

# Norfolk Boreas Offshore Wind Farm Outline Skills and Employment Strategy

## DCO Document 8.22

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*Photo: Ormonde Offshore Wind Farm*

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## Glossary

CfD	Contracts for Difference
CFN	Community Foundation Norfolk
DCO	Development Consent Order
3DVR	3 Dimensional Virtual Reality
EEEGR	East of England Energy Group
EOWDC	European Offshore Wind Deployment Centre
GW	Gigawatt
HDD	Horizontal Directional Drilling
HVDC	High Voltage Direct Current
ICE	Institute of Chartered Engineers
LEP	Local Enterprise Partnership
LiDAR	Light Detection and Ranging
NA	New Anglia
NCC	Norfolk County Council
NERC	Natural Environment Research Council
NV	Norfolk Vanguard
OWF	Offshore Wind Farm
SCC	Suffolk County Council
STEM	Science, Technology, Engineering and Mathematics
UEA	University of East Anglia
UTCN	University Technical College Norfolk
VWPL	Vattenfall Wind Power Limited

## 1 INTRODUCTION

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1. This document outlines the matters to be included in the Skills and Employment Strategy which is required under Requirement 33 of the Norfolk Boreas Development Consent Order (DCO).
2. Prior to submission of the Skills and Employment Strategy for approval in accordance with Requirement 33, the Applicant must consult North Norfolk District Council, Broadland District Council, Breckland District Council, Norfolk County Council and the New Anglia Local Enterprise Partnership on the content of the strategy. The Requirement is set out in full at Appendix A.

## 2 THE APPLICANT

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3. Norfolk Boreas Limited is proposing to develop the Norfolk Boreas Offshore Wind Farm.
4. Vattenfall, the parent company of VWPL and Norfolk Boreas Limited, is the Swedish state-owned utility company and one of Europe's largest generators of electricity and heat. Vattenfall is also the second largest developer in the global offshore wind sector. Vattenfall's purpose is to power climate smarter living and the company is strongly committed to significant growth in wind energy, both onshore and offshore.
5. Vattenfall has invested over £3.5 billion in UK wind power since 2008. As of early 2018, Vattenfall operates more than 1GW of installed capacity in the UK and plans to invest €5bn in renewables, mainly offshore wind, in Northern Europe by 2020 with an overall ambition to have 4GW of operational capacity by 2020 and 7GW by 2025. The company has the ambition that the UK will continue to be a growth market for Vattenfall, with Norfolk Boreas and Norfolk Vanguard providing a significant next step towards this ambition, potentially adding up to 3.6GW to Vattenfall's capacity when fully operational.
6. Vattenfall has world leading experience in offshore wind, as owners of Kentish Flats, Kentish Flats Extension and Thanet offshore wind farms operating in the southern North Sea, the European Offshore Wind Deployment Centre (EOWDC) located in Aberdeen Bay, and Dan Tysk and Sandbank in the German North Sea, Nordzee Wind and others. In the Irish Sea Vattenfall also operates the Ormonde Offshore Wind Farm. Vattenfall is also developing a number of European offshore wind farms, including Hollandse Kust Zuid, Horns Rev 3, and Danish Kriegers Flak. Vattenfall's innovative offshore wind schemes are deploying "next generation technology" and EOWDC represents just one example where Vattenfall is investing significantly in new research both in terms of technical innovation, and environmental studies.

### 3 THE DEVELOPMENT

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7. The Norfolk Boreas Offshore Wind Farm (herein 'Norfolk Boreas' or 'the Project') comprises a 725km<sup>2</sup> area located approximately 73km from the Norfolk coastline within which wind turbines would be located. Norfolk Boreas would have a maximum export capacity of 1,800 megawatts (MW). The offshore wind farm would be connected to the shore by offshore export cables installed within the offshore cable corridor from the wind farm to a landfall point at Happisburgh South, Norfolk. From there, onshore cables would transport power over approximately 60km to the onshore project substation near Necton, Norfolk.
8. Once built, Norfolk Boreas would have an export capacity of up to 1,800MW, with the offshore components comprising:
  - Wind turbines;
  - Offshore electrical platforms;
  - Offshore Service platform;
  - Met masts;
  - Measuring equipment (LiDAR and wave buoys);
  - Array cables;
  - Interconnector cables or project interconnector cables; and
  - Export cables.
9. The key onshore components of the project are as following:
  - Landfall;
  - Onshore cable route, accesses, trenchless crossing technique (e.g. Horizontal Directional Drilling (HDD)) zones and mobilisation areas;
  - Onshore project substation; and
  - Extension to the Necton National Grid substation and overhead line modifications.
10. Vattenfall Wind Power Limited (VWPL) (the parent company of Norfolk Boreas Limited) is also developing Norfolk Vanguard, a 'sister project' to Norfolk Boreas. Norfolk Vanguard is of the same maximum capacity and comprises two distinct areas, Norfolk Vanguard East (NV East) and Norfolk Vanguard West (NV West) ('the Norfolk Vanguard OWF sites') which are adjacent to the Norfolk Boreas site (Figure 5.1). Norfolk Vanguard's development programme is approximately one year ahead of Norfolk Boreas and as such the Development Consent Order (DCO) application was submitted in June 2018.
11. Norfolk Vanguard shares a grid connection location and also much of the offshore and onshore cable corridors with Norfolk Boreas. Therefore VWPL has adopted a



strategic approach to planning infrastructure for the two projects with the aim of optimising overall design and reducing impacts and disruption where practical.

