

# Offshore Wind Plan

Maximising the value of offshore wind to the maritime supply chain

March 2023

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## Foreword

#### Dear Colleagues,

We know that decarbonising the maritime sector is critical if we are to decarbonise our economy. Some 95% of UK trade comes aboard a ship, and given that volume, reducing emissions from this sector is a must if we are to meet our national and international targets.

What is often less appreciated is the role that maritime can play in enabling wider decarbonisation. As an example, transporting freight by water is by far the most carbon efficient logistics mode for moving goods and, therefore, supporting the shift of freight from road and rail can play a major role in reducing carbon emissions. Another way is through ports acting as green hubs for offshore energy and the transport and storage locations for new green fuels like ammonia and hydrogen.

The UK's transition to net zero has the capacity to represent a new industrial revolution, creating new industries, new high-quality jobs, and real value throughout the supply chain. Be that building vessels in the UK to support installations or further growing UK ports as centres for manufacturing and assembly for offshore developments. Estimates from the Offshore Renewable Energy Catapult suggest that 149 Surface Operation Vessels (SOVs) will be needed to serve rapidly expanding offshore wind developments in Europe by 2030, and up to 309 by 2050. The ports sector has a well-established capability to support the offshore green energy sector. The UK's bold growth ambition for floating offshore wind provide a transformational opportunity to turbo charge the investment and good jobs the sector enables.

But for that to happen, we need the maritime sector and offshore energy industries to work closer together to deliver the right solutions from here at home and as much value as possible for communities across the country.

That is what the Maritime UK Offshore Wind Plan is designed to do. The plan makes a series of recommendations for how the maritime sector, the offshore wind sector, and governments can work together to deliver maximum economic benefit from the growth of offshore wind across the maritime supply chain in industries like ports, shipbuilding, crewing, and professional services.

In partnership with Renewable UK, the trade association for wind power, wave power and tidal power industries in the UK, the launch of the Offshore Wind Plan will also see the birth of a new Joint Maritime and Renewables Working Group, bringing industry partners and government departments together to focus on delivering the plan's recommendations.

We will need all partners to work together – in ways that we previously have not – to realise the plan's vision.

I am excited by the new partnership approach being established through the plan and the new Joint Maritime and Renewables Working Group and I look forward to working with colleagues to deliver the Offshore Wind Plan's recommendations. Together, we can achieve substantial environmental and economic opportunities for the UK.

Yours sincerely, Robin Mortimer Chair Maritime UK



## About Maritime UK

Maritime UK is the umbrella body for the maritime sector, bringing togetherthe shipping, ports, services, engineering and leisure marine industries.Our purpose is to champion and enable a thriving maritime sector. Maritime UKaims to promote and enable a thriving maritime sector through five key priorities:environment, people, innovation, competitiveness and regional growth.

#### **National Members**

The Baltic Exchange
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British Ports Association
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UK Chamber of Shipping
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# UK Maritime and

There is an undeniably strong connection between the UK's maritime sector and offshore wind activity taking place in UK waters. By virtue of its location at sea, offshore wind is intrinsically connected to the UK's maritime services, supply chains, skills and products. The UK's maritime sector is not contributing to offshore renewable energy activity on the same level of neighbouring nations with the exception of small commercial vessels, even though this is reducing due to a lack of government support following the UK's departure from the EU. Given the opportunities present in the lifecycle of offshore wind projects - whether through the manufacturing and installation of specialist technologies, the supply, maintenance, crewing and operation of existing projects, the transport and storage of parts, or the facilitation of energy transfers through ports - the maritime sector plays a critical role in the growth of offshore wind and the fulfilment of aspirations to generate 50GW of energy capacity by 2030.1

The UK is a world leader in offshore wind with 11.4GW of cumulative installed capacity – one of the largest in the world – and this industry is gearing up to meet the increased capacity target set out in the *Sixth Carbon Budget* of 50GW by 2030 and 100 GW by 2050.<sup>2</sup> The maritime sector has made significant contributions to the growth of this capacity through investment, the construction of port infrastructure, and the supply of vessels, equipment and skilled professionals. However, there is a recognition that the synergies between maritime and offshore wind must be strengthened further to achieve maximum value across the economy through the acceleration of offshore wind deployment, including floating offshore wind, or risk allowing other countries to fill the void.

