# **ScotWind Bid**

VATTENFALL

# Cumhachd Ri Teachd 2A ("CRT-2A") in Option Area E2

**Document A13(ii):** SCDS Outlook



**In Partnership** 



# VATTENFALL 🕳 📉 Fred. Olsen Renewables

## 1. Introduction

Vattenfall and FORL ("the CRT Team") established a strategic Joint Venture Partnership<sup>1</sup> to develop Cumhachd Ri Teachd ("CRT"), Gaelic for "Energy Future", based on strong environmental and socio-economic benefits towards Scotland and value to consumers.

We are committed to supporting the Offshore Wind Sector Deal ("OWSD") target of 60%<sup>2</sup> UK content, the Scottish Government's vision of 11GW of Offshore Wind<sup>3</sup>, and the Scottish Offshore Wind Energy Council goal<sup>4</sup> of a world-class supply chain and high-quality sustainable jobs all by 2030.

We are uniquely positioned to lead the development of Scottish floating offshore wind:

- We operate ~8% of Scottish wind energy<sup>5</sup>, with a further 400MW consented. Including the 96.8MW Aberdeen Bay Offshore Wind Farm ("ABOWF"), with its £1.5m programme for companies to trial new technologies6.
- We are part of the Scottish supply chain with continuous stakeholder engagement.
- Commitment to leading the sustainable growth in floating offshore wind in Scotland. We have the track record demonstrating responsible and reliable delivery.

## 2. Our Vision for a Scottish Supply Chain

We understand the importance of the Scottish supply chain and we will collaborate actively with Government, industry, development groups, suppliers and companies to deliver scale in Scotland. We embraced this at ABOWF and will continue for our Project by:

- 1. Driving opportunities through collaboration: A top-down Sector and bottom-up suppliers approach is needed. By engaging with Stakeholders, we can set procurement targets for Scottish content and local employment.
- 2. Invest in Skills and Local Communities: North-east Scotland has a proud history in Oil & Gas, but supporting the transition to a renewable energy future<sup>7</sup> requires courses and training. We have engaged with Industry and Universities on the requirements at all education levels<sup>8</sup>.

We are committed to the Armed Forces Covenant by removing barriers for ex-service personnel<sup>9</sup>, and "Equal by 30", an international initiative to work towards equality by 2030<sup>10</sup>.

We have 15 community funds in Scotland and contributed £6.5m to date to hosting communities.

#### Case Study 1.A: How to get into renewable industry

Our O&M Service leader demonstrates the benefits of utilising skill and knowledge diversification across the energy industry. Originating in nuclear and moving into the O&G industry, Steven brought a wealth of knowledge and experience to the renewables industry.

In 2017, Steven was made redundant during the O&G recession in Aberdeen, but this gave him the opportunity to retrain and move



into a renewable energy future, especially on his doorstep. Being involved in an innovative project that was leaving a positive legacy in the community that he lived was a huge attraction.

Since being recruited, Steven had 6 months intense training, building on existing skills and knowledge, supplemented with the necessary skills and tools to lead the local O&M team out of Aberdeen Harbour. "I am proud to work on such a high profile innovative renewable project, on my doorstep. It demonstrates that Scotland is at the forefront of offshore wind development and a proof point of Aberdeen's Energy Capital of Europe' status."

<sup>&</sup>lt;sup>1</sup> https://group.vattenfall.com/uk/newsroom/pressreleases/2021/Vattenfall\_Fred\_Olsen\_Renewables\_JV?

