

A photograph of several offshore wind turbines in the sea. The turbines have white towers and yellow bases. The sky is clear blue, and the water is dark blue with white foam from waves in the foreground.

East of England Offshore Wind Cluster Forum 1 Report

16 September 2021



VATTENFALL

The first Cluster Forum meeting brought together representatives of the following organisations, companies and offices. This report documents our collective work.

The Cluster Forum is open to all with an interest in the Offshore Wind Sector. It is free to join, and we welcome new members, especially those with energy, ideas and commitment to Our Region, Our Sector, Our Future.

Equinor	Kuiper Group
Scottish Power Renewables	TMS Media
Opergy	New Anglia LEP
Wellton	Peel Ports
Petrofac	RWE
Best Proactive	RMI
Furthermore Marketing	Johnson Controls
East Coast College	Ross Safety
University Technical College Norwich	Tecosim
Future Marine Services	Clarksons
University of East Anglia	People With Energy
East Suffolk County Council	Gibb Safety
Hexcam	HSE Science and Research Centre
Geoacoustics Ltd	Sembmarine SLP
AB Ports	OHT
Renewable Parts	Orsted
Great Yarmouth Borough Council	N-ergise
Aker Solutions	Claxton Engineering
Gurney	PPI Engineering
Tidal Transit	Enermech
Norfolk County Council	Seaward Safety
ECITB	Stowen Group
CEFAS	Remote Medical
East Norfolk Sixth Form College	North Norfolk District Council
Worley	Bibby Marine
High Sheriff of Norfolk	EEEGR
Vattenfall	

Steering group

A small group of people currently comprising Martin Dronfield, Opergy, Denise Hone, Hexis, Andy Paine and Catrin Ellis Jones, Vattenfall convened, designed and facilitated the first meeting of the Cluster Forum.

Vattenfall sponsored the meeting, and the production of this document.

The steering group continues to drive forward our next steps.

It is envisaged that an expanded steering group will continue to support the Cluster and work alongside the Chair and Vice-Chair.

If you want to join the group and/or sponsor future events, please make this known – the Cluster needs you.

Thank you East Coast College for hosting Cluster Forum 1. In future, the forum would like to visit other centres in our region. Please consider whether your organisation can host a future event.



You can contact events@eeegr.com if you have any general queries. You can contact catrin.jones@vattenfall.com if you have questions about this report.



Our Sector, Our Forum, Our Future

Executive Summary

The East of England Offshore Wind Cluster Forum is an open forum of individuals representing businesses, local enterprise partnerships and authorities, and other key stakeholders in the region who share an interest in the offshore wind sector.

The first meeting of the East of England Offshore Wind Cluster Forum was convened on the 16 September 2021 to bring people together to explore what purpose an active Cluster could achieve, and how best to proactively drive forward the interests of the sector in the region.

Sixty people attended the event in person, and over 100 participated online for all or part of the workshop. This level of participation and commitment in itself bodes well for the future of an active Cluster Forum to drive the agenda for the regional offshore wind sector forwards.

During discussions, what emerged was confidence in a strong regional supply chain offering and potential, and concerns about the reliance of parts of the supply chain on local projects coming forward with regularity. This concern was acknowledged by participants due to the challenges currently faced by developers operating in the UK market, such as those linked to grid and consenting, which are holding up projects, including several advanced projects proposed for the southern North Sea.

The Cluster Forum equally noted that it could have a role in overcoming some of those challenges by improving local and national understanding of the benefits of offshore wind, and by continuing to innovate in order to facilitate solutions for not only the UK energy transition, but which may also offer export potential to a burgeoning broader North Sea market and wider global markets. Innovation, ranging from digitalisation and automation of O&M, to developing hybrid and systems thinking approaches to delivering marine power and grid stability, to the development of more sustainable materials, components and services emerged as medium to longer term opportunities. Upskilling, with a focus on the creation of sustainable solutions for a resilient and dynamic workforce was another area of interest for many.

The Region

The geography, existing infrastructure, established broad experience in marine energy and offshore wind in particular, and local skills are seen as the region's greatest strengths. Forum members decided to compound these strengths by focusing on raising local levels of pride and interest in the sector generally and in time seeking national recognition for the region's role as a future-proof UK powerhouse. There was strong motivation too, for upskilling the region's potential workforce, through identifying skills gaps and facilitating training (with a focus on young people), as the region boasts specialist training faculties, as well as excellent academic institutions, and technical and innovation hubs.

