CATAPULT
Offshore Renewable Energy

Offshore Wind Supply Chain Confidence Survey Report

December 2023

REPORT

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1 EXECUTIVE SUMMARY

Our second annual Offshore Wind Supply Chain Confidence Survey was undertaken during October and early November 2023 and, despite the challenging market conditions in the past year and the measurement taken ahead of recent positive announcements for the sector, confidence in the supply chain has remained high. Ambitious national deployment targets and a large pipeline of projects has buoyed confidence, with high expectation of growth in the short, medium and long terms.

The primary identified barriers to such growth are skills shortages and visibility of available contracts.

A challenging economic environment, created by increasing inflationary pressures and subsequent rising supply chain costs, has had implications on the offshore wind industry over the past 12 months. One outcome is that the government's most recent Contracts for Difference Allocation Round 5 (AR5) resulted in no bids for offshore wind projects. This has likely been reflected in survey responses through a more unfavourable view of government policies and regulatory regimes over the past year. However, it is important to note that the survey was conducted prior to the government's recent publication of updated Allocation Round 6 parameters where the administrative strike price was raised to account for broader economic challenges. Therefore, the survey responses do not reflect this announcement and supply chain confidence has likely improved in recent weeks.

Confidence may also have been buoyed by the announcement of the successful Green Freeports in 2023. The free ports were designed to provide economic opportunity to the regions and the businesses that operate within them. The Green Free Ports will play a key role in delivering the opportunities from Scotwind, the development of the Celtic Sea and the advancements of the Offshore Green Hydrogen industry.

Despite existing skills shortages, companies have reflected increasing optimism regarding future employment growth from offshore wind related business. In particular, Oil and Gas companies who have transferrable skills for the offshore wind sector are ambitious about increasing involvement within the industry.

ORE Catapult offers supply chain support through different programmes including Launch Academy, Fit 4 Offshore Renewables and the industry funded Offshore Wind Growth Partnership (OWGP), as highlighted in greater detail in the appendix.

2 INTRODUCTION

The survey, compiled and distributed by ORE Catapult, was open to all UK Offshore Wind Supply Chain companies. This attracted representation from a range of sectors including Oil and Gas (O&G), Transport, Construction, and Chemical Industries. The split of companies is highlighted in Figure 1.

Overall, 123 companies participated in the survey. The Renewables industry accounted for over half of all respondents at 51%, primarily from the onshore and offshore wind sectors. This representation is an increase from the 2022 survey, where the Renewables industry accounted for 38% of respondents. Oil & Gas companies made up the second largest representation at 26%, a similar trend observed in last year's survey. The remainder of respondents were split between several other sectors.

