

Norfolk Boreas Offshore Wind Farm Consultation Report

Appendix 18.7 June 2018 newsletter

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The Latest News From

Vattenfall in Norfolk

Norfolk Boreas and Norfolk Vanguard Summer 2018



Norfolk Boreas

Welcome to the latest edition of your Vattenfall in Norfolk newsletter. The last edition delivered news of some important changes we had made to our design proposals for the Norfolk Vanguard and Norfolk Boreas windfarms, having heard your responses to the Norfolk Vanguard Statutory Consultation. Since then, we have been working hard behind the scenes and in collaboration with landowners to refine project proposals further. In the case of Norfolk Boreas, we are preparing our Preliminary Environmental Information (PEI) to present for Statutory Consultation later this year. At the same time, we are finalising our documentation to apply to the Planning Inspectorate for our Development Consent Order for the Norfolk Vanguard Project.

You will notice this newsletter looks different. Vattenfall was established over a hundred years ago, and over time, the company has undergone fundamental changes. Starting out as a domestic Swedish electricity and energy company,

it is now one of Europe's largest energy groups. In April, 2018 Vattenfall underwent a change to its brand, defining its clear purpose to power climate smarter living and goal of enabling fossil fuel free living within a generation. Norfolk Vanguard and Norfolk Boreas are key to realising our purpose.

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Focus on Norfolk Boreas

Hello, I'm Graham Davey, Project Manager for the Norfolk Boreas Offshore Wind Farm project.

First, I'd like to say thank you if you've already been in contact with us about our plans for the Norfolk Vanguard and

Norfolk Boreas projects - all the local feedback we've received has helped shape my team's design of the project. I'm delighted to be building on such positive levels of local interest and involvement. The Preliminary Environmental Information (PEI) for Norfolk Boreas is now taking shape as a result. We will be publishing this towards the end of the year and drop in exhibitions with the team on hand will help those wishing to participate in the Statutory Consultation explore the information we provide and feedback their views.

As you may recall, we plan to submit the Norfolk Boreas Development Consent Order (planning application), in approximately a year's time, one year after the Norfolk Vanguard application. So, this autumn's PEI consultation is an important project milestone, which my team and I are looking forward to and are busily preparing for.

The Norfolk Boreas site covers 725km² and is approximately 72 km from shore at its closest point (and adjacent to the proposed Norfolk Vanguard project areas). We are continuing to gather data about the wind farm area offshore, including information about the seabed, shipping, ornithology and marine mammals. We have a meteorological mast in the northeastern corner of the project area. We have deployed two devices to measure wave and currents across the site over the year. Long term meteorological measurements provide robust data, vital to our understanding of offshore weather conditions. Sea condition data allows us to optimise the wind turbine specifications ensuring that we get the best energy yields from the wind farm.

There are significant advantages to planning the delivery of Boreas just one year after Vanguard. We will share a common route for the underground electrical connection from landfall at Happisburgh to the National Grid substation near to Necton. Norfolk Vanguard will lay the cable ducts for both projects.

This will mean that there will be only one trenching operation for the two projects, significantly reducing disturbance along the onshore cable route. Also, we and our prospective supply chain partners will have the benefit of working towards delivery of two projects with very similar specifications. We are confident that this will ensure we are able to deliver electricity to consumers at a very competitive price.

Nationally, Norfolk Boreas and Norfolk Vanguard are among the cornerstones of the UK government's Clean Growth Strategy. The scale of these projects means they will help to boost productivity, provide significant growth and help decarbonise the economy. The UK offshore wind sector is leading a highly competitive global market; it is delivering new jobs, new infrastructure, exports and economic growth, while continuing to achieve significant cost reductions, help energy consumers, and contribute to the security of our energy supply. All of this, I hope you will agree, is very positive.

I'm very proud and excited to be involved in one of the projects that I and many others believe will be transformative for the East of England.