The Sector

Upskilling, innovation and a 'green' identity were identified as the sector's biggest opportunities. This greatly informed The Cluster Forum's vision for the region, with members wishing to see it become the global centre for offshore wind, training and standards and the 'go to' place for relevant expertise, skills and technology.

The Cluster Forum

As a very broad grouping of businesses large and small, local authorities, training and research institutions, our Forum is uniquely well placed to tackle the sector's three biggest weaknesses i.e. communication, a lack of government funding and limited fabrication manufacturing capacity. Our members acknowledged this through repeated calls for increased cross-sector collaboration.

Challenges

Political motivations and uncertainty, labour/skills shortages, and public attitudes are seen as the biggest threats to the Cluster's success. Accordingly, our members placed much emphasis on improving communication with the public, decision-makers and boosting investor confidence, and suggested several ways to go about this.

The purpose of this report is to capture the key points covered during the event, and summarise the discussions of participants so that future decisions and actions agreed by the Cluster Forum, or emergent "task and finish" groups, can build on the foundations of the initial collective thinking and direction setting.

This is only the beginning. Our community will now tackle a wide range of challenges to maximise the Cluster's success and drive the energy transition.



Next Steps

Building on the outcomes of the inaugural meeting:



Our next meeting will be held on 23 November, 2021.

- Details will be sent out to all those already involved, and we do encourage all to promote the Cluster to new entries to the sector. Spread the word - offshore wind is at the heart of our energy future. The Cluster Forum is free to join, and its success is contingent on us all.

We will focus on three key themes which participants highlighted most strongly:



Identity

- A strong voice, clear messaging and raising a broader awareness of the Sector's role in the region, and the region's role in Offshore wind in the UK and the world.



Skills

- A lot of interest is always generated during gatherings of offshore wind stakeholders, developers and supply chain companies on the theme of skills and specifically the skills gap
- The Cluster should contribute to initiatives coordinated by OWIC
- The Cluster should focus on local opportunities, in the short as well as longer term, to address the skills gap, and encourage greater interest in the sector, and enable access to the sector, via courses for which evidence shows there will be demand.



Innovation

- Seen as a key regional strength, the cluster should look at what the Offshore Wind Growth Partnership, can offer in terms of supporting innovation
- Linking with groups like Productivity East, Tech East could be a way to spark creative new collaborations and ideation.



Cluster Forum Meeting 1

Purpose of the Meeting

Regional offshore wind clusters are active elements of the energy transition landscape across the UK to varying degrees – with some more active than others. In March 2019, then Minister for Energy, Claire Perry was in Lowestoft to announce the Offshore Wind Sector Deal.

To mark the occasion, EEEGR and the All Energy Industry Council published a brochure highlighting what the East of England had to offer. In the interim, while the UK Governments' Ten Point Plan goes beyond the targets and ambition of the OWSD, the progress of offshore wind development in the East of England has stalled somewhat. No doubt this is partly due to the pandemic, but other factors have also led to the already long lead-in time for projects being extended, and something of an investment hiatus as capital and new operational expenditure in the region is pending.

A small group of individuals agreed that the time is ripe to bring together representatives of the offshore wind sector, and those who actively support the sector in the East of England to review the status of the Cluster and convene a first Cluster Forum workshop.

The proposed purpose of the first East of England Offshore Wind Cluster Forum was to:

- Ensure members' appropriate engagement in decision making and Cluster actions e.g. with a core group (distributed across the region, and across different stakeholder groups – e.g. different sized supply chain companies, developers, ports, business supporting organisations, R&D, Skills deliverers) willing to put some energy into delivery; a wider group of people who are interested and want to be consulted on decisions and actions (Members Forum); and those wanting information more than involvement only.

- Review and explore the future of offshore wind and the trends shaping the sector in the East of England, UK and globally by 2030, 2040, and beyond.
- Grow a shared appreciation of the potential challenges faced by different Cluster Members and what the Cluster can do to support members, the region, and encourage clean growth
- Define the purpose of the Cluster Forum going forward, and a set of initial objectives and early actions that the Forum can support and deliver on.
- Arrange dates for the next meetings.

