HARNESSING VALUE FOR SCOTLAND FROM OFFSHORE WIND DEVELOPMENT

scdi Scottish Council for Development and Industry

Falck Renewables PURE POWER TO GROW

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INTRODUCTION

The Scottish Council for Development and Industry (SCDI) supports the development of offshore wind farms in Scotland. With the ScotWind offshore leasing round due to be determined in 2021, SCDI held a webinar with the aim of exploring how best to harness value from offshore wind in Scotland.

Falck Renewables and BlueFloat Energy (partners in the ScotWind process) sponsored the event which aimed to:

i. explore the barriers / opportunities for offshore wind development in Scotland

ii. examine the opportunities for the supply chain in Scotland and

iii. consider how best to engage and support communities in the context of offshore wind development.

HARNESSING VALUE FOR SCOTLAND FROM OFFSHORE WIND DEVELOPMENT

This event was held online with an audience of approx. 135 people. Presentations by speakers were followed by discussions amongst participants who were divided into random groups and asked to discuss a number of pre-set questions relating to issues facing the offshore wind industry and how future developments can benefit Scotland. Each breakout group was moderated by a member of SCDI staff and notes taken.

This document is a summary of the presentations from speakers and the subsequent debate amongst participants.

THE EVENT

1. Opening remarks: Paul Wheelhouse MSP, Minister for Energy, Connectivity & the Islands, Scottish Government

The minister set the scene for the discussion. The Scottish Government's ambitions and commitment to offshore wind are set out in the Sectoral Marine Plan and Offshore Wind Policy Statement with the aim of achieving 11 Gigawatts (GW) of power, enough to power eight million homes, from offshore wind by 2030. Mr Wheelhouse stressed the need for this capacity to meet the overall energy requirements of Scotland and offset the reduction in other sources, whilst facilitating the decarbonisation of Scotland's energy.

In the next round of procurement of offshore wind the Minister would welcome some changes, for example a more stringent view of contracting from the UK Government to ensure quality as well as price is considered. However, he reiterated that the support from the Department for Business, Energy and Industrial Strategy and its commitment to offshore wind is very helpful. Challenges remain in achieving ambitions around the transmission charging regime. Mr Wheelhouse welcomed the requirement for bidders in the ScotWind process to include statements setting out their planned local spend which will encourage compliance by companies and provide certainty on the forward pipeline for suppliers. This process should start even earlier to ensure there is a greater opportunity to build local capacity and spend. There are potential benefits for islands communities, allowing them to reposition themselves and their economic offering. These commitments from the bidding companies also send a message to industry, allowing opportunities to be identified earlier. The ball is now in the court of developers to bring forward plans that meet the requirements set out in the procurement process.

The Scottish Offshore Wind Energy Council (SOWEC) is about to publish guidance which sets out the main principles:

- shorten supply chains and bring more benefit to local communities
- decarbonise heat and electricity
- focus on a just transition

PRESENTATIONS AND BREAKOUT FINDINGS

2. Brian McFarlane, Head of Projects, Offshore Development Scottish Offshore Wind Energy Council (SOWEC)

SOWEC's role is to bring the required organisations and stakeholders together to work with Scottish Government on its energy strategy and to co-ordinate industry's response to the Offshore Wind Sector Deal. There are five areas of joint work including innovation (e.g., technology, fabrication), barriers to development (e.g., environmental consent, grid connections) and skills.

SOWEC's goal is to deliver the Scottish Government's target of 8GW capacity with the possibility of reaching 11GW and to create a sustainable sector and supply chain to support this. Roadmaps for each area of work are in development involving a number of experts including Professor Jim McDonald of Strathclyde University on supply chains and infrastructure.

2.1 Breakout 1 discussion Key enablers or barriers for offshore wind to achieve these ambitions?

Barriers

• Consent

We need to get projects through to where they are achievable. Ornithological constraints to offshore wind are a problem, particularly on the East Coast, but innovative developments in technology are helping.