<sup>&</sup>lt;sup>2</sup> https://www.gov.uk/government/publications/offshore-wind-sector-deal

<sup>&</sup>lt;sup>3</sup> https://www.gov.scot/news/increased-offshore-wind-ambition-by-2030/

<sup>&</sup>lt;sup>4</sup> https://www.offshorewindscotland.org.uk/sowec/ <sup>5</sup> https://www.scottishrenewables.com/our-industry/statistics - 9,302MW of Onshore and Offshore Wind capacity in Q1 2021 and a combined 714.1MW (=7.7%)

<sup>&</sup>lt;sup>6</sup> https://group.vattenfall.com/press-and-media/newsroom/2019/new-1.5-million-boost-for-uk-offshore-wind-innovators

 <sup>&</sup>lt;sup>7</sup> https://www.agcc.co.uk/files/Oil-and-Gas-Survey-33.pdf
 <sup>8</sup> https://group.vattenfall.com/uk/contentassets/c6b1e177776743beb3091ec589d2d18b/270220-angus-binnian-year-in-industry.pdf <sup>9</sup> https://group.vattenfall.com/uk/newsroom/News/2020/vattenfall-secures-bronze-award-for-armed-forces-pledge

<sup>&</sup>lt;sup>10</sup> https://group.vattenfall.com/uk/newsroom/News/2019/vattenfall-achieves-gold-standard-for-commitment-to-diversity-and-inclusion

# VATTENFALL 🗕 📉 Fred. Olsen Renewables

3. Innovation is key in delivering floating wind. Innovation at ABOWF demonstrates new technology, and we are planning the first offshore hydrogen-producing turbine by 2024. We are proposing to use the Mobile Port Solution ("MPS") for integrating the turbine to the floating foundation in the Port of Cromarty Firth.

Building on our wind farm experiences, we are committed to developing the Scottish supply chain:

• **Supplier Engagement:** Establishing a supplier portal and updates for potential suppliers and contractors.

Pre-Bid Design & Supplier Engagement		Detailed Front-End Engineering Design			Supplier ptimisation	Tier 1 Procur	ement Tier:	2+ Procureme
				Consenting				
2020	2021	2022	2023	2024	2025	2026	2027	2028
Engagement with Turbine Supplies on turbine type. Foundation Concept TRL analysis. Feasibility Study with PP	Metaocean assessment of semi- submersible.     Engaged Port of Cromarty on MPS.     Development of FOO 'Brunel' Foundation	Early Engagement "Get to know" meetings Stakeholder events Roadshow Launch project website	Supply Chain Workshops     Meet the Buyer Events	Supply chain Workshops     Roadshow     Widespread     communication     procurement     process	Engagement continues     Keeping in Touch Sessions     Workshops	Engagement continues     Meet the Buyer Events     Keeping in Touch Sessions     Feedback     Workshops	Engagement continues     Meet the Buyer Events     Keeping in Touch Sessions     Feedback     Workshops	Engagement continues     Keeping in Touch Sessions     Workshops

- Visibility of Opportunities: Publishing clear requirements and supporting companies to meet those requirements, Figure 2.1.
- **Project Updates:** "Meet the Buyer" events<sup>11</sup> and digital engagement sessions<sup>12</sup> for the supply chain, stakeholders and local community.

#### Case Study 1.B: Supply Chain Engagement

Key to delivering Scotland's floating offshore wind will be an integrated supply chain through all phases of a project's development.

We are committed to supporting the Offshore Wind Sector Deal for UK and the ambitions of SOWEC for 6,000 jobs by 2030 in Scotland.

From our experience at ABOWF, and other Scottish

projects we are well connected to companies and SMEs with the capability to deliver our project. As set out in the Supply Chain Development Statement, certain opportunities require a coordinated approach from Government, developers, industry, and regional development groups with suppliers and local companies to achieve the scale to deliver a successful Scottish floating offshore wind.

We lead these engagements on our Norfolk projects bringing stakeholders together at all levels. This identified: a) engaging early and take procurement decisions, this will encourage investment, planning and innovation. b) bringing preferred suppliers together to develop solutions collaboratively. c) engaging with local supply chains - local knowledge for delivering package of works. d) being consultative and open to all stakeholders. e) supporting onshore enterprise as well as offshore. f) working with the supply chain would like collaboration among the Sector e.g. one procurement portal.