12. In order to minimise impacts associated with onshore construction works for the two projects, VWPL is aiming to carry out enabling works for both projects at the same time. As such Norfolk Vanguard Limited as part of their DCO application, are seeking to obtain consent to undertake the following:
  - Installation of ducts to house Norfolk Boreas cables along the entirety of the onshore cable route from the landfall zone to the onshore project substation;
  - A47 junction works for both projects and installation of a shared access road up to the Norfolk Vanguard substation;
  - Overhead line modifications at the Necton National Grid substation, which would accommodate both projects.
13. If both projects secure consent these works will be provided for within the Norfolk Vanguard DCO. This is the preferred option and considered to be the most likely however, Norfolk Boreas needs to consider the possibility that Norfolk Vanguard may not proceed to construction. In order for Norfolk Boreas to stand as an independent project, this possibility must be provided for within the Norfolk Boreas DCO. Thus, consent will be sought for the following two alternative scenarios within the DCO, and both scenarios have therefore been assessed as part of the Environmental Impact Assessment (EIA):
  - **Scenario 1** – Norfolk Vanguard proceeds to construction and installs ducts and other shared enabling works for Norfolk Boreas.
  - **Scenario 2** – Norfolk Vanguard does not proceed to construction and Norfolk Boreas proceeds alone. Norfolk Boreas undertakes all works required as an independent project.
14. A full description of the project including the works required under each scenario is provided in Chapter 5 Project Description. Appendix 5.1 contains a detailed comparison of what is included in the two different scenarios across all onshore elements of the project.
15. Should Norfolk Vanguard and Norfolk Boreas both be consented and proceed to construction, as described under Scenario 1, the Skills and Employment Strategy would be developed on behalf of both projects, according to the Outline Skills and Employment Strategy submitted to the Norfolk Vanguard Examination<sup>1</sup> and secured

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<sup>1</sup> Ref <https://infrastructure.planninginspectorate.gov.uk/wp-content/uploads/projects/EN010079/EN010079-002899-8.22%20Outline%20Skills%20and%20Employment%20Strategy.pdf>

pursuant to Requirement 33 of the Norfolk Vanguard DCO. The potential synergies to be derived by developing, constructing, operating and decommissioning the Project and Norfolk Vanguard through coordinated approaches, including the co-location of key infrastructure for both projects, is consistent with this. This Outline Skills and Employment Strategy will be developed and agreed with Consultees and implemented only in the event of Scenario 2, where Norfolk Boreas is consented and proceeds to construction alone, whereas Norfolk Vanguard does not.



## 4 SCOPE OF THE OUTLINE SKILLS AND EMPLOYMENT STRATEGY

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16. The purpose of the Skills and Employment Strategy will be to encourage, enable and enhance a local, highly skilled workforce and diverse, inclusive talent pipeline to meet the business needs of Vattenfall and its supply chain as well as the aspirations of individuals.
17. This Outline Plan sets out the approach that will be adopted by the Applicant to maximise the economic benefit associated with Norfolk Boreas in Norfolk and the East of England and the principles that must be adhered to, including the types of activities to be undertaken by the Applicant as part of the development and implementation of the Skills and Employment Strategy.
18. As detailed in Appendix A of this document, Requirement 33 of the Development Consent Order requires a Skills and Employment Strategy to be produced in accordance with this outline strategy.
19. Appendix B to this document provides some examples of the types of initiatives the Applicant has instigated and developed in Norfolk and continues to evolve in collaboration with others, as well as more established programmes. These represent examples of the types of activities that support skills development and enhance the employment opportunities of participants and are therefore presented as examples of the types of initiatives which will be included in the final Skills and Employment Strategy.
20. The Applicant will also be required to prepare a Supply Chain Plan in respect of Norfolk Boreas in order to qualify to participate in a future Contract for Difference (CfD) auction. The final Skills and Employment Strategy and the Supply Chain Plan will be prepared separately; however, the Applicant has structured this Outline Strategy to ensure both documents complement each other and share common objectives.
21. The Applicant believes the Skills and Employment Strategy will be of immense value to Norfolk Boreas, to Norfolk and to East Anglia. It aligns with and a number of partner strategies and plans, including those from the New Anglia LEP; Norfolk County Council and the Offshore Wind Sector Deal.
22. The Norfolk Boreas project represents the latest generation of far-offshore development and two of the largest offshore wind farm developments in the world, with innovative solutions deployed, including HVDC transmission technology, in order to deliver coordinated development and operation, efficiencies and security of supply to the UK consumer.

23. The Project, if consented, will take up to 8 years to build and commission. This presents Vattenfall with a strategic opportunity to inspire and develop a local workforce that could be employed directly by Vattenfall or its supply chain. Early investment in education and skills, if planned effectively, will support Norfolk and the East of England in its drive to raise aspirations and to achieve sustainable economic growth. Meanwhile, high quality continuity and progression of opportunity, that meets the needs of local people, will help Vattenfall and other wind developers to attract and grow local talent for a burgeoning East Anglian low carbon, clean-tech, high-tech economy.
  
24. Current indicative construction programmes anticipate that Under Scenario 1 construction of Norfolk Boreas would commence in 2022 with operation and maintenance commencing in 2028/9. Under Scenario 2, which is applicable for this Outline Skills and Employment Strategy, construction of Norfolk Boreas could be brought forward by up to one year. The Applicant has reserved a space at Peel Ports Great Yarmouth for an operations base. These dates are indicative only and will be reviewed and updated in the final Skills and Employment Strategy.

