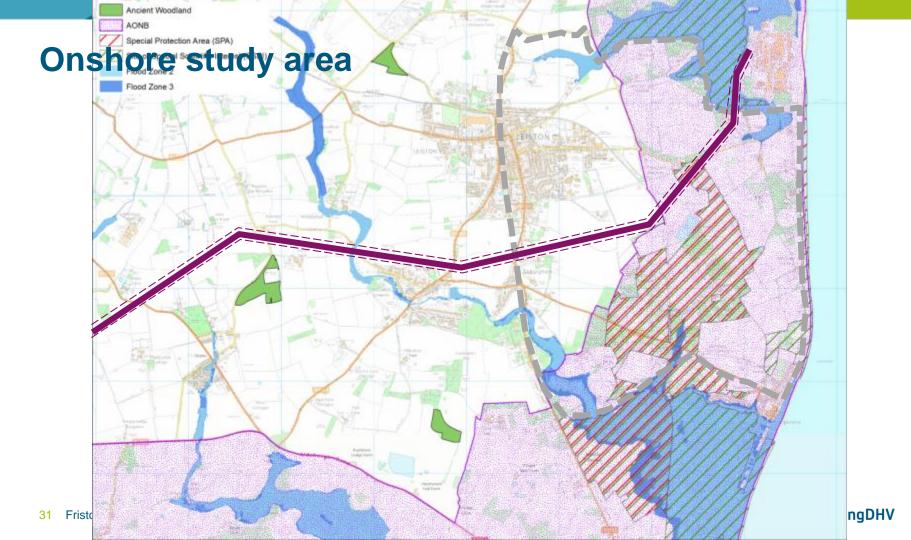


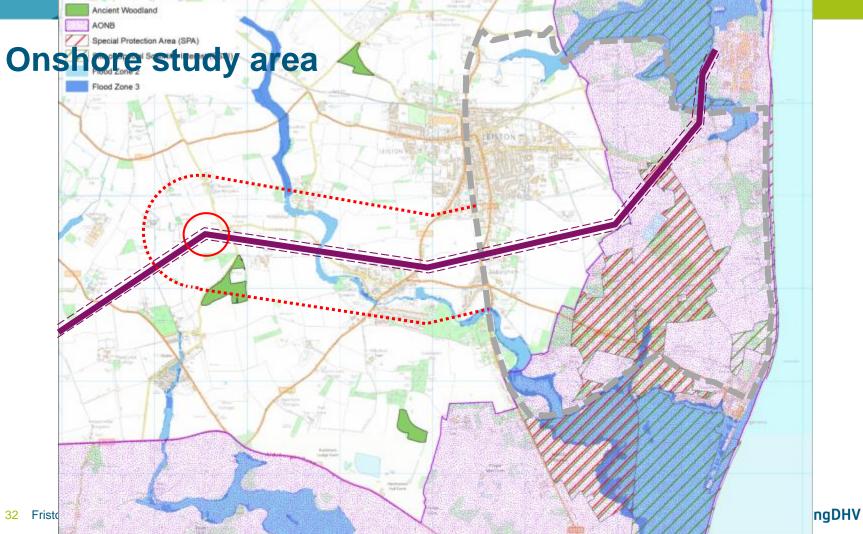
#### Nature designations

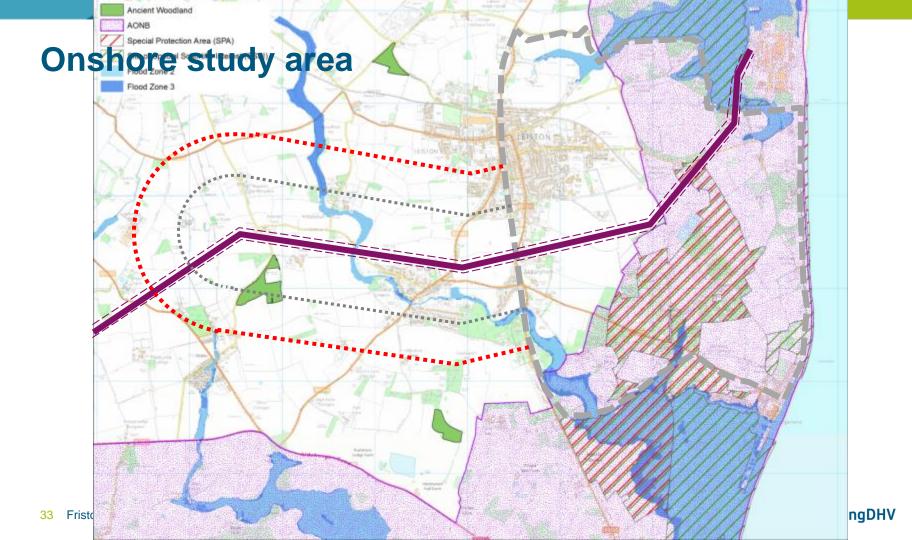












## Onshore study area

STATES.



# East Anglia ONE North Offshore Windfarm

## Appendix 5.14 Pre-Phase 1 and Phase 1

Consultation Key Feedback and the Applicant's Responses

**Consultation Report** 

Applicant: East Anglia ONE North Limited Document Reference: 5.1.5.14 SPR Reference: EA1N-DWF-ENV-REP-IBR-000373\_005\_14 Rev 01 Pursuant to: Section 37(3)(c) of The Planning Act 2008

Author: Royal HaskoningDHV Date: October 2019 Revision: Version 1 This page is intentionally blank



	Pre-Phase 1 and Phase 1 Consultation				
Торіс	Feedback	Stakeholders	Number of times feedback received	Action	
Site Selection and Assessment of Alternatives	<ul> <li>Concern over Sizewell/ EDF Energy Land</li> <li>Concerns identified over Sizewell land for indicative location for onshore facilities including proximity to other infrastructure (including other substations, cabling and bunds) Area is within the Suffolk Coast and Heaths AONB, partly within ecological mitigation land for Sizewell C and due to the options for Sizewell C electrical supply routing.</li> <li>Sizewell B is very constrained in terms of land, therefore insufficient space to facilitate a connection for the proposed East Anglia TWO and East Anglia ONE North projects. No sufficient space in vicinity of Leiston A substation as it is very constrained.</li> <li>At a Local Planning Authority study area and landfall workshop meeting it was agreed that land identified for Sizewell C was unlikely to be an area suitable for development, but that confirmation from EDF Energy on this particular matter would be required.</li> <li>At a Local Planning Authority project onshore study area update meeting it was agreed that land currently used for Sizewell A was not suitable for development.</li> <li>It was agreed that Sizewell C ecological mitigation area would not be included in the onshore study area presented at scoping.</li> </ul>	BNP Paribas/ EDF Energy, National Grid Electricity Transmission, Suffolk County Council (SCC) and Suffolk Coastal District Council (SCDC) (now East Suffolk Council) (Local Planning Authority Meeting) and Thorpeness Coastal Futures Group, Suffolk Coast Against Retreat	6	Due to the concerns over EDF Energy land at Sizewell, as noted in the feedback, this area was omitted for consideration of potential substation locations at the scoping stage.	



	Pre-Phase 1	and Phase 1 Con	sultation	
Торіс	Feedback	Stakeholders	Number of times feedback received	Action
	<ul> <li>Previous developments in the area have seen issues around the onshore cable laying and landfall, due to limited space and amount of infrastructure in the ground now. Possibility that EDF Energy will be concerned about laying more cables in the Sizewell area. Road access has also been a constraint for previous developments.</li> <li>Suggest land adjacent to the next pair of anchor towers ~1.5km SW from Galloper unless National Grid replace intermediate towers nearer Sizewell Gap.</li> </ul>			
	<ul> <li>Site should be at Sizewell/ EDF Energy land</li> <li>Local community member comments regarding why the substation is not situated at Sizewell.</li> <li>Local community member suggests substation should be adjacent to or just inside the AONB near Sizewell A/B.</li> <li>Question over why The Applicant cannot compulsory purchase EDF land.</li> <li>EDF land should be an option to be pursued.</li> </ul>	Local Community Members; Aldringham-cum- Thorpe Parish Council Meeting; Knodishall Parish Council Meeting	4	Due to the concerns over EDF Energy land at Sizewell, including interaction with land required for Sizewell C and that the development would be inside an Area of Outstanding Natural Beauty (AONB), this area was omitted for consideration of potential substation locations at the scoping stage.
	<ul> <li>Concern over how the proposals will affect the Area of Outstanding Natural Beauty (AONB) or Site of Special Scientific Interest (SSSI)</li> <li>It was noted at a Local Planning Authority meeting that effects of moving development out of the AONB might lead to greater effects than</li> </ul>	SCC, Leiston Town Council, SCC (Local Planning Authority Meeting), Local Community	15	At the request of the Local Planning Authority the area of search was increased to look west to avoid the AONB. The Applicant has studied the potential impacts on the special qualities (specifically the 'natural beauty' indicators) of the Suffolk Coast and Heaths AONB if the substations were to be located within or on the edge of the designated landscape. The conclusion of this work