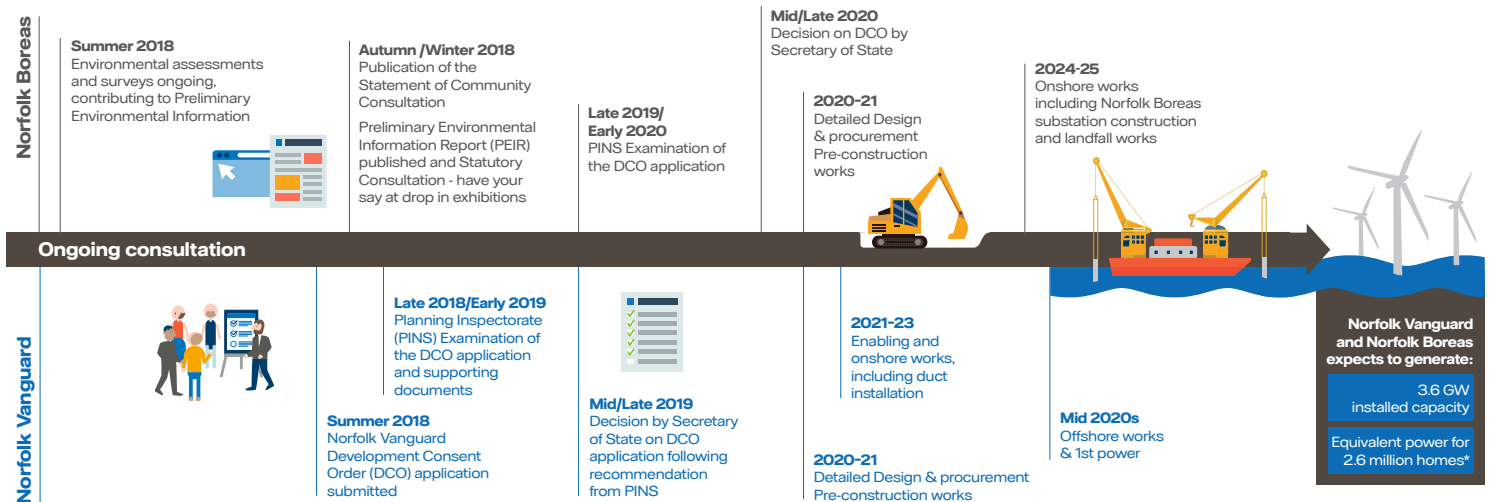
I hope you'll continue to support the development of Norfolk Boreas and Norfolk Vanguard, helping to make these projects Norfolk's own. You may be interested to understand further details including what the project will look like during and after construction and how exactly we plan to go about building the various parts. We're busy right now preparing this information which will explain how we plan to construct, what it will look like and how we will work smart to minimise impacts. We'll be sharing all of this information with you at the formal consultation events towards the end of this year.

In the meantime we will be keeping in touch and welcome your involvement to help shape the tremendous opportunities that Norfolk Vanguard and Norfolk Boreas can bring to people in Norfolk.

All the best,

Graham Davey
Norfolk Boreas Project Manager

Norfolk Boreas and Norfolk Vanguard timeline



* Number of homes equivalent: This is calculated using the most recent statistics from the Department for Business, Energy and Industrial Strategy showing that annual UK average domestic household consumption is 4,115kWh: <http://www.renewableuk.com/page/UKWEExplained>

Please note, we have updated our Privacy Statement in accordance with the General Data Protection Regulation, which came into force on 25th May 2018. You can view our Privacy Statement here: www.vattenfall.co.uk/privacy-statement

Norfolk Vanguard and Norfolk Boreas – similarities & advantages to co-development:

- Each project will consist of between 90 and 200 wind turbines, each having a rated capacity of between 9MW and 20MW, to give an electrical export capacity of up to 1,800MW at the point of connection with the National Grid. Together, this output is equivalent to 10% of UK domestic electricity needs, or 4% of total UK electricity demand.*
- Strategic co-location of onshore infrastructure (landfall, cable corridor, substation infrastructure and grid connection point) helps to maximise opportunities and to eliminate, reduce and mitigate potential impacts.
- Norfolk Boreas offshore cable corridor is 226km² and **97%** of its area is shared with Norfolk Vanguard. From landfall to the onshore project substation **100%** of the onshore cable route is shared.
- Norfolk Vanguard plan to install ducting for the transmission cables for both projects over a single two year period, securing 300-400 jobs during this time.
- Shared operations and maintenance base – employing 150 skilled workers over 25 years +.
- Together, powerful drivers for economic growth – jobs, supply chain, training & skills.