## 5 THE APPLICANT'S APPROACH TO STAKEHOLDER ENGAGEMENT AND TO COLLABORATION ON SKILLS DEVELOPMENT

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25. The Applicant recognises the importance of engaging with stakeholders, including communities through its work. The Applicant's principles, which are adhered to throughout all its projects, are:
- Openness and transparency;
  - Providing opportunities to get involved;
  - Sharing information and understanding;
  - Listening and responding; and
  - Respect
26. The Applicant considers these principles apply equally in relation to developing its understanding of, and potentially adding value to provisions and programmes supporting skills and employment in Norfolk and the East of England, as to any other development and collaborative process. Accordingly, the Applicant has been engaging early in order to better appreciate the local context, including understanding where the strengths of local provision can lead to learning to inform the strategy and be built upon, avoiding duplication, identifying any gaps in provision, and considering how Vattenfall can best add value.
27. Such is the Applicant's commitment to collaboration in Norfolk and East Anglia to appropriately support those engaged in developing skills and employability, that since early 2017 it has employed a Local Liaison Officer and Skills Champion. With a deep understanding of the education and training landscape in Norfolk and East Anglia, Vattenfall's Liaison Officer and Skills Champion has developed many important relationships among the education and skills providers of Norfolk and beyond, including representing the interests of Vattenfall, Norfolk and East Anglia in initiatives relating to skills and employment on a national level, including the Offshore Wind Sector Deal (2019), through its new 'Investment in Talent Group'.
28. Furthermore, since 2018, the Applicant has begun early engagement with the local supply chain in order to understand directly the interests and needs of potential suppliers and service providers with respect to capitalizing on the opportunities that Norfolk Boreas will present. An aspect highlighted by representatives of local companies, which aligns with the latest report of the Department for Education, Employer Skills Survey<sup>2</sup>, and intelligence included in the "EU Skills Study: Skills and

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<sup>2</sup> <https://www.gov.uk/government/publications/employer-skills-survey-2017-uk-report>

Labour Requirements of the UK Offshore Wind Industry”<sup>3</sup> is the need to recruit, retain and upskill employees with appropriate capacities and skills. There is widespread agreement and anticipation among employers that utilising the Apprenticeship Levy will help in this respect.

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<sup>3</sup> <https://aurawindenergy.com/publications>

## 6 EARLY ENGAGEMENT INFORMING THE OUTLINE SKILLS AND EMPLOYMENT STRATEGY

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29. To date, the Applicant has collaborated closely with relevant stakeholders, including the New Anglia LEP, Norfolk County Council, Breckland Council; Broadland District Council; North Norfolk District Council, Gt. Yarmouth Borough Council, Department for Work and Pension and EEEGR (specifically Skills for Energy Group). In addition, the Applicant has engaged and worked with Key Academic partners, including: University Technical College Norwich (and the Colleges on the onshore cable route), University of East Anglia, East Coast College (Lowestoft), Centre for Energy Skills, East Coast College (Gt. Yarmouth) Offshore Wind Skills Centre, and College of West Anglia. The Applicant has also participated in early dialogue in relation to the planned Eastern Institute of Technology and an industry led STEM Hub.
30. The objective of early collaboration to date has been to explore and understand the local education, skills and training landscape, and how it relates to the interests and needs of the Offshore Wind Sector, whilst collaborating over very focused delivery where there is evidence of need and where it aligns with the Applicant's priorities. This engagement has already led to some exciting developments, and collaborative projects, as described in Appendix B to this document. A summary of the early engagement undertaken to date is set out at Appendix C.
31. The Applicant has also been engaging with the local supply chain in order to understand their interests and needs in relation to the skills agenda. Details of this early engagement are provided at Appendix D.
32. The early engagement outlined above is ongoing and will not end with the agreement of the Skills and Employment Strategy.

## 7 RELEVANT NATIONAL (SECTOR) AND LOCAL DEVELOPMENT AND SKILLS STRATEGIES

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33. This outline Skills and Employment Strategy identifies opportunities for individuals and businesses based within the East of England Region for skills development and employment associated with the construction, operation and maintenance of the proposed Project; it considers:
- The emerging priorities as highlighted in the Offshore Wind Sector Deal<sup>4</sup>
  - The priorities of the Norfolk and Suffolk Offshore Wind Cluster (led by the new All Energy Leadership Council) to boost trade, investment and growth<sup>5</sup>, and
  - Energy Skills Sector: A Skills Plan for New Anglia<sup>6</sup>
  - The New Anglia LEP New Careers Hub developments<sup>7</sup>
  - The priorities and needs of Norfolk County Council; Breckland, Broadland and North Norfolk District Councils and; Great Yarmouth Borough Council
  - Vattenfall's own priorities, purpose and existing skills programmes (national and international).

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<sup>4</sup> <https://www.gov.uk/government/publications/offshore-wind-sector-deal/offshore-wind-sector-deal>

<sup>5</sup> <https://newanglia.co.uk/norfolk-and-suffolk-are-uks-leading-offshore-wind-centre/>

<sup>6</sup> <https://newanglia.co.uk/wp-content/uploads/2019/01/New-Anglia-Energy-Sector-Skills-Plan-v004.2.pdf>

<sup>7</sup> <https://newanglia.co.uk/east-secures-careers-hub-from-government/>

## 8 SUPPLY CHAIN PLANS

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34. The aim of the Supply Chain Plan and assessment process (prepared under the CfD mechanism) is to encourage the development of open and competitive supply chains in the UK and to promote further innovation and development of skills, which will in turn drive down the cost of low carbon electricity generation over the long term.
35. The Norfolk Boreas Supply Chain Plan will include commitments made by Vattenfall across the following areas:
  - Competition;
  - Innovation; and
  - Skills.
36. The Supply Chain Plan must be approved by the Secretary of State for BEIS and if Norfolk Boreas is taken forward, Vattenfall will be required to demonstrate progress in terms of implementing the Supply Chain Plan.