	Pre-Phase 1	and Phase 1 Cons	sultation	
Торіс	Feedback	Stakeholders	Number of times feedback received	Action
	<ul> <li>staying within it, so a thorough review of possible sites inside and outside of the AONB should be carried out. Alternatives to having any development in the AONB must be fully tested.</li> <li>SCC suggested the potential to consider substation locations further west away from the AONB, along the existing overhead line extending to the A12, and locations that are separate from the existing overhead line.</li> <li>It would be preferable to build nearer to other developments such as the industrial estate on the edge of Leiston and to consider locations away from the AONB.</li> <li>If substation built in the west, the cable corridor may impact the AONB and other non-designated ecological features.</li> <li>Concern over cutting AONB in half especially with cumulative impact with other projects.</li> </ul>	Member; Natural England (NE); AONB Partnership		was that all of the eastern zones (east of Leiston) would have some significant effects on special qualities of the AONB, and that western zones (west of Leiston) would avoid significant effects on the special qualities of the AONB. The Applicant has also reviewed these findings in the context of other constraints and in accordance with past planning precedent and policy.
	<ul> <li>Concern over proximity of infrastructure (cable route and substations) to residential properties/ preference to site away from residential properties</li> <li>Concern over housing development planned in the area.</li> <li>Belief that substation should be located as far west as possible in open country.</li> <li>Query over why substation is not offshore.</li> </ul>	Aldringham-cum- Thorpe Parish Council Meeting, Local Community Members, SCC.	7	During the site selection process, the Applicant has conducted a comparison of possible substation zones through a process that considered potential impacts including archaeology / heritage, ecology, hydrology and hydrogeology, engineering, community, landscape and visual, property and planning. There was also a 250m buffer for residential properties applied when identifying zones for substations. The Applicant has undertaken significant consultation with the Local Planning Authority, statutory consultees,



	Pre-Phase 1	and Phase 1 Con	sultation	
Торіс	Feedback	Stakeholders	Number of times feedback received	Action
	<ul> <li>Concern over cable routing and proximity of the substation and associated works.</li> <li>SCC confirmed that there is no guidance around minimum distances from developments to housing, but that a preferred scenario would be to situate any East Anglia TWO / East Anglia ONE North developments next to industrial buildings.</li> </ul>			parish councils and members of the public to understand their concerns to inform the substation site selection decision.
	<ul> <li>Feedback on site selection principles</li> <li>Avoiding designated Ancient Woodland (including early surveys).</li> <li>Avoid woodland and follow mitigation hierarchy;</li> <li>Presentation of heat mapping should be shown as quadrants rather than actual substation footprints.</li> <li>Consider management of existing woodland.</li> <li>Incorporate ecological enhancements into operational substation plot.</li> </ul>	SCC (Local Planning Authority Meetings), Local Community Member	5	Where relevant, these additional principles were incorporated into the approach to substation site selection, however some of these comments were superseded by comments in Phase 3.5 and Phase 4, such as avoiding woodland and presentation of heat mapping.
	<ul> <li>Concerns over size of substation</li> <li>Question over why substation cannot be buried.</li> <li>Concern over height of the substation (21m).</li> <li>Concerns over the size of the substation footprint.</li> <li>Concern over substation building impact.</li> </ul>	Aldringham-cum- Thorpe Parish Council Meeting; Knodishall Parish Council Meeting; Local MP.	4	It is not feasible to bury the substations underground given the technical challenges associated with such a proposal. Due to the size, equipment and voltages of the project, burying it would be a significant undertaking without radical changes in technology and design. Whilst the substations cannot be buried the Applicant has looked at existing groundwater information and topography for the sites and has proposed earthworks to mitigate the impacts of the buildings.



	Pre-Phase 1	and Phase 1 Con	sultation	
Торіс	Feedback	Stakeholders	Number of times feedback received	Action
				Following the consultation at the Public Information Days in October and November 2017, the maximum height of the East Anglia ONE North substation buildings were reduced from 21m to 15m.
	<ul> <li>Preference expressed for eastern zones (as shown in the presentation in <i>Appendix 5.13 of the Consultation Report</i>)</li> <li>Preference over zone E4 for the substation.</li> <li>E2 has good screening.</li> </ul>	Aldringham-cum- Thorpe Parish Council Meeting; Friston Parish Council Meeting	2	During the site selection process, the Applicant has conducted a comparison of possible substation zones through a process that considered potential impacts including archaeology / heritage, ecology, hydrology and hydrogeology, engineering, community, landscape and
	<ul> <li>Preference expressed for western zones (as shown in the presentation in <i>Appendix 5.13 of the Consultation Report</i>)</li> <li>Recommend that zone W3 is given greater consideration.</li> <li>Preference for zone W2 (better screened).</li> </ul>	Local Community Member; NE	3	visual, property and planning. There was also a 250m buffer for residential properties applied when identifying zones for substations. The Applicant has undertaken significant consultation with the Local Planning Authority, statutory consultees, parish councils and members of the public to understand their concerns to inform the substation site selection decision.
	<ul> <li>Concern expressed for eastern zones (as shown in the presentation in <i>Appendix 5.13 of the Consultation Report</i>)</li> <li>Impacts on the AONB, however, E1 and E2 would have lower environmental impacts than E3 and E4.</li> </ul>	NE	1	Existing pylons will be utilised where possible, however there is likely to be one or more pylons upgraded and there will be one new overhead pylon for the National Grid substation.



	Pre-Phase 1 and Phase 1 Consultation					
Торіс	Feedback	Stakeholders	Number of times feedback received	Action		
	Substation suggestions					
	<ul> <li>Preference for site east of Leiston with access roads in place.</li> <li>Substation location should be within farmland.</li> <li>Keep infrastructure close to pylons to avoid the need for additional pylons.</li> </ul>	Local Community Members; Site Selection Workshop (NE)	4			
	Cable route concerns and suggestions					
	<ul> <li>The feasibility of the cable corridor going north of the Galloper cable.</li> <li>The cable route should either closely match Sizewell C or the route should come in from the south up to the back of Sizewell B where the national grid substation is.</li> <li>Cable impacts should be investigated in addition to the substation site. The preferred site may not be the best choice if a feasible cable route cannot be found.</li> <li>The western zones would require a longer cable corridor and therefore consideration of construction impacts and mitigation.</li> </ul>	The Crown Estate; NE; Site Selection Workshop (SCC)	4	Micro-siting of the cable corridor will be undertaken taking into consideration environmental constraints, engineering requirements and consultee responses. A full description of the cable corridor selection process is provided in Chapter 4 Site Selection and Assessment of Alternatives ES.		
	<ul> <li>Landfall concerns</li> <li>Concern that landfall may be towards Thorpeness where there is no access road.</li> </ul>	Local Community Member	1	Chapter 4 Site Selection and Assessment of Alternatives of the Environmental Statement (ES) details the site selection process for the landfall location. Access requirements are considered in Chapter 27 Traffic and Transport of the ES. Only access by light good vehicles		



	Pre-Phase 1 and Phase 1 Consultation				
Торіс	Feedback	Stakeholders	Number of times feedback received	Action	
				will be required via Thorpeness Road during construction (no access for the landfall will be required via Thorpeness Road, this will be via Sizewell Gap Road).	
	<ul> <li>Considerations for offshore infrastructure</li> <li>Details within the Rochdale Envelope should include the maximum percentage of both export and inter array cables potential requiring protection and the maximum volumes and footprints of cable protection proposed.</li> </ul>	Marine Management Organisation (MMO)	1	After discussion with the MMO (and other stakeholders) during the Benthic Ecology Expert Topic Group 2 meeting on the 21st March 2018, it was agreed that the Rochdale Envelope would include the maximum percentage of both export and inter-array cables potentially requiring protection and the maximum volumes and footprints of cable protection proposed.	
	<ul> <li>Design principles</li> <li>Environmental constraints, disruption to local communities and mitigation hierarchy should be part of main design principles – not just micro-siting.</li> </ul>	SCC (Local Planning Authority Meeting)	1	The site selection process involved comparison of possible substation locations through a process that considers potential impacts to landscape, ecology, cultural heritage, transport and access, noise, hydrology and proximity to residential areas. Other engineering, community and policy and property considerations were also taken into account to ensure that the best location, on balance, for the infrastructure assets is found.	
Marine Geology, Oceanography and Physical Processes	<ul> <li>Assessment methodology</li> <li>A section addressing the impacts of climate change on structures, cable and infrastructure should be included in the Marine Geology, Oceanography and Physical Processes chapter of the ES.</li> <li>Comments regarding wave modelling and physical processes.</li> </ul>	MMO and Benthic Ecology Expert Topic Group (NE, MMO, Cefas)	6	The effects of climate change over the relatively short design life of the proposed development would not be significant in the context of natural variability in baseline conditions. Sea-level rise is a slow progressive factor that will have more measurable effects over timescales of 50+ years. Further information is within Chapter 7 Marine Geology, Oceanography and Physical Processes of the ES.	