*<https://www.renewableuk.com/news/news.asp?id=327446>



Norfolk Boreas and Norfolk Vanguard Offshore Windfarm areas, and cable route corridor

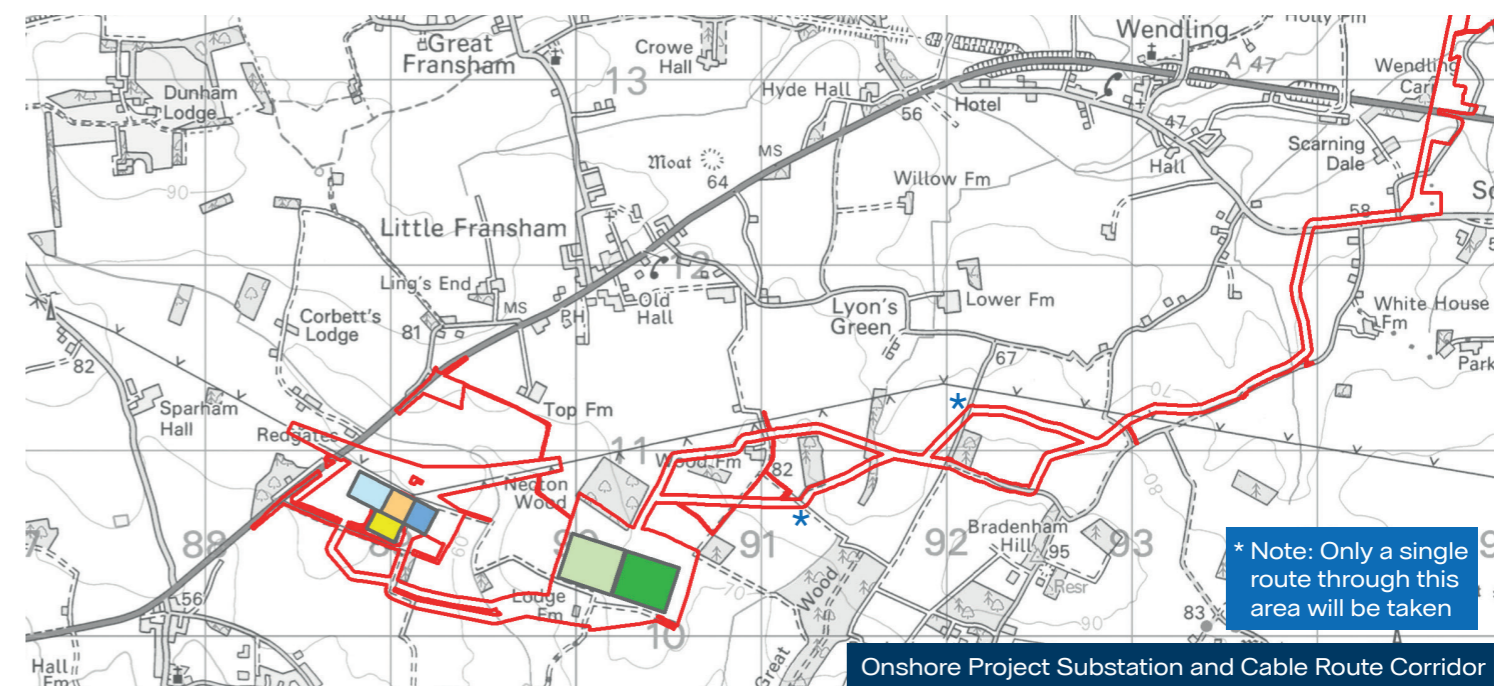
Norfolk Vanguard – what's new?

