Floating Offshore Wind Manufacturing Investment Scheme – Request for Information

SMI Response

July 2022

About SMI

1. The Society of Maritime Industries (SMI) is the trade association for the UK's maritime engineering, science and technology community – looking to enable maritime organisations of all sizes to thrive. This we do in various ways – including annual conferences, overseas events and trade missions. We support our members to raise their profile and enjoy meaningful collaborations. As a trusted advisor to the UK Government, we look to create new momentum and progress for the industry as a whole, and create new levels of maritime innovation, within our own member community and beyond.

2. Our members' interests are represented by SMI's six councils, which focus on the markets in marine science and technology, commercial marine, maritime autonomous systems, digital technology, ports and terminals infrastructure, and maritime security and defence.

Overview

3. In line with its ambition to deliver up to 50GW of energy from offshore wind by 2030, including 5GW of floating offshore wind, the Government has acknowledged the need for further investment to enable the infrastructure and manufacturing requirements to deploy and service the scale of the required floating offshore wind facilities.

4. With this in mind, the Department for Business, Energy and Industrial Strategy (BEIS) has issued an information request to a number of stakeholders, ranging from port developers and floating offshore wind designers through to manufacturers and sectoral bodies, with a view to inform decision-making on the design of its intended Floating Offshore Wind Manufacturing Investment Scheme (FLOWMIS).

5. SMI welcomes this opportunity to provide feedback on an initiative that will contribute to the ambition of achieving net zero by 2050 and praises the Government for wanting to make the UK a global leader in offshore wind.

6. Our membership includes the whole supply chain. This ranges from major system providers and design companies involved in port infrastructure and engineering through to manufacturers of instrumentation and a wide range of marine equipment and components, together with firms involved in vessel design and in-service support. This body of expertise enables us to make a unique contribution on this issue, as we seek to address the Government's questions to sectoral bodies and trade associations.

7. The development of floating offshore wind provides a number of opportunities to support the UK's energy transition to net zero, whilst also driving investment in companies operating throughout the maritime engineering industry. Taking advantage of these opportunities does however require an honest assessment of the barriers facing the sector to deploying floating offshore wind on the scale envisaged by the Government.

Response

What constraints, risks and opportunities does the UK face in relation to the infrastructure requirements needed to meet the deployment ambition for floating offshore wind?

8. Our members noted that a real constraint lies in the sheer size of the production rate needed to deliver on the UK's targets. In the request for information, BEIS noted that the Crown Estate announced its intention to lease 4GW in the Celtic Sea, while ScotWind already has a 16GW pipeline in place.

9. With each turbine generating a maximum of 20MW, the UK would need to deliver up to 1,000 turbines to meet the targets outlined in the two abovementioned locations. Without taking into account potential delays to delivery attributable to bottlenecks in the process such as weather conditions and other logistical factors, it could take decades to deliver this volume of floating offshore wind structure. This highlights the need to increase the UK's production rate by enabling multiple production lines at different sites across the coast.

10. The lack of sufficient capacity across existing ports are additional constraints in terms of the infrastructure and manufacturing requirements needed to deploy floating offshore wind facilities on the scale envisaged by the Government. This issue is reflected throughout SMI's response, particularly when examining the current infrastructure capacity and the skilled workforce needed to support the deployment of floating offshore wind.

11. We certainly commend the Government for setting ambitious net zero targets and wanting to make the UK a global leader on floating offshore wind, but our members point out that this plan lacks an overarching vision of the supply chain's role in meeting these goals. Being clear on the aspirations for UK content throughout the supply chain would help to secure the wider UK prosperity benefits. Considering that floating offshore wind has never been delivered on an industrial scale, the UK does not yet have the prime and tier 1 contractors that can give the supply chain the certainty needed to take up the challenge. The Government also have a role to play in attracting the necessary inward investment to enable delivery on the desired scale.

12. Although these constraints may initially make for a sobering reality check, we would argue that there is an opportunity for the Government to use this ambition to make the UK a world leader in floating offshore wind to oversee a significant expansion of our infrastructure capacity. Having accepted that current port-side infrastructure cannot support the production rate required to meet its objectives, the Government needs to take a fresh look at the role of FLOWMIS.

13. The Government should use FLOWMIS to de-risk the early engineering and consenting process with the aim of accelerating the development of infrastructure in new coastal development zones, beyond existing ports. This would open up investment opportunities for potential prime and tier 1 contractors to develop bespoke 20-30-hectare sites along the coast for the development of the infrastructure necessary to construct, deliver and maintain floating offshore wind facilities.

14. Investing £160 million across the UK's shore-side infrastructure through this mechanism could significantly increase the speed of the development process and accelerate the production rate of floating offshore wind, while not representing a significant amount in terms of capital expenditure, provided it is followed up with additional de-risking and underwriting incentives designed to attract private sector investment.