Purpose of the Cluster

A draft purpose statement defining what the Cluster might do was sent in the meeting invitation, for consideration.

The purpose of the Cluster is to work with local and regional companies, organisations and communities to create and capitalise on opportunities arising from the region's Offshore Wind potential, and to decide together how we build on regional strengths, to:

- Grow local understanding about projects, including responding effectively to inaccurate perceptions about potential impacts relating to projects and associated transmission infrastructure, which are holding projects back.
- Evidence (by measuring and monitoring) the benefits of offshore wind, in greater detail than aggregated data gathered to date - including supply chain benefits and opportunities, across the geographic area covered by the Cluster.
- Prepare regional companies and R&D organisations to be able to respond positively and successfully to new sector opportunities and challenges (as outlined in OWSD and [the Government's Ten Point Plan for a Green Industrial Revolution](#)), including through collaboration, innovation and technology development and also through identifying skills and training needs accurately and in a timely manner; and in turn, creating the courses and cohorts to address the gaps.
- Enhance the business environment to attract new investments.

This draft purpose statement was not discussed in detail at the event, and its review will be led by the Chair and Vice-Chair of the Forum when they are in place



Top to bottom: Dr. Catrin Ellis Jones presenting; Martin Dronfield presenting; In-room workshop.

Above: Chris Starkie presenting.



Where We Are Now

Examining the current context and exploring the value of an offshore wind cluster forum.

Chris Starkey, Chief Executive of the New Anglia Local Economic Partnership opened the meeting, and briefly outlined the LEP's vision for low-carbon energy and offshore wind in particular as the backbone of long term growth in the region, as well as potentially in the shorter term having the capacity to contribute to a green economic recovery. He referred to the recent emergence of "Generate" and commended the Offshore Wind Cluster to work in partnership with Generate.

Martin Dronfield, Chair of the East of England Energy Group (EEEGR) reflected in more detail on his own "energy journey" and linked it to the growth of offshore wind in the region.

He went on to pose a question, which he invited the Cluster Forum to ask themselves during the workshop, and provided some insights into his thinking on the matter:

"At the very heart of our region's clean energy efforts is Offshore Wind."

Our region is home to the largest Cluster of operating offshore wind farms in the world; indeed, we have close to half of all the installed wind capacity in the UK off the coast of our region...

Our region is close to two of the large areas of future seabed leasing in the UK, and as a result, our region has a strong pipeline of future offshore wind developments.

In the next 30 years, forecasts from research carried out by Opergy, indicate that over £60 billion of capital investment will be put into offshore wind in our region by 2050."

"So, why do we need an Offshore Wind Cluster in the East of England?"

"At the highest level, the region needs to speak about offshore wind collectively and with one voice, as we are faced with several challenges that threaten our exciting future."

More than 5GW of offshore wind off the coast of our region is potentially in limbo as an out of date planning process threatens to undermine the ability of developers to move along the planning consent journey and forward with the building of their developments.

There is a serious disconnect, and the stalling of developments will mean a very real stagnation in our supply chain, in our skills, efforts, and in our ambition to get to Net Zero."

SWOT Analysis

On introducing the next session Catrin Ellis Jones, Head of Stakeholder Engagement for Offshore Wind at Vattenfall, reflected briefly on the evolution of the UK Offshore Wind Clusters and how some appear more successful than others at promoting themselves and their offering. Building on Martin's context-setting presentation, she invited participants to consider the regional sector, identifying strengths to build on, weaknesses to address, opportunities to maximise and threats to mitigate.

Outcomes

The Forum identified the region's top three strengths, weaknesses, opportunities and threats:¹

Strengths - the base of local skills and experience, geography and existing transport and marine infrastructure, including pipelines

Weaknesses - communication with the public and political actors, a lack of government funding and fabrication manufacturing capacity.

Opportunities - upskilling and training, innovation (including digitalisation) and a 'green' identity.

Threats - political motivations and uncertainty/delays (particularly around planning), labour and skills shortages, and public attitudes.

Additional Learnings to be considered

Our members also noted the below strengths, weaknesses, opportunities and threats:

Strengths - the region's well-established Operations and Maintenance (O&M) base, supply chains, and proven health and safety (H&S) track record.