	Pre-Phase 1 and Phase 1 Consultation				
Торіс	Feedback	Stakeholders	Number of times feedback received	Action	
	<ul> <li>General approach to assessment (following same method as East Anglia THREE) acceptable in principal, although CEFAS have requested to undertake review of East Anglia ONE and ZEA modelling parameters before confirming required approach.</li> <li>Vertical mixing does not need to be considered as this area of the north sea is generally well mixed.</li> <li>The list of impacts outlined in the method statement to be included in the ES is appropriate with the following caveats;         <ul> <li>Operational suspended sediment as a result of vertical turbulence.</li> <li>Physical impacts to nearby SPA supporting sandbanks.</li> <li>Suspended sediment due to cable installation works through SPA supporting sandbanks.</li> </ul> </li> </ul>			It was requested that the Applicant undertake cumulative wave modelling. Wave modelling method was agreed and undertaken. Comments were addressed through the Benthic Ecology Expert Topic Group forum and a wave modelling report issued to MMO and Cefas in May 2018. Cefas confirmed that vertical mixing does not need to be considered due to the well mixed nature of the north sea. These impacts are included within the Environmental Impact Assessment (EIA).	
	<ul> <li>Question regarding physical processes</li> <li>Would wind pressure and velocity perturbation at the turbine array propagate sufficiently along the wave fetch length to have any cumulative shoreline impact outside natural variations?</li> </ul>	Local Community Member and Thorpeness Coastal Futures Group, Suffolk Coast Against Retreat	2	Results of cumulative wave modelling shows that the impact of the windfarm will have a non-significant cumulative effect on coastal receptors. The cumulative wave modelling report was made available to Expert Topic Group members and included within Chapter 7 Marine Geology, Oceanography and Physical Processes of the ES.	



	Pre-Phase 1 and Phase 1 Consultation					
Торіс	Feedback	Stakeholders	Number of times feedback received	Action		
Benthic Ecology	<ul> <li>As there will be removal of accessible installed components, including part of the wind turbine foundations, down to 1 metre below the seabed, the impact of permanent habitat loss on the benthos should be scoped in.</li> <li>The list of impacts outlined in the method statement to be included in the ES is appropriate with the following caveat; <ul> <li>Impact of non-native species to be included in scoping/ES as a separate impact and not included in assessment of substrate colonisation.</li> </ul> </li> </ul>	MMO; Benthic Ecology Expert Topic Group (NE, MMO, Cefas)	2	This was discussed with the MMO (and other stakeholders) during the benthic ecology Expert Topic Group 2 meeting on the 21 <sup>st</sup> March 2018. Potential effects from a loss of habitat as a result of the placement of turbine foundations and scour protection is assessed in Chapter 9 Benthic Ecology of the ES. Potential effects from the introduction of marine non- native species (MNNS) is presented in Chapter 9 Benthic Ecology of the ES. This has been included as an operational impact only as this is when it is likely to be most significant. This is as a result of the introduced artificial substrate, over time, acting as a potential vector/ 'stepping stone' for MNNS and allowing them to become established.		
	<ul> <li>Data collection</li> <li>Data sources outlined in the method statement will provide a sufficient baseline for a robust EIA without the need for dedicated benthic faunal surveys.</li> <li>NE/MMO agreement that the benthic sampling strategy for the new cable corridor was sufficient for EIA purposes.</li> <li>New geophysical survey data within East Anglia TWO and East Anglia ONE North offshore development area will provide indicative information on Sabellaria presence</li> </ul>	Benthic Ecology Expert Topic Group (NE, MMO, Cefas)	3	Final benthic survey sampling strategy was agreed with MMO, Cefas and NE prior to sample collection. Geophysical data has been collected and analysed to identify potential areas of Sabellaria reef within the offshore cable corridor. Results of this survey have been reported through Chapter 9 Benthic Ecology of the ES.		



Pre-Phase 1 and Phase 1 Consultation				
Торіс	Feedback	Stakeholders	Number of times feedback received	Action
	which will be confirmed during pre-construction surveys.			
Fish and Shellfish Ecology	<ul> <li>Data collection</li> <li>Data sources outlined in the method statement will provide a sufficient baseline for a robust EIA without the need for dedicated fish surveys.</li> </ul>	Benthic Ecology Expert Topic Group (NE, MMO, Cefas)	1	Acknowledged and agreed.
200.039	<ul> <li>Impacts on fishing during construction</li> <li>Concern over underwater noise during installation affecting fishing.</li> </ul>	Southwold Town Council Meeting	1	The impact of underwater noise on fish and shellfish receptors was assessed in Chapter 10 Fish and Shellfish Ecology of the ES. Underwater noise modelling was used to inform this assessment.
Marine Mammals	<ul> <li>Assessment methodology</li> <li>The list of impacts outlined in the method statement to be included in the ES is appropriate with the following caveat;         <ul> <li>Entanglement to be included if floating foundations are within the project design envelope.</li> </ul> </li> <li>Potential impacts of Unexploded Ordnance (UXOs) should be fully considered in the ES.</li> </ul>	Marine Mammals Expert Topic Group (NE, MMO, Cefas, Whale and Dolphin Conservation (WDC) and The Wildlife Trusts (TWT)); MMO	2	Floating foundations no longer within the project design envelope. The potential impacts of UXO have been considered within the EIA.
	<ul> <li>Data collection</li> <li>Site specific survey methodology (2 years aerial digital) is appropriate.</li> </ul>	Marine Mammals Expert Topic Group (NE, MMO, Cefas, WDC and TWT)	2	Data for marine mammals was collected alongside ornithology data collection. The assessment is based on 24 months of site specific data. There were 24 months of marine mammal surveys for East Anglia ONE North (Sep 2016 – Aug 2018).



	Pre-Phase 1	and Phase 1 Con	sultation	
Торіс	Feedback	Stakeholders	Number of times feedback received	Action
	The marine mammals strategy should include 24 months of continuous surveys.			
Offshore Ornithology	<ul> <li>Assessment methodology</li> <li>RSPB would prefer to see onshore and offshore work streams kept together where possible.</li> <li>The list of impacts outlined in the method statement to be included in the ES is appropriate with the following caveat; <ul> <li>Impact of lighting during construction and operation to be included in scoping report with a view to scoping out. RSPB agree with the addition of: in-combination breeding season collision risk to gannet, kittiwake and lesser-black backed gull; potential barrier effect (including consideration of Dutch and Belgian windfarms); and potential need to consider herring gull and little gull.</li> </ul> </li> <li>Consideration should be given to the geese population at certain times of the year in the impact assessment.</li> <li>NE advised that a seasonal restriction should be placed on cable installation between November and February to mitigate impacts to the Outer Thames Estuary SPA.</li> </ul>	Royal Society for the Protection of Birds (RSPB); Offshore Ornithology Expert Topic Group (NE, MMO RSPB); Site selection workshop – SCDC (now East Suffolk Council) and SCC	4	Offshore survey works commenced in 2016 and onshore infrastructure locations were confirmed in 2017 therefore it was not possible to keep workstreams together. Disturbance due to lighting was considered in the Scoping Report and scoped in for construction phase but scoped out for operation and decommissioning phases. However, at the request of NE, construction and operational lighting was considered in Chapter 12 Offshore Ornithology of the ES. Collision risk (project alone and cumulatively) and potential barrier effect were scoped in for operation phase. Herring gull and little gull were included in the scoping report. Migropath data presented as part of East Anglia ONE and East Anglia THREE has been provided as justification for scoping out impacts to non-seabird migrants on the basis that there is no pathway. NE agreed this could be scoped out. NE and RSPB have agreed that non-seabird migrants do not need to be assessed as part of offshore ornithology on the basis that migropaths do not show a pathway.