The Norfolk Vanguard Development Consent Order will have been submitted by the end of June. This is a huge milestone for the project and we'd like to thank again all those who have helped shape the project through their feedback and shared views.

The Planning Inspectorate will review our submission and decide whether to accept our application. They will publish our DCO documents here: <https://infrastructure.planninginspectorate.gov.uk/projects/eastern/norfolk-vanguard/>. We will alert you, via our website, and other means, when you can have sight of these key documents. The Environmental Statement and other DCO documents encompass significant detail that the development team have been working on since Statutory Consultation feedback was received. Key changes we have told you about already, like our decision to deploy HVDC technology, mean we have continued to work to reduce our "design envelope", and designed-out and mitigated for any potential impacts where possible. For more information about next steps in the Nationally Significant Infrastructure Project planning process, and how you can contribute further, see <https://infrastructure.planninginspectorate.gov.uk/application-process/the-process/>

Legend

- Extent of Norfolk Vanguard and Norfolk Boreas onshore works
- Norfolk Boreas site boundary
- Norfolk Vanguard site boundary
- Offshore cable corridor
- Meteorological mast
- Norfolk Vanguard onshore project substation
- Norfolk Vanguard National Grid substation extension
- Norfolk Boreas onshore project substation
- Norfolk Boreas National Grid substation extension
- Dudgeon substation
- National Grid 400kV substation



Onshore Project Substation and Cable Route Corridor

* Note: Only a single route through this area will be taken



Energy-related news in Norfolk

Vattenfall and Peel Ports, Great Yarmouth close to reaching an agreement on 25-year deal for the Port.

Our intent is to locate the operations base for Norfolk Vanguard and Norfolk Boreas at Great Yarmouth. The Port is well located and enjoys an influential position in the wider offshore energy arena, which is complemented by a supportive County and Borough Council, as well as support from the New Anglia Local Enterprise Partnership (NALEP). We hope to close a deal with Peel Ports very soon.

Richard Goffin, Port Director Peel Ports, Great Yarmouth, said: *“This agreement will leverage Great Yarmouth’s position as the East of England’s most successful offshore energy hub and attract further investment in the existing world-class supply chain, bringing a host of employment and economic growth opportunities to the region.”*

Our future Supply Chain - Can your company offer services to Norfolk Vanguard and Norfolk Boreas?

We have launched our “Request for Information” (RFI) campaign and want to hear from companies in Norfolk and the East of England. We have launched this campaign early because we hope to enable more, possibly smaller, local companies to benefit from the multi-billion pound inward-investments. The onshore and offshore construction, operations and maintenance project requirements offer many and varied opportunities. As local companies, your knowledge of the area will help ensure the project design, which has benefitted from local input to build-in more locally-suitable mitigation solutions, can be executed more sensitively.



We currently have over one hundred companies signed up. Our aim is to triple the number of local companies we can talk to and support over the next year(s) to ensure you are prepared for the procurement process. Sign-up and register your interest here <https://bit.ly/2IMXkAv>.

Preparing tomorrow’s skilled Offshore Wind Farm workforce

Many of the roles required to build and operate a modern windfarm are skilled, and there is widespread recognition across the area that upskilling in preparation for continued growth in the east coast renewable energy sector provides a real opportunity for young people, and those wishing to enter the sector in Norfolk and East Anglia. To help ensure local people can grasp future opportunities Sue Falch-Lovesey, our Local Liaison Officer and Skills Champion, is enabling some exciting **skills development opportunities** in conjunction with **3DwebTech, UEA, Norfolk Colleges, and EEEGR, whilst also ensuring that Vattenfall’s work contributes to the NALEP and NCC strategies.** Others are offering complimentary opportunities too, for example, 3Sun and East Coast College have established a new Offshore Wind Skills Centre, at the Great Yarmouth campus, supported by the NALEP. This offers ‘transition’ courses into the wind industry.