## 9 PRINCIPLES UNDERPINNING THE OUTLINE SKILLS AND EMPLOYMENT STRATEGY

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37. Vattenfall believes in adding value by investing in carefully conceived and well-evaluated education and skills programmes and opportunities. Focus will be given to programmes where the potential impacts for local people and for Vattenfall are greatest. Vattenfall's strategy will be underpinned by the following principles:
- Vattenfall will promote employment, skilling, upskilling and re-skilling opportunities in communities in Norfolk and the East of England most closely associated with the development of Norfolk Boreas, ensuring the efficient delivery of the Project and ensuring long-term benefits, e.g. enhanced productivity, for Norfolk and the East of England
  - Vattenfall will enable continuity and progression of opportunity and career pathways that build on and feed into Vattenfall's existing national and international programmes;
  - Vattenfall will work in partnership to support the industry and system as a whole to build capacity, making best use of existing local and national education and skills infrastructures, programmes and opportunities and add value to these where appropriate.

## APPENDIX A DCO REQUIREMENT 33

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33. (1) In the event of scenario 2, no stage of the onshore transmission works may commence until a skills and employment strategy (which accords with the outline skills and employment strategy) has been submitted to and approved in writing by Norfolk County Council.

(2) Prior to submission of the skills and employment strategy for approval in accordance with paragraph (1), the undertaker must consult North Norfolk District Council, Broadland District Council, Breckland District Council, Norfolk County Council and the New Anglia Local Enterprise Partnership on the content of the strategy.

(3) The Skills and Employment Strategy must be implemented as approved.

## APPENDIX B OUTLINE COMMITMENTS FROM STARTS OF CONSTRUCTION, UP TO FIRST POWER YEARS (1-6)

- The outline commitments described below represent well-researched and considered opportunities to contribute effectively to the skills and employment training offering in the East of England as well as opportunities to help meet the overarching needs of the Applicant as it seeks to construct and prepares to operate its projects. The commitments to be taken forward in the final Skills and Employment Strategy may relate to some or all of the commitments listed below. Relevant priorities of the Norfolk and Suffolk Offshore Wind Cluster as described in “Energy Sector Skills: A Skills Plan for New Anglia” are also noted against the outline commitments

Commitment	Description / Examples
1 Supporting Primary and Secondary School/College STEM work, including coordination via a STEM HUB Securing the future energy workforce <sup>7</sup>	Building on Vattenfall pilot programmes (Primary energy outreach programme/Secondary 3DVR project and STEM HUB) in the early development years and in collaboration with LA and other partners, an agreed investment will be made which maximises learning impact and informed career choices.
2 Pre-19 Work Experience and T levels Building inclusive local capacity <sup>7</sup>	Develop expectations/targets and a framework for Vattenfall (and our Supply Chain, as appropriate) to enable ‘workplace experience’ for an appropriate number of students each year and to ‘reach out’ to students (e.g. Via the STEM Ambassador programme) to offer a range of support from training, and experience to “light touch coordination” as per Government Career Strategy
3 University, Post 19 internships/traineeships and University Year in Industry Supporting the development of a higher technical engineering offer <sup>7</sup>	a. Enable “Year in Industry” placements b. Enable Summer Graduate Internships, meeting business interests and needs c. Participate in appropriate and relevant projects with UEA and/or other relevant higher education institutions if / as opportunities arise (either directly, or via our supply chain)
4. Apprenticeships* (New Standards) via the Levy Addressing overall skills fragility <sup>7</sup>	A coherent, phased plan for Apprenticeships – utilising the Levy and maximising local content for Norfolk Boreas.
5 Employment/Employability of targeted adults Building intra-industry and inter-sector workforce transferability <sup>7</sup>	Support 3SUN / East Coast College Offshore Wind Skills Centre transition programmes for target groups and individuals, for example by sponsoring placements.

Commitment		Description / Examples
6.	Networking and Collaborating Mobilising industry leadership <sup>8</sup>	Collaborate with NA LEP, the new All Energy Leadership Council/ EEEGR S4E/Enterprise Advisors Network/ Regional Centres of Expertise/ Institute of Technology so as to be informed and proactive with regards to future needs and developments. Contribute to new OW Sector Deal 'Investment in Talent Group'

2. The Applicant considers a wide range of opportunities will feed into delivering the Skills and Employment Strategy, some more directly addressing the skills of employees, and the supply chain, while other initiatives seek to contribute to enhancing the skills base and even aspirational attitudes on a more fundamental level. Further details on each of the examples above is set out below.

<sup>8</sup> The New Anglia Sector Skills Plan referred to above has been developed in partnership with a number of local Energy stakeholders including Vattenfall, as well as major suppliers to the energy industry located in New Anglia and other stakeholders, for example EDF Energy, Scottish Power Renewables, East of England Energy Group, Engineering Construction Industry Training Board, University of East Anglia and the New Anglia Further Education College Group. Vattenfall recognises the importance of collaborating in relation to skills development, and endorses the New Anglia Skills Board strategy of placing employers at the centre of decision making on skills in Norfolk and Suffolk to ensure the skills system becomes more responsive to the needs of employers, residents and the future economy.