<sup>&</sup>lt;sup>11</sup> https://www.linkedin.com/pulse/northconnect-host-meet-buyer-days-aberdeen-peterhead-fiona-milligan/?article ld=6400324155115343872

<sup>12</sup> https://codlingwindpark.ie/consultation-engagement/

### **3. Statement of Commitments**

#### 3.1. Commitment Expenditure

Floating offshore wind is new, providing opportunities to establish facilities and high-skilled sustainable employment. Using publicly available information we commit to an expenditure of 31.8% in UK, in today's market. Our ambition is to increase this to 60% by 2030<sup>13</sup>, see Chapter 4.

Stage	Scotland	Rest of UK	EU	Elsewhere
Development	99.3	18.5	23.4	0.0
Manufacturing and Fabrication	242.5	216.9	182.2	1007.0
Installation	10.7	10.7	171.4	21.4
Operations	33.6	34.5	24.4	0.0
	386.1	280.6	401.5	1028.4

#### Table 3.1 Commitments Per geographical Region - £m

As evidenced by investment in Ports of Aberdeen<sup>14</sup>, Peterhead<sup>15</sup>, Cromarty Firth<sup>16</sup>, Invergordon<sup>17</sup> and Nigg Energy Park<sup>18</sup>, the expansion in North-east Scotland provides the springboard for companies to establish manufacturing, supply and maintenance facilities.

#### 3.1.1. Development

We see excellent opportunities for Scotland to capture 100% of consenting activities. We openly communicate our requirements to encourage companies to fill vacancies and expand.

#### 3.1.2. Manufacturing

Currently, there are limited facilities worldwide with sufficient scale to fabricate components. Building on existing O&G manufacturing, there is potential for Scottish fabrication of floating foundations and towers.

We have engaged with Opportunities Cromarty Firth and expect foundations to be assembled locally. They are building on their existing O&G supply chain for the emerging floating offshore wind. They support the MPS proposal, see Figure 3.1, allowing for integration works in once place.

In addition to the investment at Nigg Energy Park, a proposed tower factory<sup>19</sup> would provide Scottish tower fabrication capacity. The scale of offshore wind is expected to see tower manufacturing facilities established in order to service demand. Two major suppliers plan to expand<sup>20 21</sup> blade manufacturing, while a third<sup>22</sup> plans to establish UK facilities to support the offshore market.

We believe that multiple tower, blade and foundation facilities need to be established between now and 2025 to realise Scottish ambitions for 11GW of offshore wind.

#### 3.1.3. Electrical components

Opportunities for fabrication of high voltage ("HV") electrical equipment is limited, being dominated by existing European manufacturers. The Scottish supply chain<sup>23</sup> provides mechanical and electrical services for HV manufacturers providing flexibility and a local workforce from the O&G supply chain.

We know Scottish contractors capable of the design and construction associated with the onshore engineering works. We will work with Stakeholders to organise "Meet the Buver" events to introduce companies to Tier 1 companies.

The existing O&G fabricators have the capability for jacket foundations and topside manufacture. provided there is investment to enable them to meet the Sector's capacity requirements.

There are existing UK suppliers<sup>24</sup> of 66kV inter array cables, however there are currently no Scottish based suppliers or UK suppliers of 275kV cable but we understand one cable supplier is interested in establishing a UK-based factory.

<sup>&</sup>lt;sup>13</sup> https://www.gov.uk/government/publications/offshore-wind-sector-deal

<sup>&</sup>lt;sup>14</sup> https://investaberdeen.co.uk/success-stories/case-studies/aberdeen-harbour

<sup>&</sup>lt;sup>15</sup> https://www.pressandjournal.co.uk/fp/business/3286513/sponsored-peterhead-port-authority-looks-to-the-future-articleisfree/ <sup>16</sup> https://opportunitycromartyfirth.co.uk/about/

<sup>&</sup>lt;sup>19</sup> https://www.rechargenews.com/wind/uks-largest-offshore-wind-fabrication-plant-planned-in-scotland/2-1-894856

<sup>&</sup>lt;sup>20</sup> https://www.offshorewind.biz/2021/04/27/vestas-raring-to-grow-in-uk/

<sup>&</sup>lt;sup>21</sup> https://renewablesnow.com/news/siemens-gamesa-seeks-nod-to-expand-hull-blade-factory-731971/