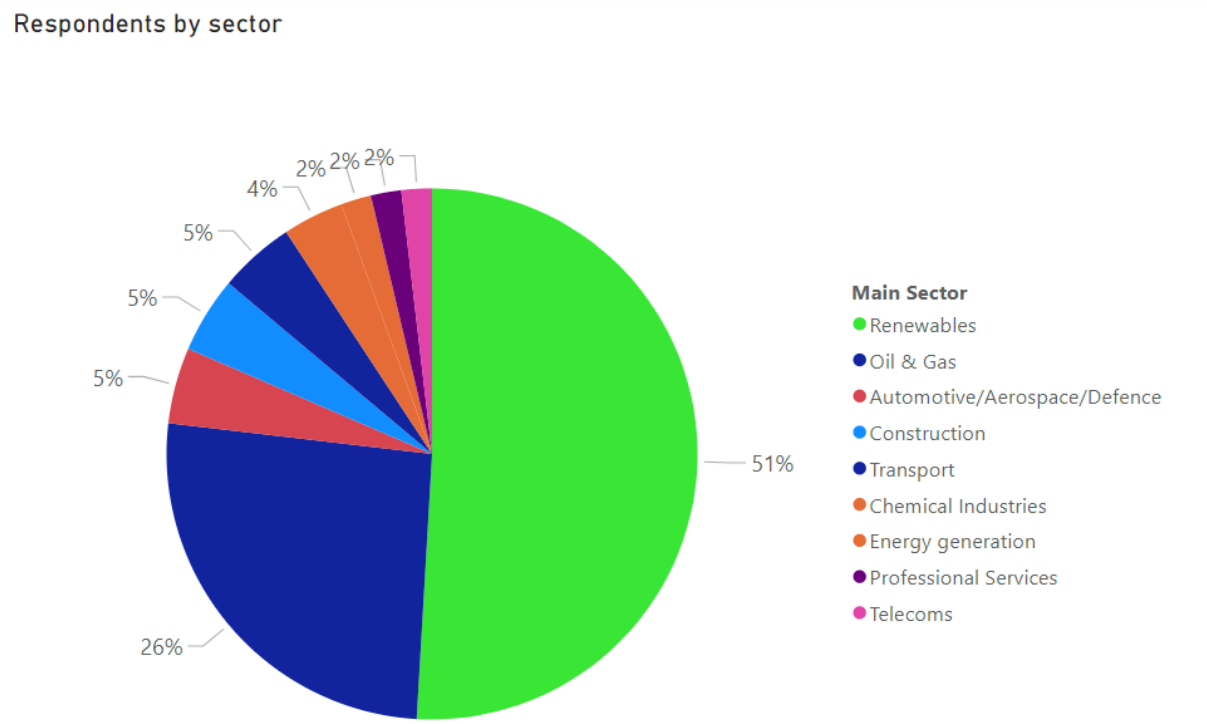

Figure 1: Survey respondents by sector

The survey clearly illustrates the wide geographical reach and impact of the offshore wind industry, with respondents relatively evenly distributed throughout every region of the UK, with the North East of England, Scottish Central Belt and Scottish Highlands & Islands seeing the greatest levels of activity. Some respondents have primary operations in more than one location, hence a greater number of responses to survey respondents.

Respondents by location:

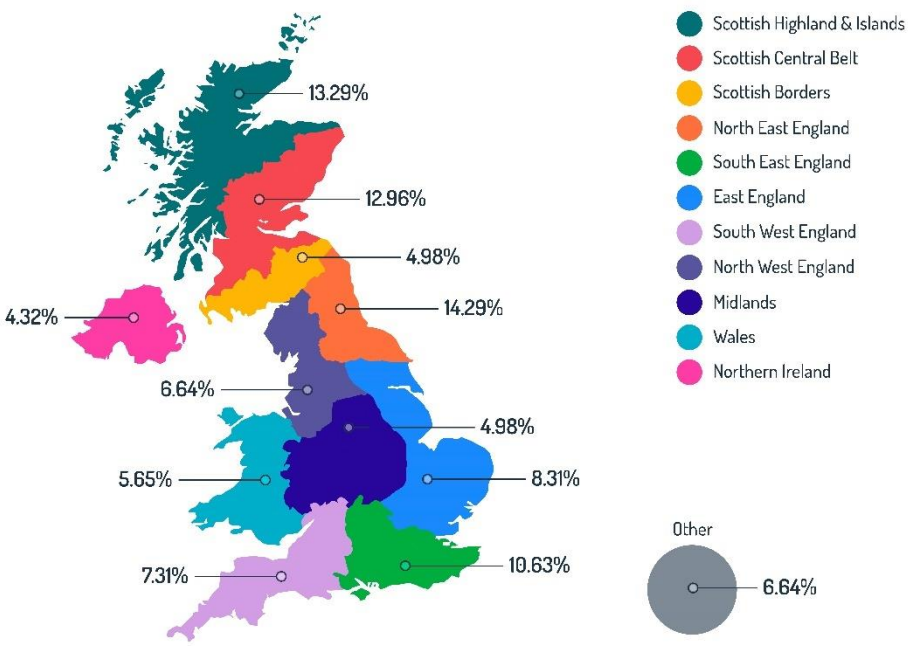

Figure 2: Survey respondents by primary location of operations

3 SURVEY RESULTS

Confidence in future growth

To evaluate confidence in the future growth of organisations in the offshore wind industry, participants were required to respond to three questions concerning their general confidence, anticipated turnover growth and projected employment growth. This data helped to ascertain an overall level of confidence from respondents.