A change of approach from regulators is needed and a fresh look at the environmental impacts. Ornithological surveys, for example need to consider up-to-date information and bird behaviour. Aerial surveys are frequently used in England to demonstrate impacts and this should also become standard practice in Scotland.

• Grid connection

Test and Demonstration (T&D) smaller scale projects, for example, like some of those in England, would allow the industry to increase in speed. Smaller projects could be developed which would then lead into ScotWind in future. The technology first needs to be tested and proved and more testing will speed up progress.

• Requirement for significantly larger engineered floating structures rather than fixed bottom

If floating structures are made of concrete they can be made in Scotland. Scotland has world class port facilities in key locations including Orkney, Cromarty, and the whole of the East Coast but considerable investment is required to gear up for offshore opportunities.

• Overambitious local content aspiration

The Offshore Wind Sector Deal is an ambitious aspiration for local content but it is questionable whether it will be met. In meeting local impact requirements there are issues around identifying 'who is the community?' for offshore wind developments. There has been a lack of focus on community benefit to date in the sector which

Enablers

• Testing

Floating offshore energy technology is in its infancy and needs to be de-risked. To take this forward more testing is required to de-risk the technology and the supply base has to expand ahead of demand.

• Guidance and best practice

We need guidance and best practice to be able to bridge the gap between what is possible and functional requirements. Delivering offshore wind takes a long time - eight years at least reaching consent - but people with the right skills and competencies are required now to be able to bridge the gap.

• Skills investment

Energy Skills Partnership (ESP) head up the SOWEC skills group. Seven colleges - from North Highland, Fraserburgh, Dundee and Angus, down into the Borders – are now building on work done by Fife, Ayrshire, Dumfries & Galloway to supply skills and a real pipeline programme from onshore expertise. ESP are gearing up colleges to work with developers and OEMs and adapting curricula delivery developed for onshore wind to offshore wind. This relies on partnership with specialist training organisations e.g., working at height, confined space and entry, boat transfer, etc. ESP's wind training network is looking at supply chain, marine and maritime training with the aim of creating a 'Team Scotland' Network.

Skills Development Scotland and Scottish Government departments have created an industry working group on transition training looking at the Oil & Gas sector. The primary focus is turbine engineering technicians but they are also looking at key job roles required for the industry, upskilling and reskilling, developing an online self-assessment

PRESENTATIONS AND BREAKOUT FINDINGS

2.1 Breakout 1 discussion (continued)
Key enablers or barriers for offshore wind to achieve these ambitions?

Barriers

needs to get better at meeting the expectations of communities.

• Lack of long-term perspective
This is not just about 8-10 years development or a 25-year operation but the technologies that will come downstream from that. Developers and government have the potential to create a programme which benefits from a long-term vision and stable partners who work together for the duration.

• Sector attractiveness to new entrants
Colleges are now heavily involved in delivering STEM. Energy Skills Partnership (ESP) produce 'Step In To' renewables - short sharp videos to capture different people in different organisations. Achieving diversity in the industry is also vital. Work urgently needs to be done with both the higher education sector and primary schools.

• Requirement for specialist infrastructure
Offshore wind projects require specific infrastructure, which is not typically required for business as usual at Scotland's ports. Significant investment in the region of tens of millions is needed, and this cannot be dependent on a single project – there needs to be a visible pipeline to ensure long term vision and viability. There is already a bottle neck in the production of anchors and chains in Scotland.

• Ports
More consideration needs to be given to the life cycle of ports. Does the available coastline and offshore real estate around individual ports allow enough space for competitive and continuous development? A single project will not justify investment in Scotland, especially with the complications brought by deep offshore waters.

• Environmental concerns
These could affect the viability of sites, as has happened in England, but the commitment to renewables in Scotland as a long-term ambition may mitigate this.

Enablers

tool and information sharing.
• Opportunity
There is a unique opportunity in Scotland to do things differently, extending beyond the construction and operation of wind farms to the spill-over into other technologies, which an abundance of competitive clean energy can trigger.