In the table of outline commitments above, headings in blue relate to key priorities identified in "Energy Sector Skills: A Skills Plan for New Anglia". The seeks to show how early outline commitments aim to contribute to the New Anglia Skills Board Strategy, and to inform, inspire and secure the next generation of the Energy Sector workforce. The headings in the in "Energy Sector Skills: A Skills Plan for New Anglia" are explained below. Definitions are included here as they summarise effectively the challenges and opportunities noted in the area, following extensive examination of the issues, and in consultation with relevant stakeholders.

- i. Mobilising Industry Leadership – the plan explains the importance of developing and securing a sustainable private sector led approach, overseeing skills development and investment;
- ii. Developing a higher technical engineering offer – feedback from employers has highlighted the need for a better supply of local, graduate level, mechanical and electrical engineering skills.
- iii. Building 'intra-industry' and 'inter-sector' workforce transferability – feedback from employers highlighted the need to enable businesses within the Energy sector to access skills and workers locally from other industries at key times, as much of their requirements are generic.
- iv. Addressing overall 'Energy Skills Fragility' – employers are aware of jobs and key functions that experience skills shortages. We have defined these as fragile areas that require an appropriate training response, accessible to learners and employers across all of New Anglia.
- v. Building Inclusive Local Capacity & Securing the Future Energy Workforce – there are a number of pressure points and key concerns identified linked to the future supply of employees into the sector overall. We have identified a series of actions to engage with schools, open up opportunities to move into jobs within the Energy sector and address imbalances in the workforce linked to age and gender. In addition, the sector often looks externally out of area for its labour supply. It is important to work with employers to tackle the barriers that inhibit the growth in local residents securing employment in the Energy sector.

Apprenticeships and Group Training – Given the implementation of the apprenticeship levy- there should be a more coordinated approach to gather and deliver apprenticeships linked to employer needs. This plan sets out steps to create a more cooperative approach towards delivering suitably trained apprenticeships.

### Primary Outreach Programme<sup>9</sup> (Commitment 1)

3. The current programme involves a Primary School the Applicant has worked with over the last 2 years, outreaching to other primary schools. The commitment would be to build on the current programme (involving student peer mentors leading renewable energy hands on activities) or enable other high quality primary school opportunities through other partners.

### Secondary 3DVR project<sup>10</sup> (Commitment 1)

4. The current programme involves University Technical College Norfolk (UTCN) delivering a previously co-developed and evaluated wind farm activity/scenario using industry standard IT tools to other schools and colleges across the East of England. 6th Formers from UTCN and undergraduates from UEA peer mentor and support younger students to develop their understanding of the wind industry, whilst also developing interpersonal skills and information about career opportunities in the industry.

### STEM Hub<sup>11</sup> (Commitment 1)

5. The New STEMHUB is an initiative between 3 developers (Vattenfall, Scottish Power Renewables and Equinor), to help coordinate and develop STEM (Science, technology, engineering and maths) activities for schools and colleges across Norfolk and Suffolk.

### Workplace experience (Commitment 2)

6. There is a recognition that there is a need for businesses to engage with schools and colleges so that young people can gain the opportunities and experiences needed to make wise career choices. We are committed to working with the new NA LEP Careers Hub to facilitate high quality experiences.

### Industry Placement (Commitment 3)

7. For Example, University 3rd Year, Year in Industry placements, where students have a formal paid job role within the organisation (for between 9-12 months) to develop their experience and contribute to their degree.

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<sup>9</sup> <http://www.colby-ecohub.org.uk/copy-of-colby-eco-hub>

<sup>10</sup> <https://corporate.vattenfall.co.uk/projects/wind-energy-projects/vattenfall-in-norfolk/out-and-about/3d-vr-wind-farm-design-programme/>

<sup>11</sup> <http://stemhub.uk.com/>

### Summer Graduate Internships (Commitment 3)

8. Either informal 6th Form opportunities, such as the Applicant's pilot work<sup>12</sup>, which has enabled 2-4 internships per summer delivering a project relating to Vattenfall's needs, as part of the Ogden Trust East Coast Energy Internship and/or for graduates/post doctoral fellowships, for example through the UEA Aries Programme<sup>13</sup>.

### Apprenticeships (Commitment 4)

9. Vattenfall are already enabling new opportunities through the Apprenticeship Levy<sup>14</sup> nationally, with the aim of ensuring its effective use to develop the workforce. It is also developing an Apprenticeship Strategy. Vattenfall are committed to ensuring a fair and appropriate number of new Apprenticeships (aligned to Project needs) are supported and to work with colleges, universities and other industry partners to develop the take up of apprenticeships in the East of England.

### Offshore Wind Skills Centre Transition Courses (Commitment 5)

10. 3Sun and East Coast College have created 2 courses<sup>15</sup>; A 'preparing to work in the wind industry programme (12 weeks) targeted at education leavers, job seekers etc. and A Transition into Offshore Wind training for those in allied industries and the military (3 weeks). Vattenfall are committed to working with the Offshore Wind Skills Centre and East Coast College to identify and enable appropriate training.