Weaknesses - specific skills gaps, silo working/poor collaboration, the lack of a distinct regional identity or brand, and the lack of both infrastructure for housing and vehicle electrification and an overarching grid connection.

Opportunities - cross-sector collaboration and integration, the supply chain, infrastructure, quality of life in the region, and the hydrogen industry, particularly when combined with the Government's levelling up agenda.

Threats - supply chain capacity and the outsourcing of energy (significant threats). They also noted the threats of coastal erosion, network capacity, security, and competition from other clusters and technologies. Additionally, they raised questions over what to do with wind turbines when they reach the end of their life cycle and the size of blades (is this becoming a challenge for O&M?)

"At a time of unprecedented growth and opportunity in East Anglia for Offshore Wind it is important that we work collaboratively as a sector to co-ordinate supply chain activity, strengthen the value of supply chain infrastructure and align on local economic strategies. Through the cluster we hope to work collectively to maximise the opportunity to drive forward economic growth, create new jobs and for the East Anglia region to capitalise on the huge growth potential offered by Offshore Wind"

Charlie Jordan, Project Director, Scottish Power Renewables



Infrastructure
Collaboration
Innovation
Upskilling
Identity
Supply Chain

Hydrogen **Quality of Life**

Figure 1 Opportunities for the region

¹ See appendix IV for a breakdown of our methodology.

The Future of Offshore Wind

This section focused on the future of offshore wind in our region. Within this scope, we developed a vision to work towards and did some backcasting to identify aspects of the energy transition that we will drive to connect this future to the present. We then determined what key decisions and actions are required to energise this transition over the next three years.

2050 Vision

This session considered a possible 2050 vision for offshore wind in the region. Danielle Lane, OWIC Co-Chair and UK Country Manager for Vattenfall described her vision of 2050:

In 2050 we'll be "Net negative" thanks to offshore wind - the backbone of our energy system

- Highly electrified demand including industrial processes, heating and transport.
- A large role for hydrogen and energy storage.
- The marine environment and marine systems are planned, integrated, and low-carbon, with a focus on sustainability and co-use.
- Innovation has focussed on safety, product lifecycle, eliminating embedded emissions, and digitalisation.

Following an insightful and thought-provoking description of an offshore wind "nirvana", Danielle worked backwards to consider what key decisions had been required to get us to a Net Positive 2050. Brining our minds back to today 2021- she urged participants to consider the shorter-term future, as given the current long lead-in times for projects, 2030 is less than one development cycle away.

Forum participants were then invited to build on this description of trends and possibilities, drawing on their varied perspectives and experience.