Companies looking to enter or grow in the renewable energy sector are generally positive about the outlook. Difficulties faced within the offshore wind industry over the past year have led to variations in the confidence of organisations in regard to their future growth in the sector.

Respondents were asked to assess their confidence on the future turnover and employment of their organisation from offshore wind related business. Figure 3 and Figure 4 outline responses gathered from both the O&G and Renewables industries.

Despite a less confident outlook in future growth over the last year, companies within the Renewables sector indicated a significant level of optimism in their future turnover and growth of employment within the industry, particularly in coming years leading to 2030. This positive sentiment signals resilience in the ability of the industry to overcome some of the current challenges and maintain the UK's standing as a frontrunner in the global offshore wind sector.

Respondents from O&G sector also reflected a strong degree of confidence in the future turnover and employment growth in their organisations in the OSW industry. This anticipated growth gains momentum over time, as an increasing number of O&G entities shift their focus towards the offshore

wind sector. This trend has been exemplified by major players like Equinor, Shell and TotalEnergies, who have redirected their attention in recent years.

Figure 3: Confidence in future turnover from offshore wind related business

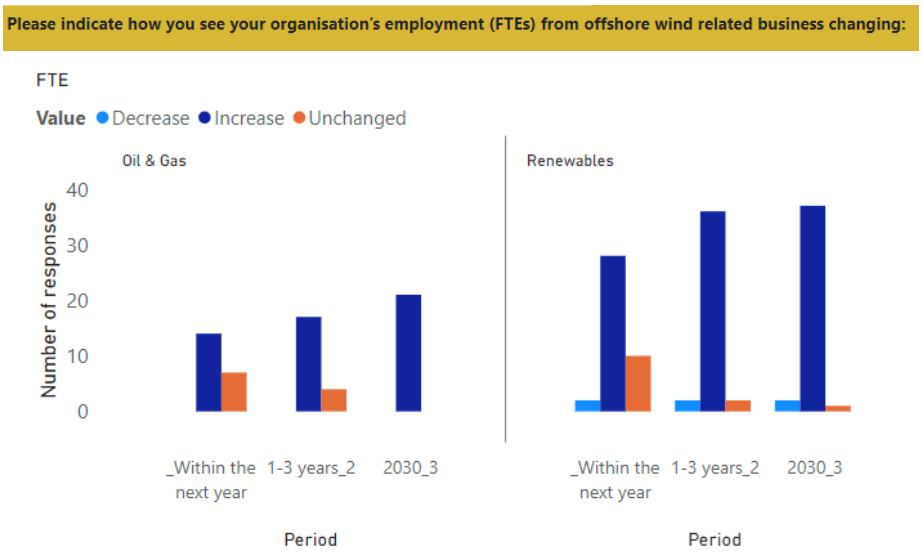

Figure 4: Indication of organisation's employment (FTEs) from offshore wind related business

Within the Renewables industry, there has been a shift in sentiment compared to the consensus from last year's survey, with more organisations expressing a less favourable outlook in the offshore wind sector. Figure 5 and Figure 6 highlight the difference in survey responses between last year's survey and this year's. The percentage of respondents who have indicated a decline in confidence over the past year has risen to 25% in this year's survey, a significant increase from just 4% observed in 2022's survey.

It is important to acknowledge that this metric reflects companies' assessment of their own organisation, however this decline is likely attributable to broader industry challenges witnessed over the past 12 months. These challenges include escalating inflationary pressures and rising supply chain costs. The impact of these issues was evident recently in the industry by the absence of any bids for offshore wind projects in the UK's latest Contracts for Difference (CfD) auction AR5.

In response to the current economic environment, and since the survey was undertaken, the government has announced the parameters of the next annual CfD auction Allocation Round 6 (AR6) where the administrative strike price has been significantly increased to better reflect the current economic reality. Offshore wind has also been allocated its own separate funding pot which will provide greater opportunity to an increasing number of eligible projects. This announcement is a significant step in helping to reinstate confidence in the industry and continue driving the future growth of offshore wind in the UK. The announcement has reconfirmed the government's commitment to the sector and the importance of collaboration between industry and government.