### Existing Vattenfall Programmes

11. The Project will build on Vattenfall's existing International training programmes<sup>16</sup>, so that they become available (as far as possible) to students and graduates in Norfolk and the East of England. Opportunities will be advertised on media platforms like LinkedIn and on the East of England based Mason Trust "I can be a..." career web pages.<sup>17</sup>

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<sup>12</sup> <https://corporate.vattenfall.co.uk/projects/wind-energy-projects/vattenfall-in-norfolk/out-and-about/east-coast-internship/>

<sup>13</sup> <https://www.aries-dtp.ac.uk/>

<sup>14</sup> <https://www.gov.uk/take-on-an-apprentice>

<sup>15</sup> <https://www.eastcoast.ac.uk/college-life/news-and-events/news/detail/2018/12/17/offshore-wind-skills-centre-launch>

<sup>16</sup> <https://corporate.vattenfall.com/careers/students-and-graduates/>

<sup>17</sup> <https://www.icanbea.org.uk/app/explore/organisations/vattenfall-uk-259/>

## APPENDIX C SUMMARY RECORD OF VATTENFALL'S EARLY ENGAGEMENT ON SKILLS DEVELOPMENT

Date	Contact Type	Organisation	Topic
18th January 2017	Joint meeting	University Technical College Norwich (UTCN)	Employer engagement meeting with other employers working with UTCN
19th January 2017	Interviewing	East Coast College	Interview skills support
1st February 2017	Interviewing	Reepham College	Support school with Career interviews
18th February 2017	Skills Career event	UEA (University)	Attend and have a stall
24th February 2017	Interviewing	Litcham School	Support school with Career interviews
16th March 2017	Exploratory meeting	University of East Anglia (UEA)	Explore engineering apprenticeships
22nd March 2017	Presentation	Reepham College	Presentation to 6th Formers on Norfolk Vanguard project
19th April 2017	Presentation/ Workshop 1	UTCN	Deliver and support Offshore wind programme
10th May 2017	Workshop 2	UTCN	Deliver workshop
17th May 2017	Workshop 3	UTCN	Deliver workshop
1st June 2017	Work experience 1	Dereham 6th Form	Enable a work experience opportunity for a 6th Former
14th June 2017	3DW pilot 1	UTCN	Deliver 1st 3DVR programme pilot with UTCN students and 3DW
15th June 2017	Young person's event	East Coast College (Gt. Yarmouth)	Energy Skills Foundation Interview skills.
20th June 2017	Young person's event	Reepham High School	Career, STEM programme workshops.
13th July 2017	Work Experience 2	Dereham 6th Form	Enable a work experience opportunity for a 6th Former
19th July 2017	Work Experience 3	Dereham 6th Form	Enable a work experience opportunity for a 6th Former
15th September 2017	Meeting	Colby Primary School)	Meeting to Explore the piloting and delivery of a Primary Science, Technology, Engineering, Maths (STEM) Programme.
2nd October 2017	Meeting	Colby Primary School	Develop Colby programme with teachers
6th October 2017	Meeting	Happisburgh School	Explore education opportunities with the head teacher
16th October 2017	3DW programme 1	Dereham 6th Form	Delivery of 3DVR secondary programme
17th October 2017	3DW programme 2	City College Norwich	Delivery of 3DVR secondary programme



Date	Contact Type	Organisation	Topic
18th October 2017	3DW programme 3	UTCN	Delivery of 3DVR secondary programme
19th October 2017	3DW programme 4	Reepham College and High School	Delivery of 3DVR secondary programme
19th October 2017	Launch event in evening	Norwich Science Festival	Attend launch and understand the festival, and how it contributes to local promotion of STEM learning.
30th October 2017	3DW programme 5	Aylsham High (with Colby Primary)	Delivery of 3DVR secondary programme with Colby Primary visit / Integration for afternoon
31st October 2017	3DW programme 6	East Coast College	Delivery of 3DVR secondary programme
1st November 2017	3DW programme 7	Paston College	Delivery of 3DVR secondary programme
3rd November 2017	3DW programme 8	Litcham School	Delivery of 3DVR secondary programme
17th November 2017	Exploratory meeting	Community Foundation Norfolk (CFN) UEA	Linking "Stay Well this Winter" initiative (CFN) with UEA student & research programmes researching local fuel efficiency measures.
15th November 2017	Statutory consultation	GT. Yarmouth and Gorleston Young Carers	Workshop/support for young carers to attend the Statutory Consultation
29th November 2017	Young person's event	EEEGR 'Energise your Future'	Attend and participate at this careers event
6th December 2017	Presentation	Chartered Institute of Engineers with UTCN	Presentation by student who undertook the 3DW programme to ICE (Institute of Chartered Engineers).
7th December 2017	Deliver prog.	Colby Primary	Deliver pilot primary programme
15th January 2018	Meeting and presentation	Breckland District Council	Meeting with the Council's Skills/business representative.
22nd January 2018	Meeting and presentation	Broadland District Council	Meeting with the Council's Skills/business representative.
25th January 2018	Meeting and presentation	North Norfolk District Council	Meeting with the Council's Skills/business representative.
31st January 2018	Meeting and presentation	Great Yarmouth Borough Council	Meeting with the Council's Skills/business representative.