15. By reframing FLOWMIS as a de-risking mechanism to speed up development and attract investment into shore-side infrastructure sites delivering floating offshore wind, the Government can also seize a significant opportunity to add value to the levelling-up agenda. These centres would employ people across some of the most economically disadvantaged areas in the country and could become permanent growth engines for these communities as bases for the future operation and maintenance of floating offshore wind farms after their deployment. Local supply chains would also benefit greatly.

What constraints, risks and opportunities does the UK face in relation to the manufacture, fabrication and assembly requirements needed to meet the deployment ambition for floating offshore wind?

16. Making sure that the UK has the necessary infrastructure capacity is key to delivering floating offshore wind. Despite arguing that this remains a constraint based on our existing facilities and the production rate required to meet government deployment ambitions, we have explained how the latter provides an opportunity to increase our shore-side infrastructure capacity and contribute to levelling-up for coastal areas in the process.

17. When looking at the manufacturing, fabrication and assembly requirements for floating offshore wind facilities, we need to be equally honest about what is holding us back and preventing us from meeting our ambitions, before we can understand the opportunities that lie ahead.

18. The manufacturing, fabrication and assembly – as well as the future operation and maintenance – of floating offshore wind relies on a highly-skilled workforce and many of these skills can be found in coastal areas.

19. Despite being the world's fifth largest economy, the UK has a greater inter-regional disparity compared to other developed countries and coastal areas have often lagged behind other regions in terms of socio-economic prospects. According to a Survation poll conducted for Maritime UK in September 2021, almost half of 18-24-year olds plan on moving away due to the lack of employment opportunities, but 70% would stay if the right career pathways were made available.[1]

[1] State of the Maritime Nation 2022, Maritime UK

20. Even with the right infrastructure, which would need to be within 100 miles of project sites to meet towage speed and insurance requirements, the current lack of employment opportunities could make it quite difficult to source the workforce necessary to meet government ambitions for floating offshore wind without concerted action.

21. The scale of this challenge highlights the importance of growing the workforce of the sector and the maritime engineering community by continuing to publicise the breadth of its career opportunities across all sectors of the population to attract new entrants, especially in coastal communities.

22. We applaud the Government's commitment in this direction with the launch of the Maritime Recovery Route Map in June 2022 and, while we are committed to playing our part in promoting the maritime sector's careers offering to grow our workforce, the Government should also consider supporting the development and adoption of advanced techniques such as automated welding throughout the lifecycle of floating offshore wind structure, from the manufacturing and fabrication through to the assembly stage, which would help reduce the demand for manual labour significantly.

23. These techniques have the potential to alter the skills demands on the sector and optimise the manufacturing process. For example, the Automated Welding Equipment System Inspection and Monitoring (AWESIM) project, developed in collaboration with the University of Strathclyde for the nuclear sector, is the type of innovative technology that brought about positive disruption to the manufacturing process in nuclear. With government support, these initiatives can do the same for floating offshore wind and enable us to meet the Government's deployment ambition.

24. The Government should also look at enabling automatic monitoring inspections for floating offshore wind structure by fostering the development of technology for drones, autonomous underwater vehicles, and unmanned surface vehicles with a view to reducing associated maintenance and labour costs as well as carbon emissions.

Please provide any further information that you think may be of interest.

25. On the issue of UK content, our members feel that setting percentages is problematic and have expressed the need to face up to that fact that the UK currently lacks the balance sheets necessary to scale up and meet the industrialised need for domestic content without significant

inward investment. Encouraging such investment however, could significantly boost UK content through enabling our many capable SMEs to participate.

26. Although the Offshore Wind Sector Deal, published in March 2020, set a target of 60% lifetime UK content in domestic projects, there is no measurement allowing us to ascertain whether the sector is meeting this goal. With so many contracts awarded overseas, we need BEIS to engage more proactively with industry to enable UK-based firms to customise their offer and become more competitive.

27. Instead of setting arbitrary targets, the Government should provide leadership and outline a vision on scaling up and enabling UK content to play a part in the deployment of floating offshore wind structures. This vision needs to set out what success looks like, identify any barriers to that success, and outline what the Government can do to help industry overcome such obstacles.

28. When dwelling upon the point of what success looks like, our members recognise that we need to be ambitious and aim to provide the full suite of products and services across the entire floating offshore wind supply chain. This includes not just the primary structure of semi-submersibles, wind towers and shore-side infrastructure, but service vessels, environmental surveying and monitoring and the entire operation & maintenance process following the deployment of facilities.

29. The Government's offshore wind ambitions create significant opportunity for the UK's maritime engineering sector and with the joint industry and Government action outlined above, we believe these ambitions can be met with significant UK prosperity benefits in addition.