<sup>&</sup>lt;sup>22</sup> https://www.ge.com/news/press-releases/ge-renewable-energy-plans-open-new-offshore-wind-blade-manufacturing-plant-

teesside-uk

<sup>&</sup>lt;sup>24</sup> https://www.morayeast.com/news/major-milestone-met-moray-east-offshore-wind-farm-project
<sup>24</sup> https://www.prysmiangroup.com/en/PR\_Prysmian%20Group%20\_Wrexham\_20\_04\_2017\_news.html



#### 3.1.4. Secondary Supply Chain

In order to manufacture components for floating turbines, any establishment of demand will drive a secondary supply chain. For example, the need for R&D test facilities, from modelling through to final mock-up of floating foundations with dynamic cabling, anchoring, and turbine performance.

#### Figure 3.1 Port of Cromarty Firth - Floating Offshore Wind (FLOW) Hub and Mobile Port Solution



#### 3.1.5. Installation

The capacity challenge in delivering Scottish large-scale floating wind led us to the innovative MPS approach. The flexibility means that its supply chain benefits can also be captured by subsequent developments, ensuring the port and quay side can be retained for manufacturing and fabrication facilities.

#### 3.1.6. Operations & Maintenance

Port of Aberdeen is the closest port and home to the established ABOWF O&M Hub. The O&M hub will require a expansion and multiple increase of our resources, creating attractive jobs in the region.

#### Case Study 1.C: Aberdeen O&M Hub

Oxford Brookes University undertook an independent assessment of the socio-economic impacts from ABOWF for the overall benefits through Development, Construction and initial O&M phase for the 96.8MW project.

Drawing on the latter phase a number of opportunities can be highlighted. **ABOWF directly supports 15 FTEs** 



in the servicing of the turbines themselves and were recruited locally, some transitioning from the O&G Industry into the renewable energy, see Case Study 1.A. **A further 20 roles were secured** at Rigmar Marine through the Balance of Plant maintenance. Andy Martin, Business Development Lead for ORE Catapult, said:

"Rigmar is one of the first companies to benefit from participating in ORE Catapult's *Fit 4 Offshore Renewables business improvement programme.* The programme is a unique service to help the UK supply chain get ready to bid for work in the offshore renewable energy sector and, in the case of Rigmar, has proved incredibly successful in enabling them to win this major contract with one of the UK's most innovative wind farms."

## 4. Statement of Ambition

Table 4.1 Ambitions per geographical region - 2m								
Stage	Scotland	Rest of UK	EU	Elsewhere				
Development	123.2	4.5	13.4	0.0				
Manufacturing and Fabrication	452.3	720.6	258.5	217.3				
Installation	21.4	21.4	150.0	21.4				
Operations	41.3	32.3	18.9	0.0				
	638.3	778.8	440.8	238.7				

Table 4.1 Ambitions per geographical Region - £m

#### 4.1. Ambition Expenditure

While Chapter 3 provides a positive outlook for Scottish offshore wind and supply chain, our ambition **is to sustainable deliver 67.7% expenditure** by 2030<sup>25</sup>.

#### 4.1.1. Opportunities

While there has been investment in North-east Scotland to support offshore wind, it will take a wider strategic vision. By building consensus with Government, suppliers, ports, development groups and other developers to engage with companies on the potential investment required to meet the demand. This would need to be established for procurement by 2025/2026.

Existing UK manufacturers are expected to be joined by other suppliers in the coming years, to meet demand. The likelihood of securing facilities in Scotland is between now and 2025 and require a combination of Government support and Sector effort. The investment in tower manufacturing at Nigg Energy Park is welcomed and should be matched with other facilities to secure Scottish production.

Collectively this will result in high-skilled sustainable jobs and contribute to developing the Scottish floating offshore wind Sector utilising O&G competencies, infrastructure and retraining of the workforce as it transitions to a renewable energy future.

<sup>&</sup>lt;sup>25</sup> https://www.gov.uk/government/publications/offshore-wind-sector-deal