Over the past 12 months, how would you say your overall level of confidence in your organisation's future growth in the offshore wind market has changed?

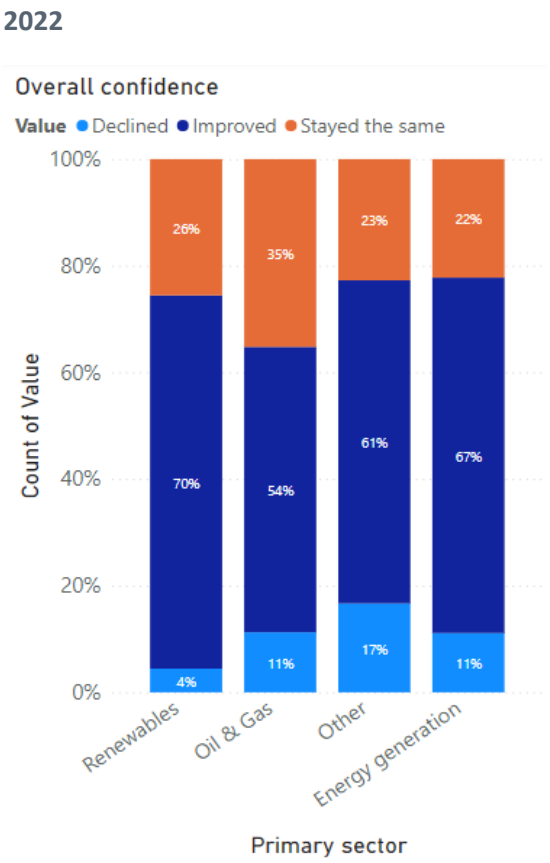

Figure 5: Overall confidence in sector 2022

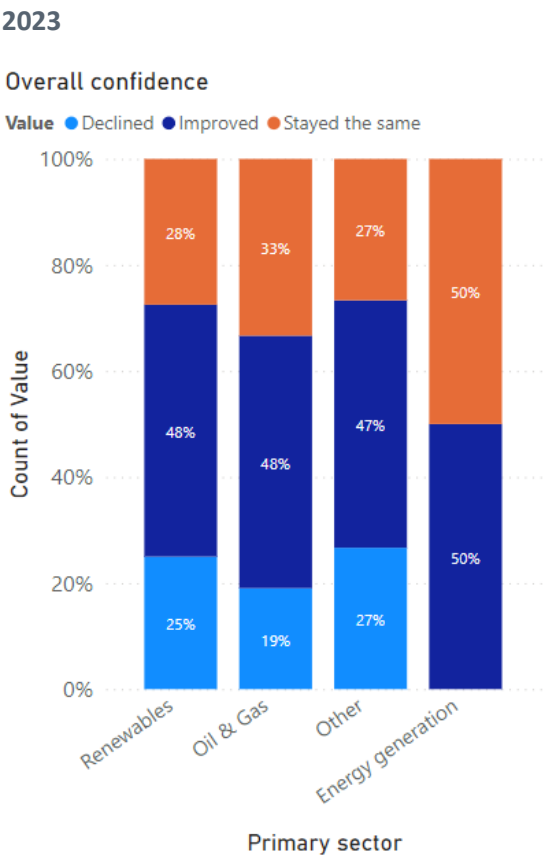

Figure 6: Overall confidence in sector 2023

Barriers to Growth

Potential barriers to growth highlighted by the 2023 survey include skills shortages and visibility of the future pipeline of projects. These are aligned with and reinforce the Independent Report of the Offshore Wind Champion, Tim Pick, published in March 2023, and the UK Supply Chain Capability Analysis report from the Offshore Wind Industry Council (OWIC) and the OWGP in September 2023.

An Industrial Growth Plan has been commissioned by OWIC, Renewable UK, The Crown Estate and Crown Estate Scotland as part of its response to Tim Pick's report. Due to be published in early 2024, its conclusions and resulting actions will be critical to securing the growth opportunity from offshore wind.