The maritime sector is a key element of the offshore wind supply chain and must work in unison with this industry to capitalise on opportunities that will benefit not just the maritime ecosystem of businesses across different industries, but to deliver economic growth in the communities surrounding the supporting infrastructure and sustain green jobs creation through the wider supply chain. This will benefit the communities where these businesses are centred by providing high-value employment opportunities for the local population and growing the local economy in the process.

In March 2019, the Government and the Offshore Wind Industry Council (OWIC) signed an ambitious world-leading sector deal that positioned offshore wind as the backbone of the UK's future power system.<sup>3</sup> Building on the Offshore Wind Sector Deal and other priorities around decarbonisation, the Government outlined the steps needed to reach its legislative net zero targets by 2050 in the Ten Point Plan for a Green Industrial Revolution.<sup>4</sup> The plan recognised the need to provide specific and additional support to the maritime sector, including a £20 million pot of funding to develop clean maritime technologies and conducting feasibility studies on key sites. The Clean Maritime Demonstration Competition (CMDC) was built on the vision set out in the Clean Maritime Plan (CMP), signalling the Government's commitment to addressing maritime emissions. Across the three CMDC rounds, the Government has made over £98 million of funding available for projects across the UK to deliver feasibility studies, technology and pre-deployment trials, and technology and vessels demonstrations in clean maritime solutions between 2021 and 2025. During COP26, the Department for Transport (DfT) and an industry coalition also launched Operation Zero, setting out a vision to achieve decarbonisation of operations and maintenance vessels in the North Sea's offshore wind sector by 2025.<sup>5</sup> According to OWIC, the certainty provided by this strategy will enable the offshore wind sector to deliver £48 billion of investment in UK infrastructure before 2040, by which time the offshore wind industry is estimated to employ over 97,000 people in highlyskilled jobs across coastal communities, where economic regeneration and growth is needed.<sup>6</sup>

Contributing £116 billion to the economy in annual turnover and supporting over 1 million jobs, the maritime sector plays a crucial role in the journey towards decarbonisation and - given the ambitious targets committing the UK to net zero by 2050 - the Government should take advantage of this link and work with industry to enable the sector to maximise its positive contribution over the coming years.<sup>7</sup> Representing the maritime industries of the UK - including shipping, ports, services, engineering and leisure marine -Maritime UK wishes to ensure that the opportunities within the offshore wind sector are capitalised to the benefit of people, communities and businesses in the maritime ecosystem, whilst helping to meet one of the most important challenges of our time. The Department for Business, Energy and Industrial Strategy (BEIS) acknowledged that the UK will require higher volumes of offshore wind deployment than previously believed in order to meet its own net zero targets.8 To do that effectively, the Government needs to work with stakeholders across the maritime and renewable energy sectors, building upon the foundations laid out in the Offshore Wind Sector Deal and the British Energy Security Strategy, to accelerate offshore wind activity in the years to come.

#### Opportunities, Barriers and Solutions: Where we are and where we want to get to

This Offshore Wind Plan outlines the maritime sector's current activity and involvement within offshore wind and highlights existing opportunities that may not yet have been fully capitalised to the benefit of the wider economy and the decarbonisation agenda. It also identifies the barriers that stand in the way of realising these ambitions and suggests actions for both government and industry to overcome these obstacles. The main purpose of this document is to set out ways in which the maritime sector can progress the growth of offshore wind and how increased interaction between different industries will benefit the economy as a whole. While offshore wind is used as an example, many of the opportunities and barriers outlined throughout this Plan will also apply to maritime sector's involvement with other offshore renewable energy sources.