	Pre-Phase 1 and Phase 1 Consultation				
Торіс	Feedback	Stakeholders	Number of times feedback received	Action	
				A seasonal restriction has been considered further as part of the assessment but is not considered to be necessary given the small predicted impact of disturbance on red-throated diver, see Chapter 12 Offshore Ornithology of the ES for more information.	
	<ul> <li>Data collection</li> <li>Proposal to undertake 20 months of survey and supplement 2018 breeding season with historical data. NE/RSPB advise 2 years of data required. (24 months of current survey data should be provided).</li> </ul>	Ornithology Expert Topic Group (NE, MMO RSPB)	1	24 months of data was collected.	
	<ul> <li>Bird strike Public Information Day information</li> <li>Concern over bird strikes as there is not much information and not mentioned on the Public Information Day displays.</li> </ul>	Local Community Member	2	Collision risk modelling has been reported within Chapter 12 Offshore Ornithology of the ES.	
Commercial Fisheries	<ul> <li>Impacts on fishing during construction</li> <li>Concern over affecting commercial fisheries.</li> <li>Concerns over rock dumping which can interfere with trawling activities.</li> <li>Concern over fishing activity affected by piling.</li> </ul>	Local Community Member; Transboundary: Belgium; Member of Commercial Fisheries Working Group (CFWG)	3	Impacts to commercial fishing activity and the requirements of rock dumping and associated impacts have been considered in the EIA. There was also ongoing consultation with fisheries stakeholders throughout the pre-application process. These potential impacts have been assessed and presented in Chapter 13 Commercial Fisheries of the ES.	



	Pre-Phase 1	and Phase 1 Con	sultation	
Торіс	Feedback	Stakeholders	Number of times feedback received	Action
	<ul> <li>Impacts on fishing during operation</li> <li>Will fishing activity be permitted within the windfarm?</li> <li>Concern over displacement of activity into French fishing grounds.</li> </ul>	Transboundary: France (CRPMEM Hauts de France)	2	There is no intention to prevent fishing activity during operation. Potential impacts on commercial fisheries, including transboundary impacts, are assessed in Chapter 13 Commercial Fisheries of the ES.
	<ul> <li>Assessment methodology</li> <li>NFFO suggested a change in approach for the impact assessment. Suggested it should be a two stage process, with the first stage assessing a basic magnitude and sensitivity level. The second stage would determine to what extent each fishing method could work within the site.</li> <li>NFFO stated there would be issues with coexistence and that the Eastern Inshore and Offshore Marine Plan should be reviewed as part of the assessment.</li> </ul>	NFFO	2	The EIA for commercial fisheries has been undertaken in line with best practice and accepted methods.
	<ul> <li>Request for shapefiles</li> <li>CRPMEM asked for the shapefiles should they wish to analyse how many Norman ships are concerned, at what time of year, etc.</li> </ul>	CRPMEM Hauts de France	1	A link to the windfarm boundary shapefiles was sent in response.



	Pre-Phase 1 and Phase 1 Consultation				
Торіс	Feedback	Stakeholders	Number of times feedback received	Action	
	<ul> <li>Layout discussions</li> <li>VisNed.nl would like to be involved in layout discussions to accentuate the possibility of fishing returning to the array area.</li> </ul>	Transboundary: The Netherlands	1	Consultation with transboundary consultees has been undertaken separately through the Planning Inspectorate.	
	<ul> <li>Assessment methodology</li> <li>Agreed on de-scoping of impacts from turbines on VHF, AIS and Radar.</li> </ul>	Maritime and Coastguard Agency (MCA) Shipping and Navigation meeting	1	Acknowledged.	
Shipping and Navigation	<ul> <li>Data collection</li> <li>Confirmed survey approach with MCA for 14 day summer AIS and radar survey May-July 2017 and 14 day winter AIS survey for met masts.</li> </ul>	MCA Shipping and Navigation meeting	1	Acknowledged. Due to project timescales a further 14 days of AIS and radar survey was collected for East Anglia ONE North in August 2018.	
	<ul> <li>Project design</li> <li>Turbines could be colour coded red/green to aid navigation.</li> <li>MCA currently looking at best orientations for windfarms. It may be preferable for helicopters to have turbines facing downwind rather than with prevailing winds.</li> </ul>	Local Community Member; MCA Shipping and Navigation meeting	2	Marking requirements for the turbines will be determined post-consent, but will be in line with best practice guidance as specified by the MCA and appropriate shipping stakeholders. Layout will be considered post consent during layout discussions which will be secured under the Deemed Marine Licence (DML).	



	Pre-Phase 1 and Phase 1 Consultation				
Торіс	Feedback	Stakeholders	Number of times feedback received	Action	
	<ul> <li>Impacts and considerations during operation</li> <li>Concern over interaction between windfarms and shipping and risk of collision (such as due to displacement) and oil spills.</li> <li>Concerns over the effects of the project on ship to ship transfer business.</li> </ul>	Southwold Town Council Meeting; Local Community Member	2	Collision risk is assessed and presented in Chapter 14 Shipping and Navigation of the ES. Response from marine team confirmed that the ship to ship transfer area lies 10km to the west of the northern end of the proposed windfarm boundary. It is stated that a navigational risk assessment will be conducted to look at traffic flows in the area as per the requirements of MGN 543 Safety of Navigation: Offshore Renewable Energy Installations (OREIs) - Guidance on UK Navigational Practice, Safety and Emergency Response.	
Civil and Military Aviation and Radar	<ul> <li>Security concerns</li> <li>Aerial security and homeland terrorism should be a consideration.</li> </ul>	Waveney District Council	1	These issues are considerations for the Civil Aviation Authority and relevant airports, and will inform the approach to mitigation. Further information is within Chapter 15 Civil and Military Aviation and Radar of the ES. Security measures proportionate to the substation (and in line with similar facilities) will be implemented.	
Marine Archaeology and Cultural Heritage	<ul> <li>Data collection</li> <li>If any additional borehole data becomes available during the proposed East Anglia TWO and East Anglia ONE North project's assessment phase then these details should be included in the EIA to identify any interesting sequences.</li> <li>HE requested reanalysis of three cores taken during East Anglia THREE survey.</li> </ul>	Historic England	5	No further geotechnical surveys are planned pre- consent, although the Applicant's commitment to undertake targeted archaeological assessment post- consent, including geoarchaeological assessment of geotechnical data, will be captured through relevant conditions of consent formalised through an Outline Written Scheme of Investigation (WSI) (Offshore) (Document Reference: 8.6) to be submitted as part of the Development Consent Order (DCO) application.	



	Pre-Phase 1	and Phase 1 Con	sultation	
Торіс	Feedback	Stakeholders	Number of times feedback received	Action
	<ul> <li>HE requested use of geotechnical data from East Anglia ONE and East Anglia THREE site as available to groundtruth geophysical survey.</li> <li>HE would like to see that East Anglia TWO and East Anglia ONE North site specific data is being supplemented with data from other ZAP projects as available.</li> <li>Data collection for the windfarm site will consist of new swath bathymetry and side scan sonar data and use of ZEA magnetometer and sub- bottom profile data.</li> </ul>			Reanalysis of cores was discounted from analysis as they were sandy and of little archaeological interest. All existing marine geophysical and geotechnical data will be made available for archaeological assessment alongside new sidescan sonar and swath bathymetry data acquired for the Project in 2017. Further targeted archaeological assessment will be undertaken post- consent. This approach was agreed in consultation with Historic England. This data collection methodology was agreed.
	<ul> <li>Concern over archaeological and heritage assets</li> <li>Concern over the proximity to licenced marine mineral extraction sites, as these are often located at pre-historic river channels and can be spatially correlated with the Applicant's project development area.</li> <li>Concern over East of England War Channels.</li> </ul>	Historic England; SCC	2	An assessment of the likely extents of palaeolandscapes including prehistoric river channels has been undertaken to inform the EIA. Marine mineral extraction sites in proximity to the Project areas would be considered as part of cumulative impact assessment. The Applicant is regularly in consultation with Historic England and that consideration of the East of England War Channels will form part of the baseline environment information when considering the overall historic seascape character in the EIA.
	<ul> <li>Consultation approach</li> <li>HE should be consulted to ensure validity of existing reports on wartime losses.</li> </ul>	Historic England	1	The Applicant has been in regular consultation with Historic England. The assessment of the potential for the presence of military aircraft crash sites and wartime shipping losses has been informed via a search of the National Record of the Historic Environments (NRHE)