Skilled Workforce

Concerns regarding the availability of a skilled technical workforce are present across various sectors as indicated by survey responses in Figure 7. Recruiting skilled staff appears to be a more significant hindrance than retaining them. In the Renewables sector, responses show minimal change compared to the previous year, indicating ongoing difficulties, particularly in recruiting skilled staff. This can be mainly attributed to the sector's rapid growth and the need for specific technical expertise and relevant experience. The Offshore Wind Skills Intelligence Report 2023 by the Offshore Wind Industry Council (OWIC) conveys a similar message where the forecasted demand for skilled workers is growing at a quicker rate than the current workforce. The report indicates that the industry will have to attract and retain an estimated 10,000 people per year to facilitate the buildout of the project pipeline[1]. The Oil & Gas sector exhibited slightly more positive responses, compared to other sectors, in the ability to recruit and retain skilled staff.

To address the offshore wind skills shortage, an industry-considered solution is the concept of a skills transition, wherein workers from comparable sectors, such as Oil & Gas, could shift to the offshore wind sector due to the similarity in required skill sets. Current initiatives in the industry are aimed at helping to facilitate this transition. These include the development of the UK Offshore Energy Skills Intelligence Hub funded by Energy Skills Alliance members OPITO and ECITB which will create a comprehensive resource to identify the offshore energy industry's people and skills requirements. Additionally, other initiatives created from the North Sea Transition Deal such as the Energy Skills Passport project, which aims to streamline the transfer of people and skills from Oil & Gas to other energy sectors, will further help to overcome skills shortages. The government has also established a Green Jobs Delivery Group, due to be published in the second half of 2024, which aims to prepare the current workforce for the green economy and expand the pipeline of skilled workers to deliver Net Zero by 2050. Another key area of focus is on the reform and creation of apprenticeships, as targeted in the Offshore Wind Sector Deal, to attract and develop the skills of young people into high-demand roles.

