

Vattenfall in Norfolk Skills & Supply Chain Stakeholder Workshop

20th September 2018, UEA
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VATTENFALL

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Cover image: Vattenfall's Ormonde Offshore Wind Farm

Preface

On the 20th September 2018, representatives from local government, education providers, business organisations and Vattenfall gathered together to reflect on actions that can enable and encourage Norfolk and the East of England to maximise the socio-economic and environmental opportunities that the growing offshore wind industry brings.

The session began with a demonstration of the learning experienced by young people participating in the Vattenfall 3DW Virtual Reality Wind development training programme. Young people showcased their capacity to learn, master the concepts of constraints mapping and problem solving using a model based on the Norfolk Vanguard and Norfolk Boreas projects, and to present their proposals – with impressive confidence - and communicated very effectively their motivation to be a part of the green energy movement that is looking at one of society’s great challenges.

With the potential for very high quality and exciting environmental and engineering careers, linked to the impressive growth in the offshore wind sector off the Norfolk and Suffolk coast, the stakeholder meeting was designed to provide a fora for an exploration of how business, industry, local government and academic partners can work together to encourage the development of a vibrant supply chain in Norfolk and the New Anglia LEP region, and with the skills and education sector during early wind farm project development to help inspire the potential workforce. The 3D modelling training project is, in our view, an interesting example of education and supply chain development through collaboration.

Providing industry context to set the scene for the discussion session, Kathy Wood, Head of Consenting for Vattenfall Wind Power who has been involved in Vattenfall’s Norfolk projects from their inception, described their significance within Vattenfall’s pipeline of offshore wind projects across Europe. Danielle Lane, Vattenfall’s UK Country Manager provided an overview of the energy outlook for the UK, where electricity needs are expected to double by 2050, as we electrify industries and transport. From renewable energy parks to plans for more than 4GW of wind energy developments, heat, grid and electric charging networks in the UK – Vattenfall is investing now in delivering solutions designed to offer climate smarter possibilities. Ruari

Lean, Senior Project Manager for Norfolk Vanguard, gave an update on the Norfolk Vanguard and Norfolk Boreas projects.

The following stakeholder workshop addressed the question: **“What can we do to support collaborative efforts ensuring Norfolk and the East of England maximise the socio-economic opportunities that Norfolk’s offshore wind energy projects bring?”** The notes that follow, provide an overview of the discussions and some of the ideas and actions that emerged.

The session was intended as a stimulus to encourage action and delivery. We are grateful to stakeholders who participated with a spirit of exploration and collaboration. The session was positively animated, and some exciting ideas as well as immediate actions emerged.

A special thank you to colleagues from UEA who hosted the event (at a very busy time of year) and who allowed the students and stakeholders access to state of the art equipment.

We look forward to working with you to ensuring that Norfolk and the NALEP region can capitalise on the opportunities offered by 30GW of offshore wind in the UK by 2030.

How the offshore modelling programme came about

3DW were originally contracted by Norfolk Vanguard to provide a 3D model of the project for use at consultation events, to help participants visualise the scale and proposed siting options of project infrastructure. They were already working on a schools programme, illustrating onshore wind farm modelling techniques. Together, Vattenfall and 3DW adapted the programme for offshore projects, scaling up the complexity of the programme to reflect the constraints and opportunities that modern, industry-leading offshore wind farm projects consider. Through further innovation, the programme is also now capable of challenging undergraduates and Vattenfall’s international graduate trainees. To get a flavour for the pilot programme please visit <http://bit.ly/2HxO2b5>.

1. Introduction

1.1. Purpose & Agenda

The purpose of the meeting was to reflect together with representatives of industry, education, local government and young people on collaborative action to ensure Norfolk and the East of England maximise the socio-economic and environmental opportunities that the growing offshore wind industry brings.

Time	Item	Notes
12.30	Arrivals, welcome, light refreshments	
12.45	Informal tour of the students' lab and learning sessions with an opportunity to "have a go" with the programme and 3DVR outputs	Chat to students as they work, explore the model's capabilities for delivering experiential and interactive learning
1.15	Student presentations on their wind farm design project	Q&A from stakeholder audience
1.45	Presentations: Vattenfall in the UK, Vattenfall in Norfolk and project updates	Scene setting & context
	Discussion session & plenary feedback	Ideas for supply chain development
3.00	Informal discussion and networking, Joined again by UEA colleagues, UEA student mentors and college students	A chance to take a the 3DVR tour of a model offshore wind farm.
3.30	Thanks & close	