	Pre-Phase 1	and Phase 1 Con	sultation	
Торіс	Feedback	Stakeholders	Number of times feedback received	Action
				records of reported losses as well as consideration of known aircraft and wrecks provided protection through the Protection of Military Remains Act 1986.
	<ul> <li>Assessment Methodology</li> <li>Should consider that the older sites of the highest importance may be the hardest to detect as they may have no metal content;</li> <li>There is a need for a robust approach to ensure that the measures set out in the Written Scheme of Investigation (WSI) are implemented when the preliminary works take place.</li> </ul>	Historic England	2	The assessment of geophysical data includes the identification of smaller anomalies, and clusters of such anomalies, on the seabed surface which could represent older, wooden wrecks which could be of the highest importance. The potential for further remains to be present buried within seabed sediments are also considered although it is noted that buried sites without metal content may be the hardest to identify. The Applicant has made a firm commitment to undertake targeted archaeological assessment, post-consent, which will be captured through relevant conditions of consent formalised through an Outline Written Scheme of Investigation (WSI) (Offshore) (Document Reference: 8.6) to be submitted as part of the DCO application.
Air Quality	Concerns over dust and air pollution.	Local Community Members	2	A construction dust assessment is included in Chapter 19 Air Quality of the ES in accordance with Institute of Air Quality Management guidance. Air quality and dust will be managed in construction through the Outline Code of Construction Practice (OCoCP) (Document Reference: 8.1) as secured within the DCO.



	Pre-Phase 1 and Phase 1 Consultation				
Торіс	Feedback	Stakeholders	Number of times feedback received	Action	
Water Resources and Flood Risk	Drainage impacts • Any impacts on drainage need to be discussed with the East Suffolk Internal Drainage Board. There should be early discussions as there may be charges and opportunities to improve design and reduce costs to the developer and create more sustainable water.	Water Management Alliance	1	An assessment of potential impacts on the surface water drainage network has been included as part of Chapter 20 Water Resources and Flood Risk of the ES. This considers potential impacts on main rivers, IDB drains and other ordinary watercourses. The East Suffolk Internal Drainage Board were consulted with at Phase 4 on the Preliminary Environmental Information Report as a Section 42 consultee – see <b>Chapter 8</b> of the Consultation Report for more information. They are also known as the Water Level Management Alliance and attended the Water Resources and Flood Risk Expert Topic Group in May 2019.	
	<ul> <li>Flood risk</li> <li>Flooding should be taken into account during connection point decision making.</li> </ul>	Local Community Member	1	A Flood Risk Assessment included in Appendix 20.3 of the ES. This considers flood risk from surface water, fluvial, coastal and groundwater sources to the proposed development, and any changes to flood risk in the surrounding areas that could result from the proposed development.	
Land Use	<ul> <li>Security of access concerns</li> <li>Concerns over security of access (for connection points) in terms of geographical, geological and ideological risks.</li> </ul>	Waveney District Council	1	The site selection process has taken into account environmental, physical, technical, commercial and social considerations and opportunities as well as engineering requirements. More information is shown in Chapter 4 Site Selection and Assessment of Alternatives of the ES. Chapter 6 Project Description of the ES considers the risk of major accidents and disasters related to the proposed infrastructure.	



	Pre-Phase 1 and Phase 1 Consultation				
Торіс	Feedback	Stakeholders	Number of times feedback received	Action	
	<ul> <li>Concerns over loss of agricultural land</li> <li>Loss of agricultural land should be taken into account during connection point decision making.</li> </ul>	Local Community Member, Leiston Cum Sizewell Town Council	2	Loss of agricultural land has been assessed in Chapter 21 Land Use of the ES.	
Onshore Ecology	<ul> <li>Ecological concerns</li> <li>Concerns over wildlife.</li> <li>Concerns over protected and priority species at zone W1 (with ancient woodland).</li> <li>Concerns over impact on construction on red deer (particularly within the AONB).</li> <li>Functional land next to designated areas (such as arable land) are used by species.</li> <li>Responsibility under S36 Electricity Act to improve biodiversity.</li> </ul>	Local Community Members; NE	8	Baseline and species specific ecological surveys were undertaken as part of the EIA. The findings of which were used to inform the Project and helped to identify mitigation and/or licencing requirements. Although a specific survey for red deer has not been undertaken, no red deer have been recorded or observed during the ecological surveys undertaken to date. Therefore, it has been assumed that red deer are absent and this species has not been considered any further. Relevant ecological mitigation has been provided in Chapter 22 Onshore Ecology of the ES. The Applicant will continue to work constructively with Defra and key stakeholders such as Natural England to support the preparation of guidance on the application of Net Gain and in their work to establish potential approaches to achieving biodiversity net gains for NSIPs and marine developments.	



	Pre-Phase 1 and Phase 1 Consultation				
Торіс	Feedback	Stakeholders	Number of times feedback received	Action	
	<ul> <li>Concerns over impact on woodland</li> <li>Ecological connectivity of woodland in relation to the wider area should be considered.</li> <li>Proximity to mature and ancient woodland within the western sites should be considered.</li> </ul>	Friston Parish Council Meeting; Site selection meeting (NE)	3	In the first instance, site selection has taken into account environmental constraints and the Applicant would seek to avoid features like woodland where possible. Where this is not possible, baseline and species specific ecological surveys of woodlands have been undertaken. The findings of which were used to inform the site selection and helped to identify mitigation, where required, and/or licencing requirements.	
	Assessment methodology <ul> <li>Barbastelle bat connectivity should be considered.</li> </ul>	Royal Society for the Protection of Birds (RSPB);	1	Preliminary daytime assessments of all features (e.g. trees/buildings) have been undertaken, with each feature that has been assessed assigned a negligible, low, moderate or high potential to support roosting bats. Areas within the Project have also been assessed for their suitability to support foraging and commuting bats. Further surveys, in accordance with Bat Conservation Trust guidance, have been undertaken to confirm the location of any bat roosting sites and the usage of areas for foraging and commuting bats.	
	<ul> <li>Survey Approach</li> <li>Agreed to the use of a 250m buffer from the onshore red line boundary and the use only of Habitat Sustainability Index, followed by eDNA surveys to inform the EIA and mitigation requirements for great crested newt.</li> </ul>	Onshore Ecology Expert Topic Group: SCC, Suffolk Coastal and Waveney District Councils (now East	1	All ponds (where access was granted) within the wider scoping area have been subject to both a Habitat Suitability Index Assessment and an eDNA survey. The findings of which were used to inform the Project and identify mitigation and/or licencing requirements.	



	Pre-Phase 1	and Phase 1 Con	sultation	
Торіс	Feedback	Stakeholders	Number of times feedback received	Action
		Suffolk Council), NE, Environment Agency, Suffolk Wildlife Trust, RSPB		
	<ul> <li>General principles for ecological assessment</li> <li>Approach agreed in East Anglia ONE regarding assessing value of hedgerows and minimising impacts to hedgerows should be incorporated into future projects throughout.</li> <li>Concerns over severing links (wildlife corridors) between features (drains / hedgerows, etc.) which should be assessed.</li> <li>Concerns over any woodland loss.</li> <li>Will woodland blocks be avoided if possible and will woodland be retained above HDDs?</li> </ul>	SCC (Local Planning Authority Meeting)	6	These principles have been taken into account as part of the site selection work and as part of the ecological assessment undertaken. It was confirmed that woodland could be retained above Horizontal Directional Drilling (HDD).
Onshore Archaeology and Cultural Heritage	<ul> <li>Listed Buildings</li> <li>Any woodland removal at Aldeburgh Road may impact on the setting of the Grade 2 listed building.</li> <li>Concerns over crossing Aldeburgh Road impacting the setting of the Grade 2 Edwardian Villa.</li> <li>Concerns crossing Aldeburgh Road.</li> </ul>	Site Selection Workshop; NE; SCC and SCDC (now East Suffolk Council)	3	These points have been considered in the heritage settings work undertaken as part of the heritage assessment presented in Chapter 24 Onshore Archaeology and Cultural Heritage of the ES.