Date	Contact Type	Organisation	Topic
1st February 2018	Telephone meeting	New Anglia LEP	Energy Sector Skills Plan collaboration for the new
1st February 2018	Drop in session	New Anglia LEP	Enterprise Advisor Network – meet team and explore input
9th February 2018	Meeting	College of West Anglia	Meet team and explore input/opportunities
19th February 2018	Meeting	New Anglia LEP	Energy Sector Skills Plan development/input
19th February 2018	Event, at Great Yarmouth	Norfolk Chamber and LEP	Contribute to consultation on NA LEP Economic Strategy
21st February 2018	Education Delivery	University Technical College Norwich (UTCN) - Wind Programme (II)	Partnership programme with other developers – Launch
23rd February 2018	Meeting	Hethel Innovation	Cleantech East Leadership group
6th March 2018	Meeting	NEXUS Engineering (and Ogden Trust)	Internship programme scoping and planning meeting
6th March 2018	Meeting	EEGR	Skills update and discussion
14th March 2018	Interviews	UEA Careers Day (SELECT)	Support UEA Engineering Students with Interview technique
15th March 2018	Conference	NALEP Careers and Enterprise Conference	Attend, contribute and network
21st March 2018	Education Delivery	University Technical College Norfolk	Deliver 3DVR programme
21st March 2018	Meeting	Norfolk County Council	Skills strategy work/development
23rd March 2018	Telephone meeting	NALEP (Natasha Waller)	Ref Skills programmes and partnership opportunities
26th April 2018	Meeting	Colby Primary and NEXUS	Planning for 8 Primary schools programme delivery
17th April 2018	Education Delivery	Charles Darwin Primary school	Planning session and share kit
19th April 2018	Education Delivery	One of Opening Presentations at UTCN event x 2	Parental Engagement event
23rd April 2018	Interviews	Ogden Trust Internships	Interview Applicants for summer internship programme
23rd April 2018	Education Delivery	UEA presentation to Masters Env. Economics Class	Economics of Green Energy for Environmental Economics Students
30th April 2018	Education Delivery	UEA presentation to Masters Engineering Class	Vanguard and Boreas Engineering presentation for Energy Engineering students
2nd May 2018	Meeting	STEM HUB	Explore partnership opportunity to create an East of England STEM hub

Date	Contact Type	Organisation	Topic
3rd May 2018	Interview	UEA, Cambridge Uni and NERC	Interview for NERC projects
9th May 2018	Interviews	Reepham College	Support with College Enrichment interviews
10th May 2018	Working Group Meeting	EEEGR skills for Energy	Meeting and presentation
16-17th May 2018	Conference	EEEGR South North Sea '18	Exhibit and enable opportunity for UEA undergraduate to work shadow colleagues
23rd May 2018	Conference and workshop/ presentations	NEXUS Pathways to engineering event	Support and exhibit
29th May 2018	Meeting	Apprenticeships meeting with City College Norwich	Apprenticeships for more vulnerable young people
1st June 2018	Meeting	Young Carers from Gt. Yarmouth and Gorleston	Career event 'reach for the sky' – at Horsted Activity Centre
1st June 2018	Meeting	STEM Awards Meeting with Simon Fox (EN6thF)	STEM (Science, Technology, Engineering and Maths) AWARDS – explore how to contribute
6th June 2018	Event	East Coast College (Energy Skills Foundation prog)	Celebration event
6th June 2018	Meeting	UTCN Industry Liaison Group	UTCN Industry Liaison Group
13th June 2018	Conference	NCC	Armed Forces Covenant Conference (Exploration/learning)
14th June 2018	Meeting	East Coast College and Skills strategy	Meet with Paul Warmington (SCC) + Cheryl Willis – East Suffolk Councils (later)
18th June 2018	Event	Reepham High Careers event	Present to 4 groups over the morning
19th June 2018	Education Delivery	Colby Primary deliver to Happisburgh Primary (1)	Students peer mentor other schools
20th June 2018	Education Delivery	Colby Primary deliver to Hevingham Primary (2)	Students peer mentor other schools
20th June 2018	Meeting	Meet with UEA to prep UEA student input into 3DW programme (3 day event)	Plan for 10 students to mentor 3DW programme in colleges
21st June 2018	Education Delivery	NEXYUS and OGDEN trust	Internship briefing for students
22nd June 2018	Celebration event	Offshore Wind Training Centre	Launch at Orbis
2nd July 2018	Education Delivery	NEXUS + Ogden Trust Internship programme	Delivery Internship Day 1 and 2
2nd July 2018	Education Delivery	Charles Darwin Primary (Alana)	Presentation by students in assembly

Date	Contact Type	Organisation	Topic
3rd July 2018	Education Delivery	Nexus + Ogden Trust Internship Programme	Delivery Internship Day 3 ad 4
1st August 2018	Meeting	EEEGR Skills for Energy	Skills and Employment Strategy development
7th August 2018	Meeting	Breckland District Council – Cassie Ruffell	Discuss Skills Strategy and education work + alert to supply chain
8th August 2018	Meeting	Meet with Celia Anderson, STEM HUB	STEM HUB set up
8th August 2018	Meeting	Meet Gavin Cowley (NCC)	Community programmes discussion focused on Breckland opportunities
16th August 2018	Working group	EEEGR skills for Energy	Meeting and presentation
23rd August 2018	Meeting	Hethel Innovation	Clean Tech Leadership Group
28th August 2018	Education Delivery	NEXUS and Ogden Trust Internship	Celebration and presentation event
3rd September 2018	Conference	Hethel and UEA	Support conference (as Clean Tech Leadership group)
13th September 2018	Education Delivery	UTCN	3DVR programme
14th September 2018	Celebration	Mason Trust	Support for and networking – ref the Mason Trust Charity and ‘I and be a..’ website
19th, 20th and 21st September 2018	Education and skills delivery	UEA	Developing trained mentors for the 3DVR programme, so as to build capacity for more outreach
28th September 2018	Meeting	EEEGR, People with energy	Apprenticeship meeting
10th October 2018	Meeting	Great Yarmouth Borough Council	Skills opportunities discussion with Council leads
19th October 2018	Meeting	Meet Necton Primary Headteacher and Governor	Explore partnership work ref energy opportunities
24th October 2018	Festival	Norwich Science Festival at the Forum	Man stand and deliver workshops all day with 2 Interns
6th and 8th November 2018	Education Delivery	Support Students UTCN to prep for 3DW session	Support student peer mentoring approach
13th November 2018	Meeting	Hethel Innovation	Cleantech Leadership group
15th November 2018	Meeting	Breckland District Council and DWP	Deliver presentation to Council and DWP colleagues on skills and Offshore Wind
23rd November 2018	Education Delivery	2 Interns deliver to OWW	Use learning from Internship programme – Interns present at Offshore Wind event
28th November 2018	Skills event	EEEGR and East Coast College	EEEGR Skills for Energy Careers event Vattenfall sponsor