1.2. Key facts & prompts to stimulate discussion

To stimulate discussion, participants were invited to offer up "key facts and statistics" pertinent to this conversation, be they relevant to their own organisations or broader. Some examples are reproduced here:

- Vattenfall plans to invest €5bn in Northern European renewables, mainly offshore wind, by the year 2020, with an overall ambition to complete 4GW of operational capacity by 2020 and 7GW by 2025
- The ambition shared by UK Government and the Sector is for 30GW of offshore wind deployed by 2030
- Offshore wind farms offer jobs for a whole career, 30 plus years, with progression opportunities. Invest now for jobs (direct, indirect, supported) over the long term
- Offshore wind is scaling up. Existing projects have installed capacities measured in 10s of megawatts (MW), tomorrow's are measured in 1000s MW. Procurement managers and potential contractors will need to manage demand & supply differently
- Remember "big society"? David Cameron's proposal to transfer services from public sector to the 3rd sector. It was not assisted by the LA's procurement procedures. Is there learning from that for Norfolk Vanguard and Norfolk Boreas?
- There are over 1m job vacancies - a 9% increase from 2015 with 33% considered hard to fill (Skills Shortage Vacancies, SSV).

- Business services and construction have highest SSV with construction sharing the highest SSV as a proportion of those in the sector.
- By occupation, 'electricians' feature in SSV 42% of hard to fill posts have highest density of SSV.
- Skills lacking are: Technical (digital and complex analytical) and People and Personal (self-management, management and leadership).
- Utilities is one of two sectors showing increased skills gap.
- Staff being new and training partially complete, is cited by 76% of those surveyed as contributing to skills gap

Source: participants' contributions & DFE Employer Skills Survey Research report for 2017, Aug 2018



Students reflecting on their constraints & opportunities model with Vattenfall



L-R back: Paul Warmington, Suffolk County Council;
 Ruari Lean, Vattenfall; Prof. Lawrence Coates, UEA;
 front L-R: Jan Feeney, Norfolk County Council;
 Danielle Lane, Vattenfall

2. Workshop reflections, ideas and priorities

Overarching points made during plenary feedback session:

- There is a strong desire and ambition for Norfolk, Suffolk and the New Anglia Local Enterprise Partnership (NALEP) area to capitalise on the growing importance of East Anglia as a hub for offshore wind activity.

One group expressed this ambition as “**Local People & Local Jobs!**” and added: “**Talent** – Ensure that Norfolk talent has the opportunity to be part of the Norfolk projects”

There were suggestions that linking with existing strengths in the IT, tech and clean-tech within the NALEP area, offshore wind could help to establish / reinforce the region as a clean-tech hub. An energy park, for example based at a [coastal] operations base, or near onshore infrastructure could become a centre of excellence, for innovation, learning and “self-sustaining education programmes”. Another group expressed the ambition that projects should aim for “60% local Content” – raising the current UK Government expectation by 10%.

2.1. Supply chain challenges

The challenges facing smaller companies and/or new entries into the supply chain to meet the interests and needs of huge, global-scale wind-farm projects, include:

- Appropriate understanding of the services required by the offshore wind industry
- Appropriate understanding of the contracting and procurement processes
- Having adequate “heft”, resources and agility to meet demand efficiently
- Meeting contracting requirements (e.g. insurance, H&S and Environmental policies and standards, human resources).

2.2. Supply chain development

Three main enablers were identified to facilitate delivery on local ambition.

2.2.1. Action from the potential supply chain, representative bodies and local agencies

Suggested areas for development, include supporting collaboration through:

- Existing offers like Hethel Innovation’s collaboration workshops, and developing new tools, structures and training modules to support collaboration or joint ventures
- Pooling of skilled personnel and services. One idea that emerged during the workshop was a virtual platform – maybe functioning in a manner similar to ‘service-oriented architecture’ – where different services can be accessed in conjunction to provide the functionality of a larger application. Technology and standards enable service providers to communicate and cooperate over a network. The platform could present a simple interface to the requester (e.g. offshore wind project developer / constructor) that abstracts away the underlying complexity. acting as a black box, to access independent services without detailed knowledge of their internal implementation / configuration.

- Helping companies to collaborate through simple tech-networking tools, like a ‘dating app’ for business
- Formation of a “Skills Board” or body, to ensure there is appropriate capacity to meet the growing demand for skilled workers in the industry and its supply chain. This function would help to de-risk recruitment for Operations and Maintenance phases of the project, by ensuring a pipeline of appropriately qualified personnel is available.
- Helping potential supply chain entries to focus sufficiently far enough into the future (rather than on very short term goals) to be well placed to win competitive tenders emerging in the next decade(s).
- Nurturing a critical mass supply base to fulfil the needs of the growing demand.