	Pre-Phase 1 and Phase 1 Consultation				
Торіс	Feedback	Stakeholders	Number of times feedback received	Action	
	Concerns over noise	Local Community Member; Leiston Town Council	4	Appropriate operational noise limits are addressed within Chapter 25 Noise and Vibration of the ES. Operational noise from the onshore substation will be no greater than 34dB during the day time and night at the NSRs in accordance with BS4142:2014+A1:2019 Potential noise impacts and mitigation measures are presented in Chapter 25 Noise and Vibration of the ES.	
Noise and Vibration	Concerns over vibration Local Community 1 Member	1	Operational substation plant such as transformers and other sound power equipment vibrate at twice the power frequency i.e. 100Hz and associated harmonic frequencies e.g. 200Hz, 300Hz. However, the effects are <b>negligible</b> and are countered using industry standard mitigation techniques such as the use of vibration isolation pads to prevent transmission of ground borne vibration.		
Traffic and Transport	<ul> <li>Traffic and transport impact</li> <li>Concerns over increasing road movements.</li> <li>Road access and traffic impact should be taken into account during connection point decision making.</li> </ul>	Local Community Member	4	An assessment of potential impacts of increases in road traffic has been undertaken as part of Chapter 26 Traffic and Transport of the ES. The ES submission also includes details of measures to manage the impact of the project's traffic. An appraisal of access options and constraints has been undertaken by the Applicant in considering potential connection points.	
	<ul> <li>Impact on North Ipswich Bypass</li> <li>The North Ipswich Bypass is a long term aspiration for SCC - clarification needed of the interaction between it and the EA projects. Will</li> </ul>	SCC (Local Planning Authority Meeting)	2	The proposals for East Anglia ONE North and East Anglia TWO do not overlap with the proposals for the North Ipswich Bypass.	



	Pre-Phase 1	and Phase 1 Con	sultation	
Торіс	Feedback	Stakeholders	Number of times feedback received	Action
	this constrain the route? Can a highway be constructed on a cable corridor?			
	<ul> <li>Visual impacts of offshore infrastructure</li> <li>Concerns over adverse sea/ landscape and visual impacts and intrusive nature of projects.</li> <li>Concern over views from Southwold.</li> <li>Why can't smaller turbines be used?</li> <li>Why are the largest turbines closest to the shore?</li> </ul>	SCC and East Suffolk Council, Local Community Members and Suffolk Preservation Society; Southwold Town Council Meeting	5	An Expert Topic Group on Landscape and Visual was set up (including Local Planning Authorities). The issues raised have been discussed within that group and are considered within Chapter 28 Offshore Seascape, Landscape and Visual Amenity of the ES.
Offshore Seascape, Landscape and Visual Amenity	<ul> <li>Coastal Visualisations and Assessment Methodology</li> <li>The size of ships as a visual comparison to the turbines would be useful.</li> <li>A number of points regarding coastal visualisations were raised at the Coastal Visualisations Meetings: Including:</li> <li>Worst case scenario for the visual impacts was presented as turbines of a maximum tip height of 300 meters;</li> <li>It was recommended that a full set of visualisations in summer (July/August) in full visibility conditions were included, to represent</li> </ul>	Southwold Town Council Meeting Onshore Expert Topic Group Coastal Visualisations Meeting 1 and 2; SCC and Suffolk Coastal and Waveney District Councils (now East Suffolk Council).	25	Additional viewpoints and consideration of timings were included within the detailed assessment. Realistic worst case scenario for visual impacts is presented in Chapter 28 Offshore Seascape, Landscape and Visual Amenity of the ES. Photomontage visualisations shown in Figures 28.26 – 28.53 of Chapter 28 Offshore Seascape, Landscape and Visual Amenity of the ES. Visual effects assessed in Appendix 28.5 Visual Assessment of the ES and summarised in Chapter 28 Offshore Seascape, Landscape and Visual Amenity of the ES.



	Pre-Phase 1	and Phase 1 Con	sultation	
Торіс	Feedback	Stakeholders	Number of times feedback received	Action
	<ul> <li>maximum visibility scenario, which is likely to be when sun in the west (evening) (when sun would be lighting front of turbines). A selection of viewpoints could then be used to illustrate different times of day e.g. morning photos to show the context of the less visible part of the day (when sun is behind the turbines).</li> <li>It was recommended that additional Met Office visibility data should be used to corroborate the data from Weybourne weather station. Met Office visibility data could be used to assess the seasonal timing and duration of 'excellent' and 'good' visibility, which will be key to determining impact significance.</li> <li>Viewpoints selected for assessment should not be restricted to beach views. Land often rises up from the beach, affording more visibility.</li> <li>SLVIA needs to consider how the baseline is defined to inform assessment work. The Applicant may need to commission a baseline seascape characterisation study.</li> <li>LVIA should consider how the proposed development will affect the special qualities of the AONB e.g. the sea constitutes the setting to the AONB. AONB special qualities document should be referred to when defining special qualities.</li> </ul>			Agreed viewpoints for visual assessment listed in Chapter 28 Offshore Seascape, Landscape and Visual Amenity of the ES. SLVIA uses the Suffolk, South Norfolk and North Essex Seascape Character Assessment as the baseline, as described in Appendix 28.3 Seascape Assessment and Chapter 28 Offshore Seascape, Landscape and Visual Amenity of the ES. Visibility frequency provided in the SLVIA used visibility data from the nearest Met Office stations that record visibility (Weybourne and Shoeburyness) to highlight potential trends in the visibility conditions of the study area. The special qualities of the AONB have been a key consideration within the site selection exercise and the LVIA undertaken. Effects on seascape character assessed in Appendix 28.3 Seascape Assessment and Chapter 28 Offshore Seascape, Landscape and Visual Amenity of the ES.



Pre-Phase 1 and Phase 1 Consultation							
Торіс	Feedback	Stakeholders	Number of times feedback received	Action			
	<ul> <li>Visibility data from Weybourne and Shoeburyness will be combined to give more robust data for the visibility assessment.</li> <li>Partial agreement that the proposed coastal viewpoints were broadly suitable at a high level, but that the range of viewpoints was insufficient to complete a thorough assessment at the most sensitive receptors. More viewpoints will be considered, particularly in areas where detailed assessment is needed, as well as more elevated viewpoints. In addition, more at elevated coastal cliff top views will also be considered.</li> <li>Further comments and advice:</li> <li>A full suite of viewpoints as far south as Felixstowe and as far north as Caister on Sea will be appropriate.</li> <li>Viewpoint selection should identify both beach locations and elevated locations above the strand line, such as Southwold Common, Gun Hill Southwold and Dunwich Coastguard Cottages.</li> <li>At each principal location, such as Lowestoft, Kessingland, Southwold Walberswick, Thorpeness, Dunwich, Bawdsey and Felixstowe/ Old Felixstowe there should be both representative and illustrative viewpoints</li> </ul>			Cumulative effects assessed in Appendix 28.7 Cumulative Impact Assessment and summarised in Chapter 28 Offshore Seascape, Landscape and Visual Amenity of the ES. Visual effects on users of the coastal path assessed in Appendix 28.6 Suffolk Coastal Path Assessment and summarised in Chapter 28 Offshore Seascape, Landscape and Visual Amenity of the ES.			