• Exporting skills
Know-how from onshore wind is highly transferable but these skills can also be exported elsewhere. There is a lot of technology and know-how about development tied in with the development of hydrogen for example. We are just at the beginning of a sizeable transformation with jobs, skills and the big players in oil and gas now totally committed to transition. The renewables sector sees themselves as enablers of transition with wind energy businesses working with oil and gas and pulling the value chain with them.

• Reducing risk factors
True enablers will be the things that reduce risk factors and create more certainty for developers, including reducing the scramble for port availability. This could be increased by creating more guarantees around supply chain support and willingness for engagement in port redevelopment. These are large financial investments which need better assurances.

• Communication
More facilitated open conversations with government, key supply chain, ports and developers are needed to deepen understanding and partnerships, and investment for government needs to be an enabler, rather than relying on development to mature the supply chains. Transparency, proactive partnerships, and certainty on future volumes will drive investment in localisation.

• Free ports
The Scottish Government's move to adapt UK free port proposals for the establishment of green ports could be a key enabler to progress in the offshore wind sector.

• Data
Data to support technology implementation and strategic planning could be a key enabler, especially in reducing perceived risk in investment.

PRESENTATIONS AND BREAKOUT FINDINGS

2.2 Breakout 1 discussion
Lesson to be learned from eleswhere

Participants agreed that the offshore wind sector is a huge global marketplace and industry and represents a unique global opportunity for Scotland. In the past, governments were focussed on maximising the value of licences rather than the cascade effects, known in industry as 'sustainability of the sector'.

These effects are an opportunity to create value for the local community, differentiating Scotland as experts in the field and benefitting the whole country from a global market. This is an ideal opportunity to regenerate coastal communities and level up regional inequalities in a similar way to the regeneration of the Montrose Port Authority area and the benefits it has brought to the surrounding region.

In Portugal small scale prototypes have been developed with financing from banks, and a similar approach of smaller developments of up to a few hundred megawatts which could be slowly expanded could work with ScotWind. Floating wind is still in its infancy and only by testing it out will lessons be learned. The Portuguese industry has been supported by European funds with strong government support, a route to the market through the feed in tariff and government assurance on grid connection.

Whilst it is helpful that in the UK offshore wind can participate in the CFD and BEIS have allocated a separate pot for this, other support mechanisms also need to be in place.

Lessons need to be learned from Brexit about the movement of goods and people with the aim of growing more talent, producing home-grown components and manufacturing for export. At the same time we need to ensure that the people with the right skills can be brought in where required and it is also important to reskill oil and gas personnel to work in renewables.

There is a strong record of onshore wind development in Scotland and lessons learned are directly transferable. Community benefits in that sector have been clear and direct and continue to evolve and have even more impact. The industry understanding of how to interact with communities has improved, along with the importance of involving local businesses as much as possible in the construction and realisation of onshore projects.

There are strong foundations on which we can build.

PRESENTATIONS AND BREAKOUT FINDINGS

3. Colin Maciver, Senior Development Manager (Offshore Wind) Crown Estate Scotland

An overview was provided of the Scotwind leasing project, the first leasing round for over a decade and a chance to build offshore wind farms in Scotland. To unlock this potential, the Crown Estate Scotland have been working on the procurement since 2018 and opened bidding in 2020 with a deadline of March 2021. As part of the process bidders must submit a Supply Chain Development Statement which is not used in the evaluation of bids. The statement includes a requirement to state a company's ambitions, commitments, narrative, etc for local benefits. It also asks for information as to which geographies will benefit from local spend. The successful bidders will update these throughout the bidding process and there will be penalties for non-compliance. This process allows some flexibility for different approaches to be taken to local impacts and lessons learned from it will feed into future procurement rounds. To be successful in the longer term, the leasing round requires a pipeline of projects and consistent communication with industry and government.