Date	Contact Type	Organisation	Topic
13th December 2018	Meeting	Meet Dereham 6th Form	Ref partnership work opportunities
12th – 19th December 2018	Bid writing	NCC and Chamber	Collaboration over NALEP bid
14th December 2018	Celebration	East Coast College Offshore Wind Centre Opening	Attend, network and explore input/opportunities
9th January 2019	Workshop (Education Delivery)	City College Norwich Engineering Students	Project, skills, careers workshop
18th January 2019	Meeting	STEM HUB for EofE	Development/set up meeting
24th January 2019	Workshop (Education Delivery)	Reepham High School (year 7)	Careers workshops and discussions
25th January 2019	Presentation (Education Delivery)	UEA Masters Students (School of Economics)	Presentation ref wind farm economics
25th January 2019	Meeting	Necton Little Oaks nursery	Discuss further opportunities to support
1st February 2019	Meeting	Nicholas Hamond Academy, Swaffham	Exploration ref partnership work

## APPENDIX D SUMMARY RECORD OF VATTENFALL'S EARLY ENGAGEMENT ON SUPPLY CHAIN PLANNING

1. Engagement with sector and supply chain organisations, including information gathering and exchange relating to the skills development needs of the supply chain.

Date	Event / Organisation	Topic	Estimated number of suppliers met
February / March 2018	SNS (South North Sea) 2018	Early exchanges between Norfolk Vanguard and Norfolk Boreas procurement team / VWPL UK procurement manager and local stakeholders	
March 2018	Norfolk kick-off event	VWPL UK procurement manager meeting local suppliers	12
April 2018	Seabed Scour Control Systems		1
April 2018	Dunkerque	Highlighting opportunities across VWPL pipeline, including the Project	25
April 2018	Dunkerque Aberdeen event	Highlighting opportunities across VWPL pipeline, including the Project	25
May 2018	EEEGR organised Southern North Seas Conference & Stakeholder event	Applicant presented to conference and also participated in "meet the buyer" and other activities	50
June 2018	Norfolk (EEEGR support)	Presentation to the offshore wind special interest group.	1
June 2018	RUK Manchester	Highlighting opportunities across VWPL pipeline, including the Project	30
July 2018	GHD (Gutteridge, Haskins & Davies) meeting, Hexham	Onshore Design & Contracting strategy optimisation.	1
July 2018	Dunkerque Paris	Highlighting opportunities across VWPL pipeline, including the Project	4
September 2018	Kent Chamber of Commerce event	Thanet extension and the Project share a similar consenting / development timetable and many civil engineering and other relevant companies participate in meetings across the South and East.	45

Date	Event / Organisation	Topic	Estimated number of suppliers met
20 <sup>th</sup> September 2018	UEA Norfolk Workshop	Workshop with representatives from the offshore wind industry, local education, local government and young people, on collaborative action to ensure Norfolk and the East of England maximise on the socio-economic and environmental opportunities created by the Norfolk Boreas and Norfolk Vanguard projects. A report from this event is included in Appendix 29.2 to the Consultation Report (document reference 5.1) - 20th September 2018 skills and supply chain stakeholder workshop report.	15
October 2018	Greater South East offshore event	Highlighting opportunities across VWPL pipeline, including the Project	35
October 2018	Norfolk Chamber	Highlighting opportunities pertinent to the Project	6
October 2018	North Norfolk Chamber	Highlighting opportunities pertinent to the Project	2
October / November 2018	BVG	Supply Chain Strategy development	1
November 2018	RUK/Parliament	Supply Chain Strategy development	10
November 2018	Norwich suppliers/chamber	Highlighting opportunities across VWPL pipeline, including the Project	2
November / December 2018	Kent Construction	Highlighting opportunities across VWPL pipeline, including the Project	30



Date	Event / Organisation	Topic	Estimated number of suppliers met
5 <sup>th</sup> December 2018	Norfolk Onshore Works Workshop	Develop local supply chain understanding of the Norfolk Vanguard and Norfolk Boreas onshore works, the services required and the timeframe for delivery. Began to develop collaboration between Tier 1 contractors and SMEs. A report describing this event and the results of discussions with supply chain companies can be found in Appendix 29.3 to the Consultation Report (document reference 5.1) – 5th December 2018 onshore works supply chain workshop report	50
December 2018	MHI Vestas	Highlighting opportunities across VWPL pipeline, including the Project	1
2 <sup>nd</sup> May 2019	All UK Offshore Wind pipeline workshop, Norwich	Interactive meeting gathering together stakeholders including Norfolk County Council, New Anglia LEP, Offshore Wind Energy Catapult, BVG Associates and representatives from around 200 UK companies to discuss opportunities associated with Vattenfall's UK pipeline including Norfolk Boreas, Norfolk Vanguard, Thanet Extension, and O&M opportunities on our existing projects, as well as export opportunities.  <a href="https://group.vattenfall.com/uk/newsroom/news-press-releases/pressreleases/2019/jobs-and-contracts-promise-to-East-Anglia-firms-by-energy-group">https://group.vattenfall.com/uk/newsroom/news-press-releases/pressreleases/2019/jobs-and-contracts-promise-to-East-Anglia-firms-by-energy-group</a>	Approx. 240