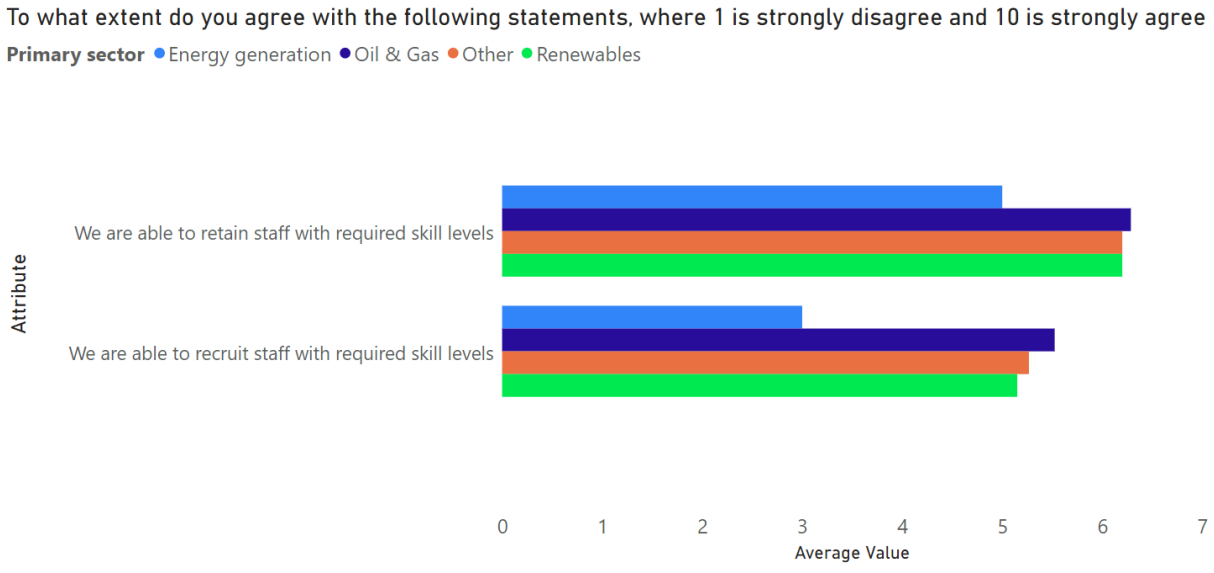

Figure 7: Recruitment and retention of skilled staff

1 OWIC Offshore Wind Skills Intelligence Report - March 2022

Funding, policy and pipeline visibility

Survey participants were asked to evaluate existing obstacles to their organisation's expansion, with a specific focus on issues related to funding and government policy. Figure 8 highlights key messages from respondents, using a scale where 0% indicates no impediment to growth and 100% signifies a substantial hindrance. Figure 9 conveys similar points, utilising a scale from 1 (strongly disagree) to 10 (strongly agree) to capture respondent sentiments.

In the context of funding, respondents assessed the degree to which both private and public funding pose obstacles to future growth. The feedback indicates a discernible trend in which each sector struggles to access public funding. A similar outlook was highlighted in regard to private funding, but to a lesser degree. Responses outlined in Figure 9 further reiterate this message when asked to assess whether public funding is available to support growth plans. With respondents able to input a value between 1 and 10, where 1 is strongly disagree and 10 is strongly agree, the average value across all sectors was 3.8.

Another question asked whether policy and regulatory regimes are hindering growth. As highlighted in Figure 8, the Renewables sector strongly believes that government policies have not adequately supported the growth of the industry over the past year.

In the context of the offshore wind sector, the sentiment regarding insufficient funding and unfavourable government policies is likely attributable to the latest Contracts for Difference auction AR5. In addition, the decision by Vattenfall to halt the development of Norfolk Boreas earlier in the year, citing economic infeasibility, further signified issues surrounding funding in the offshore wind industry. However, it should be noted that the survey concluded prior to the publication of AR6 auction parameters and therefore does not reflect this. On the contrary, the recent announcement to increase the administrative strike price in AR6 has significantly increased the funding potential for offshore wind projects in next year's auction and will mean that projects are more sustainably priced in line with the current economic climate.

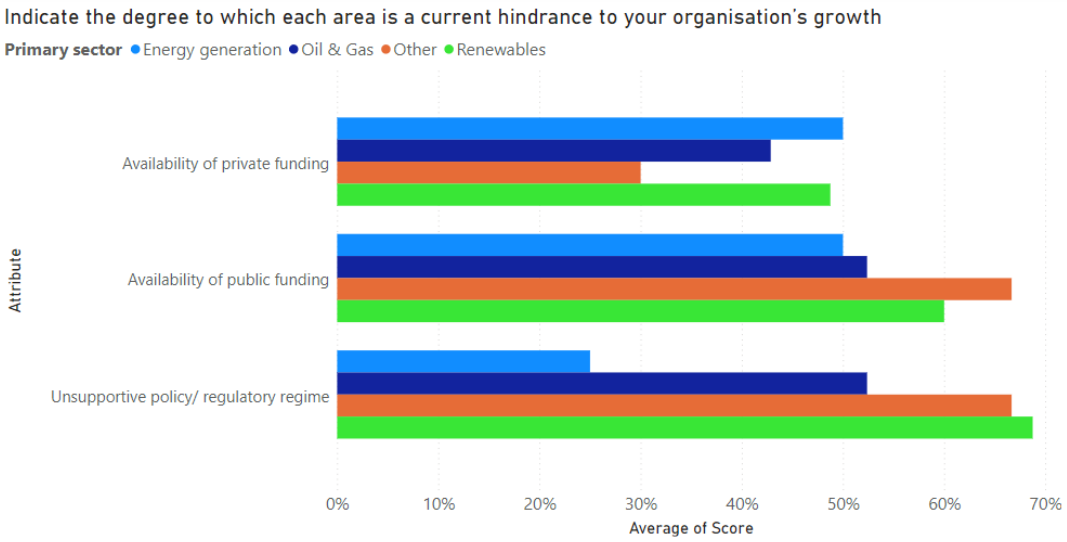

Figure 8: Current barriers to growth

Another area of concern highlighted in the survey was regarding opportunity in the offshore wind industry. Companies from O&G, Energy Generation and other sectors indicated that they have inadequate visibility of future business opportunities in the offshore wind sector. A similar consensus was reflected in questions asking organisations about specific procurement opportunities and

information on global market requirements to enter the offshore wind sector. This was reiterated further from a respondent who stated that:

"We are just trying to get into the offshore energy market space but are missing the means to engage with engineering and procurement teams who specify requirements for specific products and manufacturing capabilities."