3.1 Breakout 2 discussion What do we need to do to enable Supply Chain Development?

• Financing

The projects that emerge from this leasing round must be financeable and ways to reduce costs must be found. In the short-term this might mean not everything is sourced in Scotland and some things may need to be imported. There could be parallel streams of work ongoing. This would ensure the skills were in place that are required.

Lessons can be learned from Scotland's experience with onshore wind about how offshore could be incentivised.

• Support from government

A few years ago, there was considerable support from government for wind and tidal energy but then it dropped off. It is important this does not happen for floating wind. Consistent long-term government support is important. It will be important to know the government has a clear plan/timeline and make sure there is clear financial support for the sector. If investors know that the government is supporting the industry, the risks are reduced. Clarity is also required on whether post Brexit state aid and subsidy control regimes have changed. A better understanding is also required about the competitive difference between the UK and the continent in relation to manufacturing. Government has a role to play on incentives, for example, but ultimately where to carry out manufacturing is a commercial decision and cost will continue to be a large factor.

In the 1960s the Department of Energy acted as a broker bringing companies such as BP and Shell round the table to develop a commercial and technical framework together. More proactive behaviour from government will ensure a healthy supply base.

There are barriers to entry for new firms/start-ups with a lack of capacity amongst start-ups and little knowledge about how to break through, how to identify a niche, how to develop and present strategy and how to work with larger firms. This would suggest a need for an advertising portal of opportunities and better support and advice to these firms.

It is hard to say what the project landscape will look like until Crown Estate Scotland has received the applications. Over time what influences those decisions and the consequences of those decisions will provide information to allow governments and the private sector to make the most of the opportunities as they occur. Crown Estate Scotland are keen to ensure that that information is visible and from a credible source.

• Co-ordinated approach

The example of Spain is worth considering. It has nine offshore wind concepts in development and is looking to develop an international centre of excellence for technology and fabrication. Even before any projects get off the ground there are levels of co-ordination at a national level that are not seen elsewhere.

The scale of the opportunity in offshore wind in the North Sea means investment is required right across the value chain. The immaturity of offshore wind means the opportunity to influence decisions still exists.

• Safety

The issue of safety has the potential to galvanise collaboration between oil and gas and offshore wind stakeholders. Offshore wind has poorer performance than oil and gas in relation to recordable injuries.

One participant in the discussions thought the safety approach being proposed was weak even though it is clear there are penalties.

• Infrastructure

At the scale proposed offshore wind now represents strategically important infrastructure. As a key stakeholder the government needs a more proactive approach to oversee the commercial and technical aspects and manage the risk. There may be a need to spread the risk across operators. A stronger contracting framework is also required.

A community fund for the infrastructure across Scotland which could be put to good causes is a possibility. A good example of public investment in expanding and

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3.1 Breakout 2 discussion (continued) What do we need to do to enable Supply Chain Development?

improving infrastructure is Bremen Harbour who took the approach of 'build it and they will come'.
Crown Estate Scotland commissioned work by Arup on ports for offshore wind. The scale of some port provision and capability at present is not well married with the scale of ambition in relation to the potential market for UK, European and global market for offshore wind structures.

Investment in infrastructure needs to be made several years in advance. Decisions are being made on location based on what is already there and what is planned. Ports present both an opportunity and an issue. Scotland has some excellent port facilities but work is still needed to pinpoint precisely how they might be utilised and what they might require to accommodate fabrication for offshore wind.

The issue of supply chain infrastructure extends to travel access and road capability in rural areas. Scotland must protect its competitiveness and attractiveness against ports and harbours in the North of England i.e., 'green ports' agenda.

• Fresh look at supply chain
This leasing round offers an opportunity for a fresh start with the supply chain. Scotland is relatively late to offshore wind compared to countries such as Denmark and Germany but this means we can closely study what has and has not worked for them and learn the lessons.

There is a choice between the approach to deliver offshore wind as cheaply as possible or alternatively to follow Japan's lead and insist on 50% local content – although this has also thrown up some challenges in implementation. There may be some middle ground between the two.