2.2.2. Action from organisations and local agencies with skills and training function

Suggested areas for development, include supporting collaboration through:

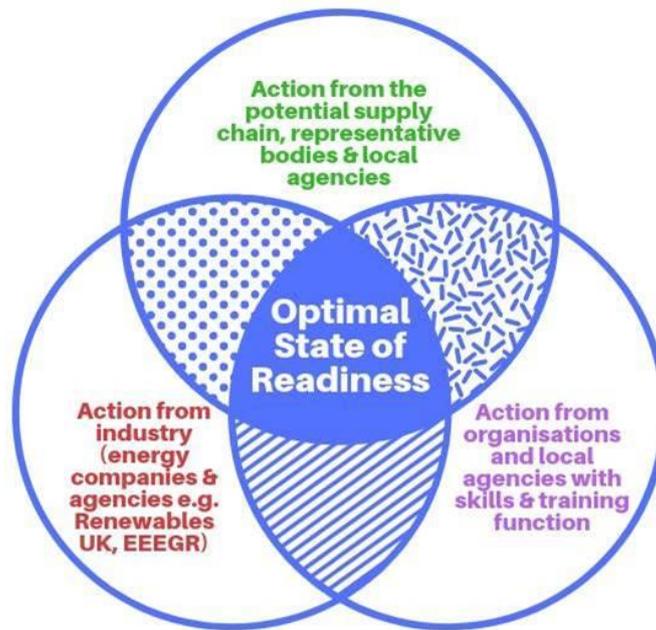
- Enthusing and encouraging participation in [STEM] study / learning to meet industry needs via innovative means e.g. “day-long hackathons”, and challenges posing real-life problem-solving tasks, including using real data and real tools.
- Seeking participation from industry to add impact and relevance to course content
- Developing case studies e.g. “Icanbea....” Website has an audience of over 20,000 – a supermarket for enthusing and recruiting the workforce of the future
- Supporting centres of excellence – where the knowledge gained by the Norfolk and other offshore projects is captured, built upon and showcased to the world
- Influencing curricula. Developing syllabus.
- Some participants suggested that “renewable energy technologies” should be added to the curriculum of independent establishments, like UTCN, and over time, with political space / support could become part of the LA college curricula. Others suggested informing existing course, e.g. City college has a civil engineering course.

2.2.3. Action from industry (energy companies, and their agencies e.g. Renewables UK, EEEGR)

Suggested areas for development, include supporting local supply chain development through:

- Procurement strategy - Vattenfall should show that the contracts / contacting strategy will encourage and deliver local content from Norfolk and the surrounding counties
- Providing / forecasting visibility of needs early – **“What do Vattenfall need in 10 years time? – If it’s 150 skilled people working out of Great Yarmouth O&M base can Vattenfall be clearer on the range of jobs and typically what students could study so they have a chance of being able to be part of future job opportunities”**; “Meet the Buyer events are great but Vattenfall need to do more engagement before such events to be clear on what contracts they need to let”.
- “Optimise logistics through local content”
- Enable / entertain innovative solutions e.g. the potential rural broadband development, through installation of “dark fibre” along the cable corridor idea (currently the proposal of BB4ER is being explored with Vattenfall)
- Collaboration between developers / energy asset owner/operators – collaboration is not just for the supply chain, can developers / operators collaborate too, to facilitate local supply chain development?
- Feeding into local / regional skills strategies e.g. NALEP skills board
- Providing scenarios and data that provide students with real challenges – these are motivating and engaging, because they are real. Young people want to address societal challenges like climate change and security of [energy] supply.

On this note, a student participant said: “What we found most stimulating about these days of learning using the Vattenfall 3-DW offshore wind farm modelling tool was not so much the fancy kit, but more the use of real data, looking at real and relevant challenges.”



Optimal state of readiness in Norfolk / NALEP region to capitalise on supply chain opportunities

3. Next steps

Decision	Action	Who	By when
Early engagement by Vattenfall in relation to Supply Chain development and opportunities is welcome, and Norfolk and the NALEP area are open to collaboration to maximise involvement of as many stakeholders / potential suppliers as possible. Skills are identified as a key challenge / opportunity for local companies – a forum for discussing skills should be a feature of the December supply chain event.	Gather together representatives of key organisations that can support the local supply chain to feed into the shape of the December supply chain event – “task & finish group”	Vince Muspratt & VF	Within two weeks
	Local bodies representing members, communities of interest can encourage participation – e.g. offers from Chamber of Commerce and others – to highlight the event to networks	All	Before end October (as plans become more defined)