#### 1. HM Government, British Energy Security Strategy, April 2022

- 2. <u>Climate Change Committee, Sixth Carbon Budget, December 2020</u>
- 3. HM Government, Offshore Wind Sector Deal, March 2019
- 4. <u>HM Government, The Ten Point Plan for a Green Industrial</u> <u>Revolution, November 2020</u>
- 5. DfT, COP26 declaration: Shipping and Offshore Wind Operation Zero, 7 December 2021
- 6. Offshore Wind Industry Council, Offshore Wind Skills Intelligence Report, May 2022
- 7. Maritime UK, State of the Maritime Nation 2022, June 2022
- BEIS policy paper, Offshore wind Sector Deal one year on, 4 March 2020

# People andSkills

It is important to ensure that the growth of offshore wind provides opportunities for skills training and employment for UK-resident maritime professionals. The maritime transition towards net zero should generate additional high-skill and high-value employment opportunities for UK-based seafarers and maritime professionals to benefit from, especially in coastal communities with a need for economic regeneration and renewal, and that support a just transition.

#### Opportunities for Employment in UK Offshore Wind

In October 2020, Prime Minister Boris Johnson stated that the commitment to net zero emissions by 2050 would lead to the creation of 2,000 jobs in construction and up to 60,000 jobs in ports, factories and supply chains involved in the manufacturing of offshore wind turbines.<sup>9</sup> The development of offshore wind could provide a unique opportunity to create more high-skilled jobs for seafarers, who will be needed to operate vessels used in the construction and maintenance of offshore wind farms, and expand the future talent pool needed to support this sector's growth. There is also an opportunity to increase investment in training new apprentices and retraining existing workers in shipyards who will be employed in the construction of vessels operating in wind farms. However, maritime businesses are only going to invest in training if they have confidence that the UK's shipbuilding enterprise is going to benefit from the offshore wind sector.

Like many other sectors across the economy, seafaring has seen significant job losses resulting during the COVID-19 pandemic and these highly-skilled UK-based seafarers are ideally placed to take up the opportunities that will exist in a thriving UK offshore wind sector. Seafarers have already developed many of the required operational and technical skills, meaning that they are likely to take less time and incur lower costs when seeking to upskill and reskill into offshore windfarm construction and support. It is also equally important to have a robust pipeline of future homegrown talent in place to support this growing sector by making sure there are clear pathways to employment opportunities in the maritime and offshore wind sectors for young people.

There are a number of existing apprenticeship programmes that are crucial to the development of a strong skills base in the offshore wind sector. Promoting programmes such as the <u>Small Vessel Engineer</u> and the <u>Ship's Master less</u> <u>than 500 Gross Tonnage (Near Coastal)</u><sup>10</sup> will go a long way towards ensuring there are enough people who can operate up to 150 nautical miles offshore for the crew transfer and wind operation and maintenance phases.

The work required in the manufacturing and installation of the specialist technologies and their operation and maintenance will also generate many opportunities for high-skill and high-value employment of engineers, logisticians and project managers. The supply and demand for these roles will need careful alignment and advanced manufacturing techniques will be required to enable delivery. Employers in Blyth are already working on the development of digital and engineering T Levels with the potential to address the skills needs of offshore wind farms, whilst teaching people skills in coding, digital products, materials, fitting, business and mechatronics together with 45-day work placements. These proposed qualifications would feed into existing apprenticeship routes such as the Maintenance and Operations Engineering Technician, which has a specific wind turbine route, the Engineering Technician, and the Engineering Fitter. At the same time, short courses to transition

workers from oil and gas, military and other similar skilled industries will need to include offshore wind related handling in ports, safety, electrical, hydraulics, as well as assistance with CVs to help demonstrate transferrable skills to employers.