The Department for Business, Energy and Industrial Strategy (BEIS) CFD process dictates a stricter supply chain process like Supply Chain Development Statements (SCDS) across the UK with a new Supply Chain Plan questionnaire required for Contracts for Difference (CfD) for low carbon electricity generation for example. SOWEC will be able to provide baselining information and discuss with government.
Investment in the value chain is another key issue e.g., to produce turbines manufacturers need to invest in more factories for blades or other components. The value chain of turbines is similar to the car manufacturing industry with continuous decision-making around what should be done in-house and what should be contracted out. Several factors influence decisions on site facilities and it can often depend on how welcoming the government is. The value chain for onshore wind is now decentralised to the USA. For example, the US used to import turbines from Europe but over time it became worthwhile to locate manufacturing facilities for these large and heavy components in Colorado. Components can be built in Europe and shipped but the convenience in having them close by needs to be considered.

Original Equipment Manufacturers (OEMs) are the providers of factories rather than the project promoters. Although this discussion centred on turbines, the same principles apply to all components including foundations, cables etc. The OEMs need to be able to balance supply capability with project demand. Supply Chain Development Statements (SCDS) are crucial in helping identify opportunities. We also need the combined buying power of combined projects.
Falck Renewables are committed to promoting projects which create local benefit by design and from inception e.g. designing developments to use concrete floating foundations rather than steel is likely to drive local opportunities and have an increased positive impact.

• Good practice
Good practice in supply chain development is a combination of push and pull factors. Local content needs to be clearly and strongly promoted whilst the right conditions need to be created to avoid cost asymmetry or information asymmetry, where people are still going to benefit from going elsewhere.

• Carbon
Consideration of the carbon balance is crucial and impacts on the choice of material used in offshore wind e.g concrete versus steel. Cost will always be important but the structures are not going to be cast or deployed until 7-8 years from now and technology continues to evolve. CO2 can be used to harden concrete which enables higher carbon capture and emerging techniques to manufacture concrete at lower temperatures are reducing energy consumption. Concrete needs to be manufactured/cast close by to where it is being used which is particularly crucial for offshore developments. The Danish government is building an artificial island close to offshore farms. Businesses are not yet penalised for using high carbon manufacturing or transporting because there is no price for carbon. Cost is important but evaluating other elements which are reflected in the value chain will be part of the new landscape.

• Workforce
A strong community helps in diversifying the industry's workforce and creating the places where people want to live and work, which is critical to retaining skills, talent, and jobs. There are challenges to the transition of the oil and gas workforce into renewables which need to be overcome. Setting up a centre of excellence for the offshore wind industry could help, as could working more closely with the Offshore Renewable Energy (ORE) Catapult.

PRESENTATIONS AND BREAKOUT FINDINGS

4. Louisa Macdonell, Chief Executive Community Development Trusts

Community development trusts (CDT) are part of community wealth building solutions and are an essential part of community wellbeing. They are an opportunity for offshore wind to grasp. CDTs are a technical form of governance that allows engagement. They often get involved at the point of market failure and can help projects to improve a place.

Community Wealth Building is a public sector approach which involves breaking down their spend and shopping local but it can also translate into the private sector. It is an opportunity to build trust and a social licence to operate. Project spend is just the starting point with businesses needing to think about other resources e.g. time and volunteering. This approach is also an opportunity to create local jobs that support the firms investing – in places people want to go such as petrol stations, shops and amenities. Offshore wind has an opportunity to look at this more radically and consider if community ownership could be part of the infrastructure and ways to maximise the benefit for the whole of Scotland.

4.1 Breakout 3 discussion The value of a strong community for business

• Fishing
Offshore wind companies need to look at who they are impacting in the immediate local area before looking at onshore community opportunities. Big companies buy out fishing companies. Government has guidelines for community benefit for onshore wind but in the current leasing round, proposed government guidelines for offshore wind community benefit seem to be optional.