Pre-Phase 1 and Phase 1 Consultation							
Торіс	Feedback	Stakeholders	Number of times feedback received	Action			
	<ul> <li>to identify how each settlement will be affected by the proposals.</li> <li>In consultation with Historic England and other heritage consultees it is possible that specific viewpoint locations relating to scheduled monuments and listed buildings or parklands will be required.</li> <li>Suggested that specific locations are provided with additional late afternoon views to capture the effect of side lighting of the turbines from the west and a suite of dusk views to illustrate the likely impacts of aviation and marine safety lighting.</li> <li>In order to evaluate the landscape and visual impacts of the proposal, a seascape baseline will need to be developed and agreed. The contribution of this seascape baseline to the character and special qualities of the AONB and Heritage Coast and its setting, also need to be agreed.</li> <li>Lighting of the turbines is likely to be a sensitive issue, given the size of the turbines it would be helpful to establish the likely illumination requirements from the Civil Aviation Authority (CAA) and Ministry of Defence (MOD).</li> <li>The degree of visual perception of the array from the coast is a particularly important matter that is identified in EN3 at paragraph 2.6.203.</li> </ul>						



	Pre-Phase 1 and Phase 1 Consultation					
Торіс	Feedback	Stakeholders	Number of times feedback received	Action		
	<ul> <li>The Applicant should be able to demonstrate that Weybourne is a satisfactory analogy for the Suffolk coastline and confirm if there is other data available from the Met Office Data Archive, (MIDAS), Trinity House, Maritime and Coastguard Agency (MCA) or other sources that would help to corroborate this data.</li> <li>The characteristics of the coast and its sensitivities and ability to absorb the impacts of the proposal are a particularly important matter that is identified in EN3 at paragraph 2.6.203. The applicant will need to review the current seascape baseline and present possible options for assessing the impact of the proposal on the waters between the array and the shoreline of Suffolk (and Norfolk).</li> <li>The Applicant will present draft locations for viewpoints and those viewpoints that will be used for verified visualisations and if required, illustrative visualisations; to be agreed with the landscape and visual group in discussion and through joint site visits.</li> <li>Viewpoint locations should be sufficiently widespread to pick up any in combination visual effects with turbines that are part of the visual baseline, such as Gabbard / Galloper, Scroby Sands, Gunfleet Sands and the London Array.</li> </ul>					



	Pre-Phase 1	and Phase 1 Con	sultation	
Торіс	Feedback	Stakeholders	Number of times feedback received	Action
	<ul> <li>Visualisations will include night-time views and where appropriate may include combined views with consented but unbuilt arrays. It is also likely to be necessary to consider the possible interaction of this proposal with the construction and operational phases of Sizewell C (SZC) for which specific visualisations may be required.</li> <li>List of 22 representative viewpoints, which were issued to the Expert Topic Group subsequent to 7th July Expert Topic Group meeting, was confirmed as being a satisfactory initial set, but a night time-morning view is also required in the Felixstowe area, to capture the interaction with existing baseline lighting from Galloper, Gabbard, London Array, and the ports/ shipping traffic.</li> <li>Additional representative viewpoints were requested and additional illustrative viewpoints were suggested.</li> <li>Definitions of representative and illustrative viewpoints agreed. Representative viewpoints – These are selected to represent the experience of different types of visual receptor where larger numbers of viewpoints – These are chosen specifically to demonstrate a particular effect or specific issues; appropriate visualisation for the location but written analysis</li> </ul>			



	Pre-Phase 1	and Phase 1 Con	sultation	
Торіс	Feedback	Stakeholders	Number of times feedback received	Action
	<ul> <li>of the impacts not required for LVIA. (Note however that analysis of heritage impacts may be required in heritage assessment).</li> <li>Request for a systematic agreed approach to the assessment of visual impacts on users of the existing / in development coast path. May be appropriate to assess the impacts on those walking north and those walking south separately; and/or to divide the route into sections and the degree of impact assessed for each section. As well as assessing the visibility of the proposal from the route, it is suggested that the contribution of the open sea to the character and visual amenity should also be evaluated.</li> </ul>			
	<ul> <li>Misleading images</li> <li>Due to misleading turbine images being circulated, which were not produced by the Applicant, it was advised that a meeting should be arranged with key stakeholders in Southwold and Reydon to clarify accurate coastal visualisations.</li> </ul>	SCC; Southwold Town Council	2	There was a Southwold Town Council Community Briefing Meeting held on the 18 <sup>th</sup> January 2018 with a presentation on the proposals including turbine statistics and visualisations, providing an opportunity to discuss any further concerns.
Landscape and Visual Impacts	<ul> <li>Visual impacts of substation</li> <li>Concern over visual impact of the substation.</li> <li>Visual aesthetics should be taken into account during connection point decision making.</li> </ul>	Local Community Member	2	An Expert Topic Group on Landscape and Visual was set up (including Local Planning Authorities). The issues raised have been discussed within that group and were considered within the EIA.



	Pre-Phase 1	and Phase 1 Con	sultation	
Торіс	Feedback	Stakeholders	Number of times feedback received	Action
	<ul> <li>Landscape and Visual Amenity considerations</li> <li>Must take into account the Special Landscape Areas (SLA) during the LVIA.</li> <li>LVIA should consider implications of localised woodland losses.</li> <li>Must consider character and beauty of the AONB as well as special qualities.</li> </ul>	Local Community Member; SCC (Local Planning Authority Meeting); Site selection workshop – SCDC (now East Suffolk Council)/ SCC	4	Chapter 29 Landscape and Visual Impact of the ES considered potential impacts on agreed receptor viewpoints. An Onshore Landscape Mitigation Plan (OLMP) (presented in the Outline Landscape and Ecological Management Strategy (OLEMS) (Document Reference: 8.7) submitted with this DCO application) provides details of landscape planting that will be undertaken to mitigate potential visual impacts.
	Light pollution <ul> <li>Concerns over light pollution (associated with construction works and onshore infrastructure).</li> </ul>	Local Community Member	3	An Expert Topic Group on Landscape and Visual was set up (including Local Planning Authorities). The issues raised have been discussed within that group and are considered within the Landscape and Visual Amenity assessment. Along the length of the onshore cable route during the construction phase, no 24-hour lighting is anticipated to be required except that associated with HDD operations and security lighting at the Construction Consolidation Sites (CCSs). Task lighting will be utilised in localised areas where required. As part of embedded mitigation measures, the onshore substation has been designed so that it does not require to be permanently lit at night during the operational phase, with passive lighting (passive infra-red). Task and



	Pre-Phase 1 and Phase 1 Consultation					
Торіс	Feedback	Stakeholders	Number of times feedback received	Action		
				vehicle lighting may be used in the hours of darkness during approved working hours.		
Tourism Recreation and Socio- Economics	<ul> <li>Opportunities</li> <li>Concern of local impacts, particularly to ensure that industry and locality work together to maximise opportunities.</li> <li>It was raised that as there are employment opportunities and benefits, the Applicant needs to engage with the educational establishments and the local supply chain that the new projects will bring.</li> </ul>	Norfolk County Council; Leiston Town Council	2	The socio-economic assessment (Chapter 30 Tourism, Recreation and Socio-Economics of the ES) has considered the level of employment opportunity created by the project and whether noise or traffic has potential to disturb the local communities during construction. Employment estimates have been included in the socio- economic assessment. A skills strategy was developed by SPR for East Anglia ONE in conjunction with the relevant Local Planning Authorities. This is being developed further for East Anglia THREE. The implementation of this strategy has created the skills environment required for the proposed East Anglia ONE North project.		
	<ul> <li>Local Community Impacts</li> <li>Concerns over substations affecting local housing and quality of life.</li> <li>Concern over construction impacts.</li> <li>Terrorism concerns - suggest substations placed far away from residential dwellings.</li> </ul>	Local Community Members; Friston Parish Council Meeting; AONB Partnership	6	Chapter 30 Tourism, Recreation and Socio-Economics of the ES considers the effects of substations on local communities and housing, and Chapter 27 Human Health of the ES considers changes to public health and wellbeing of the population. Chapter 6 Project Description of the ES considers the risk of major accidents and disasters related to the proposed infrastructure. Security measures proportionate to the substation (and in line with similar facilities) will be implemented.		



	Pre-Phase 1	and Phase 1 Con	sultation	
Торіс	Feedback	Stakeholders	Number of times feedback received	Action
	<ul> <li>Socio-economic impacts</li> <li>Impacts on businesses (due to impact on AONB).</li> <li>Impacts on restaurants, shops etc, with construction workers staying temporarily.</li> </ul>	AONB Partnership; The Suffolk Coast DMO	3	Chapter 30 Tourism, Recreation and Socio-Economics of the ES included an assessment of potential effects upon the tourism industry. It should be noted that there is the potential for incoming workers to positively affect the tourism industry by using accommodation during off-peak periods and spending on food during their stay.
	<ul> <li>Tourism and recreation concerns</li> <li>Concerns over effects on tourism.</li> <li>Knodishall Common is very important to the local community at Knodishall.</li> <li>Concern over impact on AONB on tourism industry.</li> <li>Concern over ability of area to compete (in terms of tourism) with all the new developments.</li> <li>Concerns that tourism will decrease due to all the development.</li> <li>Large proportion of employment from tourism.</li> </ul>	Local Community Member; Knodishall Parish Council; Southwold Town Council Meeting; Friston Parish Council Meeting; AONB partnership; The Suffolk Coast DMO	8	Chapter 30 Tourism, Recreation and Socio-Economics of the ES assesses the potential impact of the project on tourism and community and recreational assets. The Applicant has subsequently set up a Tourism Working Group to specifically address tourism concerns.
	<ul> <li>Assessment methodology</li> <li>It would be beneficial if the Public Right of Way (PRoW) naming convention given on the Definitive Map was used in the ES. And PRoWs should also be incorporated into the base mapping so that this detail is easier to cross reference.</li> </ul>	SCC (Local Planning Authority Meeting)	1	The PRoW naming convention given by the Definitive Map has been used.