The Offshore Wind Sector Deal also included a commitment to set up an *Investment in Talent Group*, tasked with mapping skills needs and developing the curricula and accreditation necessary to broaden and deepen the sector's skills base. It is crucial that membership of this group reflects the wide range of stakeholders with an interest in this field. The group will benefit greatly from a diverse membership from trade unions through to employers to give a fully rounded perspective on overcoming talent related challenges.

### Barriers to Employment in UK Offshore Wind

The UK's offshore wind sector is forecast to expand significantly, with OWIC noting that it is set to employ 97,465 workers in 2030 – more than tripling its current 31,082 strong workforce.<sup>11</sup> Non-resident seafarers have been able to compete for UK-based jobs in the last decade due to a visa waiver concession, which the Home Office introduced in 2017 to remediate to a lack of available seafarers in the UK.<sup>12</sup>

The UK's exit from the EU and the phasing out of the visa waiver concession at the end of April 2023 pose a major barrier to recruiting the number of workers needed to support the projected growth of the UK's offshore wind sector. Ensuring the presence of a steady and robust skills base over the longterm is essential to overcoming this obstacle, something that requires the availability of clear career pathways into the sector for young people. It is equally important to value the expertise of UK-based seafarers who lost their jobs during the COVID-19 pandemic, giving them the same high-value opportunity to support the burgeoning UK offshore wind sector over the coming years by upskilling and reskilling them.

#### Government Asks

- Develop and maintain well-defined pathways towards employment opportunities in the maritime and offshore wind sectors for young people aged 16-24, as well as existing UK-resident seafarers who lost their jobs as a result of the COVID-19 pandemic.
- Ensure that trade unions and employers have a voice in the Investment in Talent Group tasked with identifying skills needs and developing the curricula and accreditation necessary to broaden and deepen the sector's skills base.

#### dustry Offers

Commit to developing and utilising locally resourced workforces and UK-resident seafarers, engineers, logisticians and project managers.

- 9. <u>HM Government, New plans to make UK world leader in green</u> energy, 6 October 2020
- A proposal to develop an apprenticeship for this occupation is currently being worked on.
- 11. Offshore Wind Industry Council, Offshore Wind Skills Intelligence Report, May 2022
- 12. UK Visas and Immigration, Offshore wind workers Immigration Rules concession 2017







The UK's maritime engineering, manufacturing and technology industry develops significant amounts of worldleading products every year, which are used in the UK and other international markets. Businesses operating in this industry are involved in activities ranging from the design to disposal of luxury yachts to aircraft carriers, gauges to gas turbines, and provide expertise for the design, build, integration and maintenance of equipment, technology and vessels that are key to offshore wind activity in the UK. The UK also has a wide variety of marine science and technology manufacturers who can provide the monitoring system for offshore wind farms through different phases of their lifecycle. While these companies are willing and able to meet market requirements at pace, offshore wind developments contain around 40% of UK content, which is below the 60% target set out in the Offshore Wind Sector Deal. It is worth noting that this particular goal is neither accurately measured nor valued as a strength in the tendering process.

There are currently only a few UK-based companies involved in manufacturing turbines and towers, which represent a significant share of the financial value of an offshore wind farm. Two of the largest manufacturers in the world (i.e. Siemens and Vestas) have facilities in the UK for the manufacturing of blades used in offshore wind farms.

The UK does have expertise within the build of smaller vessels (under 500gt), PPE and blade manufacturing – to name a few – and there is opportunity for this expertise to be expanded and for the production to be scaled up. Beyond the current lack of UK-based manufacturers for towers and turbines, UK companies are engaged in the design and manufacturing of vessels, marine and turbine equipment. The opportunities for the manufacturing and the supply of equipment for the offshore wind sector in the UK will continue to grow and the maritime sector needs to seize this chance.