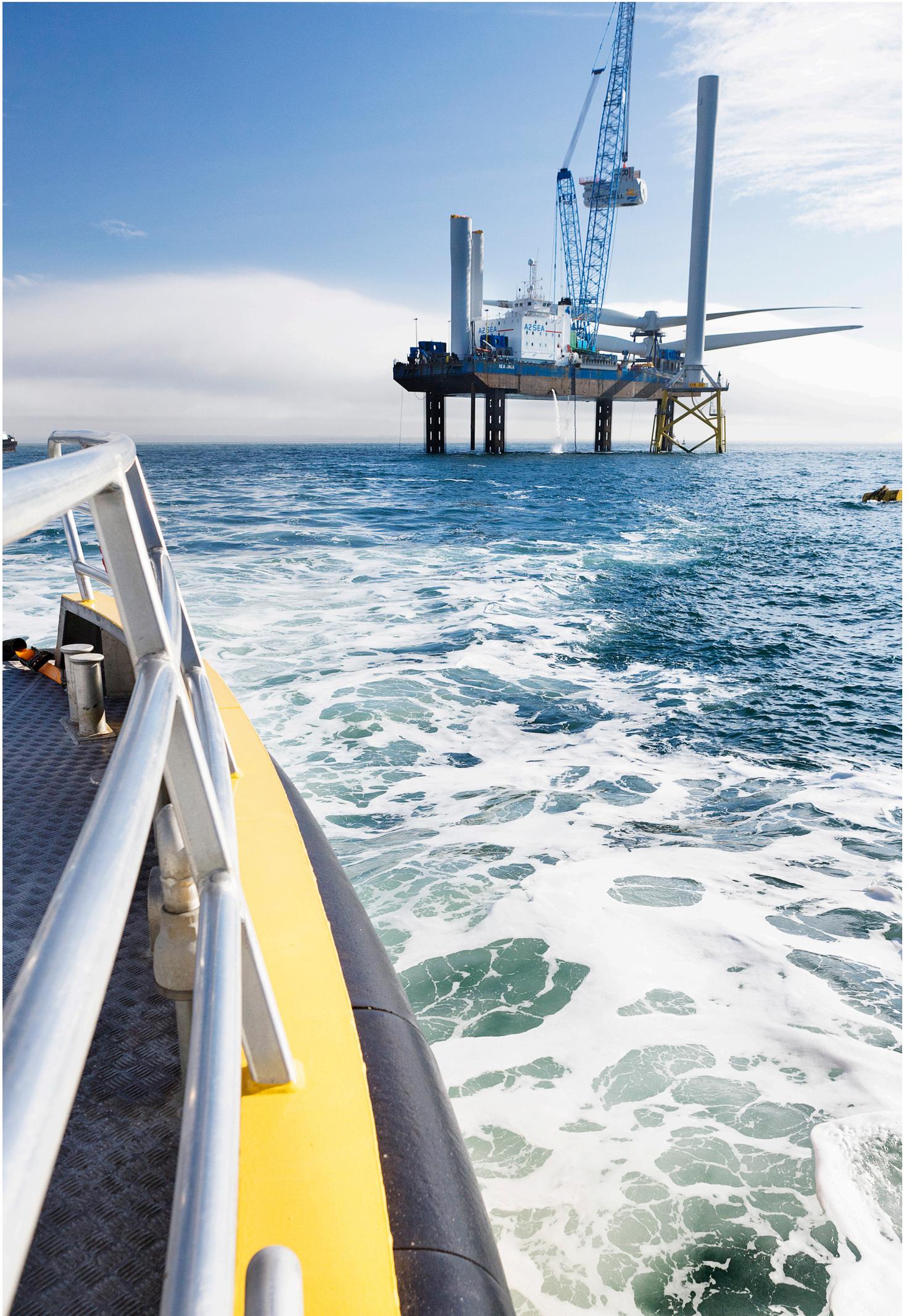


Danielle Lane, OWIC Co-Chair and Vattenfall UK Country Manager

Growth
Identity
Innovation
Infrastructure

Figure 2 Key themes identified by participants for the 2050 vision





The Cluster Forum Vision of 2050

The Forum highlighted the following themes:



Identity

The region should be:

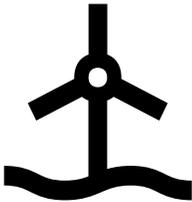
- The global centre of offshore wind, training and standards;
- A world capital, the silicon valley of offshore wind;
- An innovation and Research Energy Centre;
- The 'go to' place for Offshore wind expertise, skills and technology, and;
- A control hub for O&M monitoring.



Innovation

The Cluster should support:

- Innovation (digitalisation);
- Highly innovative companies, specifically tier two and tier three suppliers;
- Technological advancement and automation, and;
- The use of artificial intelligence, machine learning and robotic innovation in O&M.



Infrastructure

The Cluster should enable:

- Colocation;
- A positive ecological impact on the marine environment;
- Decarbonisation and Carbon Value Engineering (building design that integrates carbon);
- 10MW turbines by 2026, 30MW by 2030 and 60MW by 2050;
- Further development of ports;
- An offshore grid connection, and;
- Green Hydrogen production and distribution.



Growth and Jobs

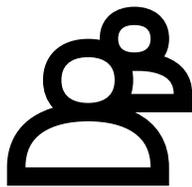
The Cluster should enhance the business environment by:

- Supporting a pipeline of business and collaboration;
- Attracting new entrants to the sector and new talent to the region;
- Facilitating local training for 2,000 employees;
- Making offshore wind a career of choice;
- Creating a common understanding of the competencies and qualifications needed to work in offshore wind;
- Retaining young people in the region;
- Mobilising a labour market from a young age with clearly defined, accessible career paths;
- Establishing a highly specialised skills base;
- Establishing clear consensus on the sector being a stable, fundamental part of the region and the UK, and;
- Supporting a gender-balanced workforce.