Indicate the degree to which each area is a current hindrance to your organisation's growth where 1 is strongly disagree and 10 is strongly agree.

Attribute	Energy generation	Oil & Gas	Other	Renewables	**Total**
Private investment is available to implement our growth plans	5.0	5.4	6.4	5.0	**5.3**
Public sector funding is available to support our growth plans	3.0	3.7	4.2	4.0	**3.8**
We have adequate visibility of relevant upcoming future business opportunities in offshore wind	2.5	4.3	4.4	5.4	**4.8**
We have adequate visibility of specific procurement opportunities	3.0	4.5	4.8	4.9	**4.6**
We have sufficient information on global market requirements	2.0	5.2	5.1	5.7	**5.2**

Figure 9: Statements on barriers to growth

In the context of opportunities within the offshore wind sector, several initiatives exist to support and encourage entry into the industry. ORE Catapult's Launch Academy and Fit 4 Offshore Renewables programmes, in addition to regional programmes such as TIGGOR, provide support and insight for businesses. In addition, ORE Catapult's National Renewable Energy Centre (NAREC) provides companies with access to test and demonstration facilities and industry expertise to help facilitate their entry into the offshore wind sector. The Offshore Wind Growth Partnership (OWGP) is a similar initiative to help support the growth of the offshore wind supply chain. These initiatives are covered in greater detail in the appendix.

Supply Chain Challenges

Respondents had the opportunity to provide open comments on the UK offshore wind supply chain.

One company from the O&G sector reflected an optimistic mood and confidence in the continued growth of the offshore industry in the UK:

"Despite the challenges we've identified, we hold strong confidence in the substantial growth potential within the offshore wind market. We are strategically positioned to not only contribute to but also accelerate the sector's growth, aligning with our own growth objectives."

However, others from the offshore wind sector were less positive, reflecting on industry changes over the past 12 months stating that:

"Revenue opportunities reaching the supply chain have reduced significantly in the past 12 months whilst expectations on future capacity/capability have increased leading to a wider gap between expectations and commercial reality."

The additional comments and suggestions were collated into a word cloud as shown in Figure 10, which outlines the key topics raised by respondents.