Vattenfall achieves the New Anglia Youth Pledge Marque

We are excited to have received the New Anglia Youth Pledge Marque, which “recognises those organisations pledging to support the future workforce in Norfolk and Suffolk”. We’re proud to have received this recognition and look forward to continuing our work across the region on skills and education development.



Vattenfall in the Community



Reepham Food Festival

The Reepham Food Festival was a huge success. Vattenfall sponsored the evening supper and the Farm to Food tent where Sue Falch-Lovesey, our Local Liaison Officer and Skills Champion, enjoyed meeting families and members of the community who were keen to know more about Vattenfall in Norfolk. The evening supper provided a fantastic opportunity to enjoy local produce and to chat about the day with residents. A notable highlight was a visit to the Reepham High School and College Allotment Project, where inspiring students showed us around their beautiful gardens.



Southern North Sea Conference and Exhibition, SNS 2018

In mid-May we were pleased to exhibit at the East of England Energy Group's SNS 2018. The event attracted well over 1,000 delegates from across the energy industry and supply chain. Members of the Norfolk Vanguard and Norfolk Boreas teams, including our procurement manager Rob Lilly, who will be leading in the award of contracts, were delighted to have met so many driven, ambitious and capable local companies at the event.



Vattenfall partners Norfolk Wildlife Services in best practice health and safety

We at Vattenfall pride ourselves on our health and safety standards, protecting our people at work. We are also committed to working in strong partnerships that challenge us and our contractors to drive constant improvement in H&S standards. For 2019 ecology surveys, additional investment from Norfolk Boreas allowed Norfolk Wildlife Services to apply new H&S observation systems and First Aid training, achieving a 100% First Aid certification rate for field staff. Chris Smith of Norfolk Wildlife Services said "NWS was delighted to receive this additional commitment from Vattenfall for our surveyors in the field".

Powering Climate smarter living - a flavour of recent highlights:

• Decrease in generation from coal- and gas-fired power generated by Vattenfall.

In the UK we are using less coal power* and much of the power replacing this capacity is generated by offshore wind. Projects like Norfolk Vanguard and Norfolk Boreas are making these big societal changes possible, and alone will provide the equivalent of 50% of the industrial, commercial and domestic electricity demand for the East of England - or 4% of the UK's annual electricity demand. Multi-billion pound investments are at the heart of the UK Government's Clean Growth Strategy.

• Offshore Wind farm costs are reducing rapidly.

The industry as a whole is responding to society's demands for more clean power. The UK Government's latest Contracts for Difference (CfD) auction saw the cost of offshore wind in the UK halve since 2011. Norfolk Vanguard and Norfolk Boreas will need to be cost competitive, and be part of the drive to bring the cost of energy down for UK consumers.

• Innovation at the European Offshore Wind Deployment Centre near Aberdeen: quiet suction bucket foundation installation and the world's largest capacity turbines.

Innovation like this is driving down energy costs, as turbines become larger and better-designed, and construction becomes more environmentally friendly. The new suction bucket foundations developed and deployed here are installed so quietly, within days curious porpoises are swimming around them, surveying the new marine landscape. The turbines of our Norfolk projects will be larger, and we are pioneering other innovations too - not least in HVDC transmission technology.

Vattenfall has many exciting projects that you may be interested in. For example, we are :

- ✓ Teaming up with Swedish companies SSAB and LKAB to build a globally-unique pilot plant for steel made with climate smart (fossil fuel free) hydrogen
- ✓ Designing, installing and operating customised decentral and integrated energy solutions for housing companies with operations in Sweden, Germany and the UK
- ✓ Expanding our e-mobility charging station infrastructure to the UK. Developing partnerships with cities, local authorities, companies and local energy companies we are responding to the demand for charging solutions all over Europe

Visit our corporate news pages <https://group.vattenfall.com/uk/newsroom> for more information.

You can view a film about our new purpose here <https://bit.ly/2t7gomR>



*<https://www.renewableuk.com/news/news.asp?id=324861&hhSearchTerms=%22coal%22>