Key Cluster Decisions/ Actions that led to our 2050 Vision

Outcomes

We identified four themes in our members' decisions:



Upskilling

- Form a skills sub-group with fixed terms and delivery mechanisms;
- Identify opportunities for skills transfer, retraining and career changers;
- Develop a central career pathway software;
- Promote and arrange work experience (in varied roles);
- Conduct workshops that showcase the reasons why people want to work in the industry;
- Address career misconceptions in the sector and schools;
- Leverage existing programmes and options for promotion and engagement;
- Assess the current and future labour supply and demand in the sector, and;
- Identify skills required to work in the sector and approach academy trusts with this, offering a package of speakers, skills development support and career options.



Innovation

- Improve reliability by speeding up response times and upgrading shore control systems;
- Automate O&M (driven by cost and H&S), and;
- Reduce man-hours offshore by optimising vessel landings.



Collaboration

- Generate buy-in (commitments) from companies and local communities by making them feel part of climate progress;
- Increase collaboration, particularly over the development of educational school materials e.g. case studies, and;
- Support cross-sector research.



Supply Chain

- Energise the supply chain by boosting investor confidence, establishing risk-sharing models and enabling access to local funding;
- Work with the supply chain to promote key messages, and;
- Use local suppliers.

Today's Focus

This discussion determined what actions and decisions we should focus on, to drive the energy transition. It laid out objectives and early actions for members and Cluster Management to lead on.

Additional Learnings

Some members also raised the prospect of lobbying the Government for policy changes to improve the skills agenda e.g. to change apprenticeship levies and aid career changes. They also suggested lobbying for, funding, and attending a STEM careers fair.

In addition, one group envisioned Greta Thunberg and Sir David Attenborough switching on Boreas and Vanguard, marking a key milestone.

Decisions Taken

This session did some backcasting from our 2050 vision to identify aspects of the energy transition that the Cluster Forum will drive. To do this, participants imagined they are in 2050, thinking back on decisions they had made (in the past) to help them achieve this success. The groups then looked at how to approach and address challenges that are important to them in the more immediate present; it is hoped that among these aspects, the Cluster Forum can identify some quick wins.