Collaboration and collaborative partnerships are identified as a key opportunity for the local supply chain.	Collaboration (a culture change c.f. competition) needs to be facilitated and supported in good time – well ahead of the start of procurement. Consider the best way to enable this at the December supply chain event	“Task & finish group”	As above.
Early visibility of scope of works will help potential suppliers. Outline scope of works for Vattenfall’s Norfolk projects are described in our preliminary supply chain brochure	Update supply chain information – focus on onshore works.	Vattenfall	Ahead of the 5th December supply chain event
Collaboration is important to address some current barriers to smaller companies participating in the supply chain, however, other issues can be addressed in other ways e.g. insurance	Insurance requirements need to reflect appropriately the level of the contract let.	Vattenfall & the Industry generally	Address in procurement strategy
The NALEP skills board would like a representative from the offshore wind industry to join.	Invite Vattenfall to send a representative	NALEP Skills board	Ahead of next meeting
UTCN – willing and able to help – offering venue, equipment and facilities, STEM-focused staff and students	Consider how to use the resources available in Norfolk creatively	all	Ongoing

Thank you again to all who participated.

The report and action list will be circulated to all on the original invitation in addition to participants.

Please note, a date for the supply chain event has now been determined – 5th December, 2018 – and a “Task and finish group” will convene in Norwich early next month to plan an excellent session.

Please maintain the momentum and feel encouraged to begin any work that helps move Norfolk and the region towards an **“optimal state of readiness to capitalise on supply chain opportunities”**.

Participants

Vince Muspratt Norfolk County Council, Acting Head of Economic Development
Madeleine Coup New Anglia LEP, Innovation and Sector Development manager)
Nova Fairbank Norfolk Chamber of Commerce, Public Affairs Manager and Co. Secretary
Prof. Lawrence Coates UEA, Prof. of Engineering, School of Mathematics
Cassie Ruffell Breckland District Council, Regeneration Manager
Huw Sayer Norfolk Chamber of Commerce, Board Member, NALEP Digital Creative Industries Group Member
James Moore MOD Employee Relationship Manager, Career Transition Partnership
Diane Evans North Norfolk District Council, Business and Skills Coordinator
Yvonne Mason Founder and Director of Mason Trust
Andrew Whilding UEA, Relationship Manager Engineering
Patrick Phelan Chair of EEEGR, also MD/Founder of Energy Business Catalyst
Prof. Phil Gilmartin UEA, Dean of Faculty of Science
Jan Feeney Norfolk County Council, Employment and Skills Manager
Imogen Shipperlee Hethel Engineering and Innovation Ltd.
Marie Borrego-Garcia, UEA, Higher Education Champion (Take your Place)
Rosalind Bark, UEA, Lecturer
Sharn Crane, UTCN Employer Engagement Coordinator
Anne Patton, Career Central, UEA, Placement and Internship Officer
Laura Bell, Career Central, UEA, Placement and Internship Administrator
Celia Anderson, Director, STEM HUB
Danielle Lane Vattenfall, UK Country Manager
Katherine Wood Vattenfall, Head of Consenting
Ruari Lean Vattenfall Senior Project Manager Norfolk Vanguard
Richard Packham, Richard Packham Consulting Ltd.
Jake Laws, Vattenfall, Consents Manager Norfolk Boreas
Catrin Ellis Jones Vattenfall, Engagement Manager Norfolk Vanguard and Norfolk Boreas (facilitator)
Lee Purves Vattenfall, Norfolk Boreas and Norfolk Vanguard Engagement & Communications Advisor
Sue Falch-Lovesey Vattenfall, Local Liaison Officer and Skills Champion

Rob Lilly Vattenfall, Supply Chain Manager for Norfolk Vanguard & Norfolk Boreas

Apologies:

Michelle Burdett Gt. Yarmouth BC
Prof. Phil Gilmartin UEA, Dean of Faculty of Science
Rt Hon Norman Lamb MP for North Norfolk
Rt Hon Peter Aldous MP for Waveney
Phil Kirby CEO, Broadland District Council
Phil Mileham Strategic Planning Officer, Breckland District Council
David Glason Director of Development, Gt. Yarmouth Borough Council
Steve Blatch Corporate Director and Head of Paid Service, North Norfolk District Council
Chris Starkie, CEO, New Anglia LEP
Julian Munsen, Head of Enterprise Zones and Innovation, NALEP
Chris Sargisson, CEO, Norfolk Chamber
Simon Gray, CEO EEEGR
Gemma Head, Skills for Energy, EEEGR
Simon Coward, CEO Hethel Innovation