	Pre-Phase 1 and Phase 1 Consultation					
Торіс	Feedback	Stakeholders	Number of times feedback received	Action		
Cumulative Impacts	<ul> <li>Cumulative Impact with Sizewell C and Interconnector projects</li> <li>It is possible that the construction of the proposed East Anglia TWO / East Anglia ONE North projects may overlap with construction of Sizewell C. This will need to be considered further in the future, especially in terms of cumulative impacts.</li> <li>There should be a co-ordinated approach with Sizewell C and Intercontinental Connector with East Anglia ONE North and East Anglia TWO projects.</li> <li>It was agreed at the Local Planning Authority site selection meeting that The Applicant will follow the Planning Inspectorate cumulative impact assessment guidelines when completing the EIA. At this stage the interconnector project information is extremely limited which means, following the Planning Inspectorate guidance, that the NGV project will not be considered as part of the cumulative impact assessment for the proposed East Anglia TWO and East Anglia ONE North projects.</li> <li>Cumulative impacts on the AONB, need for co- ordinated approach.</li> </ul>	SCC (Local Planning Authority Meeting and Energy Project Meeting); Site selection meeting: SCC, Suffolk Coastal and Waveney District Councils (now East Suffolk Council) and Suffolk Coast and Heaths AONB; NE; Historic England and Environment Agency; AONB Partnership	5	The worst case scenario for each topic takes into account the realistic worst case for the timing of construction of Sizewell C as part of the Cumulative Impact Assessment. The Applicant is working with energy companies as part of the Energy Project Working Together Group established by the Local Planning Authority. The Planning Inspectorate's Advice Note 17 provided guidance on plans and projects to be considered in the Cumulative Impact Assessment (CIA). At the time of writing the CIA, inclusion of the National Grid Ventures projects was considered in accordance with the Planning Inspectorate advice notes.		



	Pre-Phase 1 and Phase 1 Consultation					
Торіс	Feedback	Stakeholders	Number of times feedback received	Action		
	Combined effects on Special Protection Area (SPA) • Consider combined effects on the onshore Special Protection Area (SPA) designated site.	Site selection workshop and site visit - SCDC (now East Suffolk Council) and SCC.	1	The effects on the SPA have been assessed and the potential for interactions of impact types are presented within the Habitats Regulations Assessment. One of the objectives of the site selection process was to avoid direct significant impacts with SPAs, therefore the narrowest section of the Leiston – Aldeburgh SSSI and the Sandlings SPA was identified for the potential crossing location. The onshore development area has been refined to reduce interaction within a 200m buffer of the Sandlings SPA. By committing to working outside the 200m buffer of the SPA where possible, the Applicant is reducing the potential interaction of proposed East Anglia ONE North project with SPA supporting habitats. Where the onshore cable corridor crosses the Sandlings SPA, open-cut or HDD (Horizontal Directional Drilling) techniques may be employed. For an open cut technique, the Applicant has committed to a reduced onshore cable route working width of 16.1m (reduced from 32m) within Sandlings SPA for a length up to 300m depending on the exact alignment chosen to cross the SPA.		
	Impacts related to offshore aggregate industry	The Crown				
	The Crown Estate suggested engaging with British Marine Aggregate Producers Association (BMAPA) over noise from the offshore aggregate industries.	Estate	1	The Applicant has engaged with BMAPA.		



	Pre-Phase 1 and Phase 1 Consultation					
Торіс	Feedback	Stakeholders	Number of times feedback received	Action		
	Cumulative impact with housing developments	Aldringham-cum- Thorpe Parish Council Meeting	1	Cumulative impacts with all relevant developments have been considered in the EIA.		
	<ul> <li>Cumulative impacts of offshore windfarms</li> <li>Concern over cumulative impact of all developments in the area.</li> </ul>	Transboundary: France (CRPMEM Hauts de France)	1	Cumulative impacts with all relevant developments have been considered in the EIA.		
Operation and Maintenance	<ul> <li>Assessment methodology</li> <li>Full consideration should be provided on the potential impacts of O&amp;M activities in the ES</li> </ul>	ММО	1	This was discussed with the MMO (and other stakeholders) during the Benthic Ecology Expert Topic Group 2 meeting on the 21 <sup>st</sup> March 2018. It was agreed that this would be included.		
Technical Details	<ul> <li>Questions relating to offshore infrastructure</li> <li>Is there a risk as we have not used these turbines before?</li> </ul>	Southwold Town Council Meeting	1	There will be assessments and testing before construction.		
Requesting Information	<ul> <li>Request for general information about projects</li> <li>Request for information as unable to attend Public Information Days.</li> <li>Registered an interest in receiving information about the projects.</li> <li>Leiston Town Council requested an update on</li> </ul>	Essex County Council Member, Local Community Members, Leiston Town Council	101	All the people that registered an interest in receiving information about the projects received an email with information regarding the East Anglia ONE North public information days being held. Response sent with information on Public Information Days and a link to the latest project update		



	Pre-Phase 1 and Phase 1 Consultation					
Торіс	Feedback	Stakeholders	Number of times feedback received	Action		
	Public Information Days.					
	<ul> <li>Request for specific information about the projects</li> <li>Request for details of the distances of the developments from the coast as well as the size of the proposed turbines.</li> <li>VisNed.nl request shapefile of the developments.</li> </ul>	Local Community Member; Transboundary: The Netherlands	2	The Applicant responded with details of the distance from the coast (as an attached image) and the size of the turbines. Shapefiles of proposed East Anglia ONE North project site supplied.		
Communication and Comments on Public Information Days	<ul> <li>Recommendations of further engagement</li> <li>Planning authority engagement so far seems appropriate. Request that certain Expert Topic Groups set up, landscape, transport, PRoW, etc to remain engaged prior to draft ES submission.</li> <li>Suggest engaging with Energy Partnership, but consider what material is shared as there is no confidentiality agreement in place. AONB staff attend as well as County Council staff who are covered by confidentiality agreement.</li> </ul>	SCC (Local Planning Authority Meeting)	2	Expert Topic Groups for landscape and transport have been established and have informed the assessments. The Landscape Expert Topic Group includes representatives from the AONB.		
	<ul> <li>Concerns over lack of publicity/ engagement</li> <li>Future engagement to capture second home owners as many houses in Southwold are now second homes.</li> </ul>	Local Community Members, Aldringham-cum- Thorpe Parish Council Meeting,	6	At Phase 1, Public Information Days were advertised in East Anglian Daily Times and Lowestoft Journal newspapers, posters were displayed at various local places and parish councillors informed. Many Parish Councils displayed posters on their websites and noticeboards. Publicity was improved for subsequent		



	Pre-Phase 1	and Phase 1 Con	sultation	
Торіс	Feedback	Stakeholders	Number of times feedback received	Action
	<ul> <li>Publicity not very good only notice in the paper made it look as if it was merely an extension of existing.</li> <li>Concern over lack of publication of Public Information Days.</li> <li>Councillor informed the Applicant that Aldringham cum Thorpe residents concerned about missing dates and venues for Public Information Days. Want leaflets to be distributed to all local residents.</li> <li>Concerns over low level of publicity of Public Information Days and general lack of information to the public concerning the projects' scale and resulting visual impacts.</li> <li>Only found out through parish newsletter.</li> </ul>	Suffolk Preservation Society		phases including a mail drop in Phase 3. Subsequent Public Information Days should have captured more second home owners, due to the dates planned for these events.
	<ul> <li>Not enough Public Information Day locations/ wrong locations</li> <li>There should be a Public Information Day in Thorpeness / Aldeburgh.</li> </ul>	Local Community Member	1	At Phase 2 there were Public Information Days in both Thorpeness and Aldeburgh.
	<ul> <li>Lack of information</li> <li>Frustration that some of the options were not presented to scale.</li> </ul>	Knodishall Parish Council Meeting	1	Once potential substation sites were decided, these were shown to scale on maps at Phase 3.

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