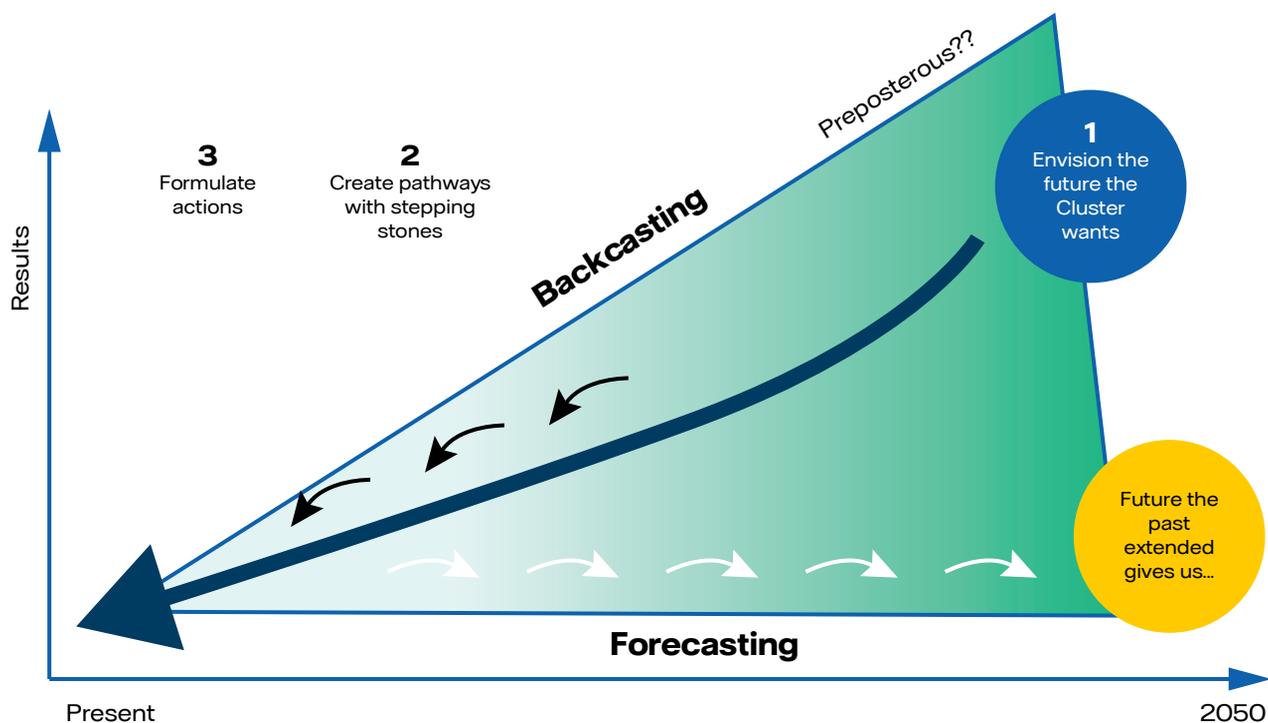


Figure 3 Workshop slide illustrating backcasting

Key Cluster Focus Areas for the next 1-3 years



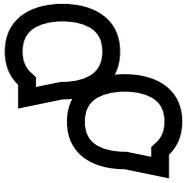
Outcomes

Our members decided to focus on five key areas:



Identity

- Establishing the Cluster as:
- A global leader in green energy;
- Aligned and active, through developing criteria for members and a clear brand, and;
- Charitable i.e. by creating community funds and rolling out Electric Vehicle (EV) charging points across the region.



Communication

- Improving local understanding by:
- Leveraging demo sites, open days and site visits;
- Deploying an educational campaign (across schools, colleges and universities) that emphasises the provision of secure, well-paid jobs that protect the planet;
- Encouraging collaboration between students and apprentices;
- Capitalising on opportunities in the school syllabus i.e. filling knowledge gaps;
- Publishing monthly news updates, and;
- Ensuring we engage with hard to reach communities.



Empowerment

- Enabling regional companies by:
- Streamlining project delivery;
- Developing plug-in/remote fault-finding technologies (cut costs and provide evidence to support growth);
- Maximising existing programmes e.g. apprenticeships, graduates-schemes and scholarships;
- Analysing previous rounds of funding in all relevant industries to influence financing;
- Establishing a priority list of careers and programmes for investment;
- Collecting data on full-time equivalent (FTE) jobs;
- Creating a common format for job and supply chain information, and;
- Compiling skills list.



Growth and Jobs

- Enhancing the business environment by:
- Identifying what skills and training will be required and gaps in provision;
- Supporting digital skills training;
- Developing skills passports, and;
- Facilitating work experience across the supply chain.

Additional Learnings

Within this session, members identified the following as key stakeholders: local communities, local authorities, the Government, the workforce, investors, developers, and young people.

In addition, they suggested signing up to an ex-military covenant with the Armed Forces Resettlement teams and establishing probation and ex-prisoner programmes. They also noted that legislation change regarding the Lifting Operations and Lifting Equipment Regulations 1998 (LOLER) could empower the Cluster.



Thank you

Andy Paine, on behalf of Vattenfall, and the conveners of the meeting closed the event by thanking all for their input and participation.

It was noted that the Cluster needs a more catchy name and brand, as well as a Chair and Vice-Chair. Already, at the time of writing this report, a strong field of candidates have agreed to stand for election – thank you to all nominees.