The major offshore wind farms in Scotland are on the best scallop fishing grounds which has a major impact on that part of the fishing industry and on rural communities. A floating wind farm could potentially stop all fishing around it. Dialogue needs to take place between developers and affected communities.

A planning system needs to be in place and the offshore wind industry must accept that the seabed is a national resource, not just used by fishermen. There is already a sectoral marine plan from Marine Scotland which included representations from the fishing industry and adjusted boundaries as a result of their input.

• National Grid
We are facing a climate emergency and looking to offshore wind to play a part. The National Grid is however a barrier to developing offshore wind as there is no point building a wind farm if there is no route to market for the energy.

• Local engagement
Orkney has been home to very strong local engagement. Local people are well informed about renewables projects, there are talks in schools and it is possible to visit a test site. People are aware of the projects and potential to be part of the supply chain. There is strong local communication and a renewable energy forum.

PRESENTATIONS AND BREAKOUT FINDINGS

4.1 Breakout 3 discussion
The value of a strong community for business

• How to define communities
The community is much harder to define in the context of offshore wind as unlike onshore projects there is no direct link. One solution might be to channel resources and opportunities via a central fund for the whole of Scotland. There may also be the potential for a pot for smaller projects and votes to choose which ones to support could be held virtually. However, its governance needs to be carefully thought through.

• Support
Different types of community support can be given, not all reliant on providing funding. Skills development for local people or schools or lower energy costs for households and local businesses are two examples. Salmon farmers MOWI provided local housing in Rum for their workers which benefitted a community traditionally short of accommodation.

There is also the opportunity to investigate how the installation of infrastructure could help address digital connectivity issues in rural areas. Developers could co-ordinate with other organisations installing infrastructure.

SSE operates a model where communities around its wind farms benefit from funding. Communities further afield are also able to bid for funding and a wide range of projects including mentoring schemes and building apprenticeships have benefitted and helped to keep young people in their local area.

Offshore wind means more local manufacturing content. The scale of what is required means that there will be continuing demand and jobs for local people for many years to come.

• Training
Appropriate training for offshore energy is required. The University of the Highlands and Islands (UHI) has no course for renewables so even if a company has apprentices Dumfries & Galloway College is the nearest location for block release.

Energy Skills Partnership (ESP) hope to address the lack of opportunities for apprentices by expanding the network of colleges who provide wind turbine technician training. The SOWEC skills group is leading work on job roles and specific roles to join up the sector and make job opportunities more visible. An understanding of future skills needs is required to allow organisations such as ESP time to influence curriculum development. Engaging with young people and their parents at an earlier stage will help ensure young people understand the career paths/opportunities offered by the renewables sector.

ABOUT SCDI

The Scottish Council for Development and Industry (SCDI) is an independent and inclusive economic development network established in 1931 which represents businesses and organisations across all sectors and all geographies of the Scottish economy.

Our members are in the private, public and third sectors. We have a strong regional presence in the Central Belt, Highlands & Islands, North East, and South of Scotland. We believe in a Scottish economy which works for everyone, everywhere.

Our Productivity Club Scotland programme in partnership with the Scottish Government supports collaboration and peer-to-peer learning between businesses of all kinds to improve their productivity. The programme is currently being expanded across Scotland.

Our Young Engineers and Science Clubs (YESC) programme works with industry partners and 1,575 schools across Scotland to develop STEM skills in children, young people and teachers and inspire the next generation of coders, engineers, entrepreneurs, innovators, and scientists.

Further Information

You can find more SCDI reports and summaries from our website www.scdi.org.uk
We would welcome the opportunity to meet with you to discuss our ideas and recommendations in more detail.

Clare Reid

Director of Policy and Public Affairs

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THANK YOU TO OUR PARTNERS AND PARTICIPANTS

Scottish Council for Development and Industry
1 Cadogan Square,
Cadogan Street,
Glasgow, G2 7HF
0141 243 2667

www.scdi.org.uk

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