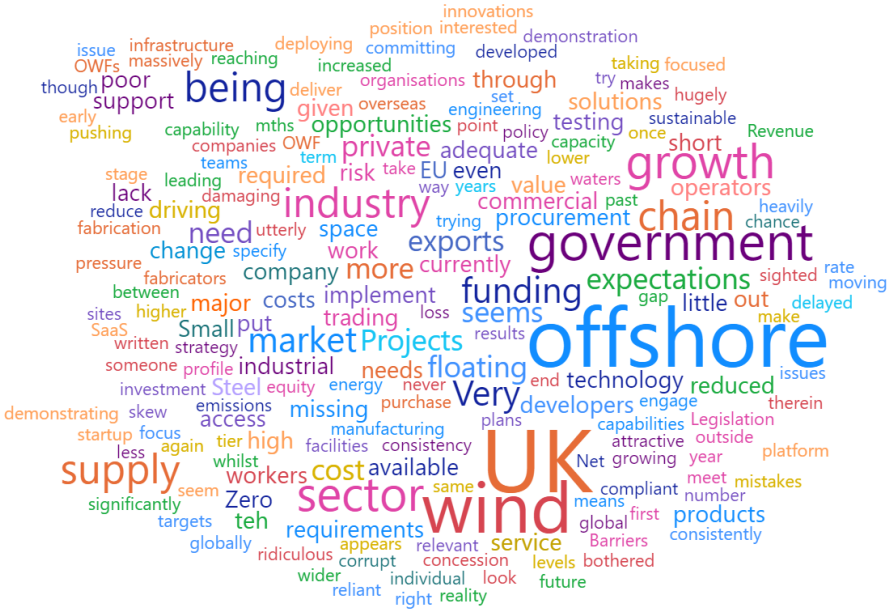

Figure 10: Word cloud

Recommendations

Skills

Our survey clearly identifies skills shortages are a significant barrier to realising the tremendous pipeline ambition in the UK. As a result of this, and in recognition of the similar crunches faced in adjacent sectors like Oil and Gas, Offshore Wind needs targeted skills development initiatives, aiming to address gaps in the most pressing area.

We reiterate the key recommendation in this area made in the Independent Report of the Offshore Wind Champion, published in March 2023[2]:

> *"HMG and the Devolved Administrations should seek to integrate the outputs of the Green Jobs Delivery Group and equivalents with improved data and forecasting outputs from the Workforce Foresighting Hub (WFSH) being developed by InnovateUK and the Catapults, DfE's Unit for Future Skills and devolved equivalents to create a complete picture of future skills requirements to meet the needs of Offshore Wind (and adjacent technologies such as nuclear (power and submarines), EVs, Hydrogen and CCUS), address emerging workforce gaps, and to help guide local and regional skills and workforce delivery strategies."*

We also advocate a significant increase to the existing industry target of 2.5% of employees being in apprenticeships, to substantially broaden the pipeline of talent flowing into the offshore wind sector. The OWIC Investment in Talent Group has recognised this challenge and is well placed to drive this forward.

2 Independent report of the Offshore Wind Champion (publishing.service.gov.uk)

Visibility of Future Pipeline

Enhanced visibility of market opportunities around the deployment of future offshore wind developments should be rapidly addressed to provide greater supply chain confidence. A single, national portal populated by every project developer with upcoming procurement opportunities should be established as soon as possible.

Increased investment in tailored programmes to facilitate transition into offshore wind from other sectors - this could include:

- Technology transfer support
- Access to bespoke market intelligence
- Supply chain readiness and procurement advice

These could be delivered through existing ORE Catapult and OWGP initiatives.

The UK Supply Chain has a unique opportunity to provide its products and services to the rapidly growing global Offshore Wind Market. Increased visibility of global market projections and greater visibility of the export support offered by UK Government could help alleviate some of the concerns the industry has, allowing them to increase investment in skill development, manufacturing equipment and jobs.

4 APPENDIX

ORE Catapult offers the following programmes to support development of the UK's offshore wind supply chain.

Launch Academy is ORE Catapult's flagship technology accelerator programme, designed to enhance the UK's offshore wind supply chain, enable greater UK content and support cost reduction by identifying innovative solutions to real industry problems. Launch Academy is delivered nationally and regionally, working alongside companies to deliver up to nine month's support from industry professionals and a range of experts to accelerate their journey to market.

Fit 4 Offshore Renewables (F4OR) is ORE Catapult's supply chain excellence programme, supporting the development of an increasingly competent, capable, and competitive UK offshore renewable energy supply chain – maximising opportunity for the UK supply chain, both domestically and globally. F4OR offers a journey of business improvement and sector specific capacity building, developed with input from the offshore renewable industry, for companies over 12-18 months.

To maximise the economic benefits of the UK's world-leading position in offshore wind, the Offshore Wind Growth Partnership (OWGP) was established as part of the Offshore Wind Sector Deal in 2019. Through investments in increased capability and productivity, OWGP aims to contribute to building a globally competitive UK supply chain. Its supply chain growth programme has a headline size of £100 million over ten years. OWGP's core funding is provided by private developers represented through Offshore Wind Industry Council (OWIC). It is an ORE Catapult company.

Regional supply chain growth programmes, such as TIGGOR in North East England, led by ORE Catapult, delivers targeted regional funds into local companies, helping them de-risk technology development and access the right expert advice to grow local economic impact by bringing new products and services to market.

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