## Opportunities for the Manufacturing and Engineering Industry

There remain significant opportunities to increase the level of UK-manufactured equipment and technology at use in offshore wind, both at home and abroad. Rather than imposing binding targets, the UK's manufacturing and fabrication capabilities could be enhanced by encouraging procurement bodies to give higher weighting in the tendering process to projects proposing to meet the UK content targets outlined in the Offshore Wind Sector Deal. This approach would incentivise greater use of UK content in the offshore wind sector by rewarding those developers that set a good example, making this choice a competitive feature in wind farms. The increased expertise in producing and manufacturing equipment and technology for offshore wind could also provide opportunities for exporting to other parts of the world and attracting foreign businesses to have UK facilities.

Specific opportunities for the UK within the manufacturing of equipment include the integration and commissioning of larger vessels (i.e. larger wind turbine installation vessels or service operation vessels), where the hulls are produced elsewhere but moved to the UK for the installation of electrics, mechanical, plumbing, furnishing, trialling and completion, and to further expand existing expertise within the build of smaller vessels (under 500gt), PPE and blades for offshore wind towers. Production could be expanded, scaled up and further incentivised. An example could include offering fiscal and/or financial incentives to vessels in operation and maintenance contracts who are flagged in the UK.

## Barriers for the Manufacturing and Engineering Industry

While there are certainly significant regulatory and commercial barriers, alongside a general lack of funding for innovation in the maritime sector, the UK is not as cost competitive as other manufacturers in Europe and the rest of the world with regard to the level of automation and advanced manufacturing infrastructure.

Although the next chapter looks in greater detail at opportunities within shipbuilding, it is hard to start developing and manufacturing vessels or equipment for the maritime sector without a strong and flowing customer requirement throughout the market. Industry needs to secure capital costs through back-to-back projects in order to set up a shipyard capable of making and finishing service operation vessels (SOVs).

The UK's departure from the EU remains another significant obstacle to the maritime sector's involvement in the manufacturing of equipment for use in the offshore wind sector. As long as EU manufacturers continue to perceive that the UK is 'closed for business', convincing non-UK companies to engage with and establish themselves in the UK will be difficult. Current transport links, currency differences, tax implications and need for work visas within the sector makes it both easier and cheaper for large manufacturers to invest elsewhere, despite great UK knowledge and expertise within offshore wind and supporting maritime industries. The UK could be better placed to support itself as a maritime and offshore wind nation.

#### Government Asks

- Encourage procurement bodies to give higher weighting in the tendering process to projects opting to meet the UK content target in the Offshore Wind Sector Deal.
- Adjust the Maritime Capital Asset depreciation to reflect the technical lifetime of vessels, rather than the economic lifetime to create a more level playing field for manufacturers and incentivise purchasing of UK-made equipment.
- Introduce a suite of financial instruments similar to that available through UK Export Finance for the offshore wind market (including the *Home Shipbuilding Credit Guarantee Scheme*) to create a more level playing field for UK maritime manufacturers also involved in the sector to compete with overseas competitors.
- Provide grants for infrastructure and production facility investment for offshore wind related projects, following the model set by the *Floating Offshore Wind Manufacturing Investment Scheme* (FLOWMIS).

#### ndustry Offers

Coordinate efforts to promote UK-manufactured equipment for the UK offshore wind sector more widely such as the £215 million 'Economic Recovery through Advanced Manufacturing' proposals developed by the University of Strathclyde.<sup>13</sup>



The offshore wind sector utilises a wide array of vessel types at different stages of the lifecycle of a wind farm. In the preconstruction stages, this involves survey and dive/remote operation vehicles (ROVs), support vessels in work such as surveying, buoy placement, weather studies, unexploded ordnance removal (UXO) and associated activity. In the construction phase, wind turbine installation vessels (WTIVs), as well as those assisting with cable laying and repair, jack-up and heavy lifting, rock-placement, are also used. Throughout the 20-30-year operating life of an offshore wind project, a wind farm must be crewed, maintained and repaired – activity that involves crew transfer vessels (CTVs), SOVs, heavy lift vessels and jack-up barges.