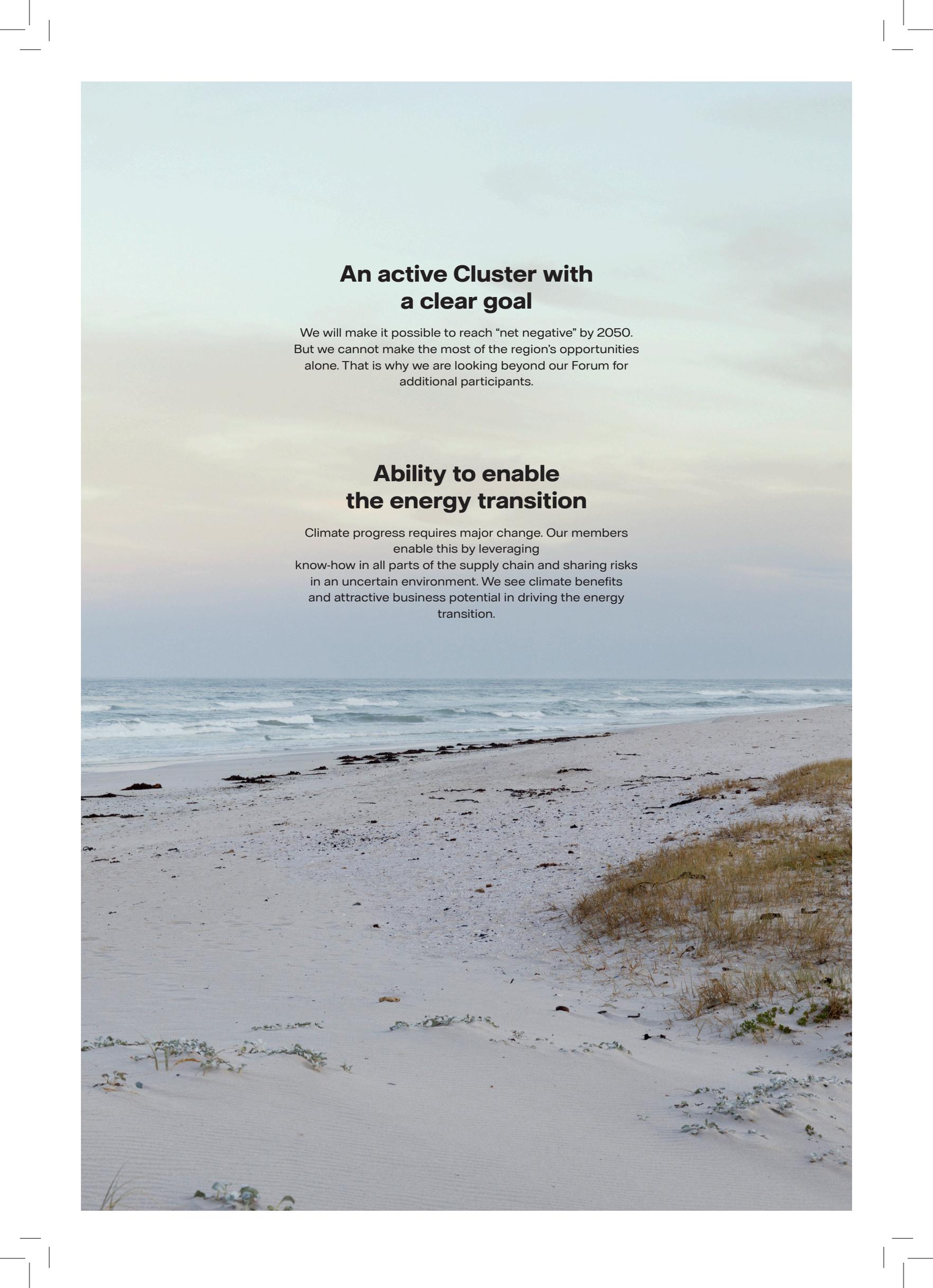
In the interim, Cluster Forum members are encouraged to review this report and bring any ideas following on from the deliberations described here forward for consideration. Concrete ideas and offers to drive actions are especially welcome.

The findings of the meeting described above will be used as the basis of the next Cluster Forum Meeting at the end of November. The focus of this meeting will be innovation, ways the OWGP and others can offer support, quick wins that can generate opportunities for young people, and positive publicity for the Cluster Forum.

The organisers and conveners of the event (Denise Hone, Martin Dronfield, Andy Paine and Catrin Ellis Jones) would like to thank everyone for their active participation and valuable contributions. They look forward to working with an expanded steering group in the near future.

Thanks too to EEEGR, who were commissioned by Vattenfall to support the running of the event, and did a great job.

If others would like to sponsor future events, please let the steering group or future Chair / Vice-Chair know.



An active Cluster with a clear goal

We will make it possible to reach “net negative” by 2050. But we cannot make the most of the region’s opportunities alone. That is why we are looking beyond our Forum for additional participants.

Ability to enable the energy transition

Climate progress requires major change. Our members enable this by leveraging know-how in all parts of the supply chain and sharing risks in an uncertain environment. We see climate benefits and attractive business potential in driving the energy transition.