There is an increasingly global market for all these vessel types as offshore renewables grow, resulting in an expanding pool of lenders and investors targeting renewable energies who would not traditionally be involved in the shipping industry. The advance of autonomous systems and artificial intelligence, including the use of drones, is also being investigated by the sector to minimise the need to send people offshore, increase safety, reduce costs and improve systems performance.

The shipbuilding enterprise involves large parts of the maritime sector, from shipowners and operators, shipyards and manufacturers of equipment and technology to the providers of professional services such as finance. One of the major contributions that the maritime sector makes to the progress of offshore wind projects is the build of vessels employed in the planning and surveying, installation, operation, maintenance and crewing of wind farms and equipment. However, UK shipbuilders are currently not recognised as viable builders of this type of tonnage. The UK is the world leader in small commercial vessels engaged in offshore wind activity, both in terms of number of vessels built and registered to the UK and in UK ownership, but this number is rapidly diminishing. The UK has lost 100 Coded Workboats from the Ships Register in 2021 and it has not yet entered the construction market for larger offshore wind support vessels (greater than 500gt).

In March 2022, the Government announced a refresh of the *National Shipbuilding Strategy* (NSbS), originally published in 2017, taking a more holistic approach to the maritime enterprise and supply chain. Designed to reinvigorate the shipbuilding enterprise and maritime sector across regions as part of the levelling-up agenda, the NSbS Refresh sets out a 30-year procurement plan for all government-owned vessels and is accompanied by a number of associated initiatives with implications for all parts of the maritime sector, including those that interact with offshore renewables activity.<sup>14</sup>

### Opportunities for Shipbuilding in the UK

As offshore wind grows, it increasingly demands more sophisticated purpose-built tonnage fitted with newer and greener technologies and propulsion systems for the installation, operation and maintenance of more autonomous offshore wind farms. This growth, paired with the increasing demand for environmental and lowcarbon solutions across the entire supply chain, presents an opportunity for the UK to become a world leader in clean maritime and capitalise on the needs of the market by providing UK-built vessels. There is considerable government support for UK shipbuilding to play a key part in the levelling-up agenda, something which is reflected in the NSbS Refresh. Tonnage built in the UK and employed by the UK offshore wind sector could make a sizeable contribution to fulfilling the 60% UK content target, as well as allowing shipowners and operators to diversify into a new asset class and making way for new entrants into the market. The methodology for calculating UK content in ship construction, operation, management, and crewing also needs reforming, as it currently underrepresents UK value for existing operators.

The UK has a rich history of shipbuilding and, as an early adopter of offshore wind, provides an exciting opportunity for its domestic shipbuilding enterprise to resize and contribute to increasing UK content throughout the entire lifecycle of offshore wind projects. This could include building SOVs and other supporting manned and unmanned vessels, which will see increasing demand hand-in-hand with the number of wind farms that are operational and under development.

There are also opportunities related to the fitting-out of larger vessels that are sent to the UK to install additional components such as specialised mission equipment, marine hardware and electronics, interior furnishings and decor, plumbing and so on. The UK is currently a leader in the design of CTVs, many of which are constructed in the country. A closer relationship between UK shipyards, designers, naval architects and vessel operators could lead to a higher number of orders, as many offshore wind contracts are awarded with design at the lead. This same approach that is currently rewarding UK small-vessel shipbuilding could also be used for the promotion of larger vessel opportunities and a renaissance for all the industries required to support it.

#### Barriers to UK Shipbuilding

While increasing demand for low-emission and zerocarbon alternatives is equally matched by a strong industry appetite to provide these solutions, shipowners and operators have few incentives to order and build these types of vessels. Increasing energy costs, the lack of enabling investment to utilise existing yard space for vessel building, and the inflexibility of the planning process present major structural barriers to the construction of low to zero-carbon vessels. Furthermore, these vessels also need to have the relevant infrastructure present in ports associated with offshore wind farm sites they will be operating on.

The UK lacks a coherent strategy to incentivise competitiveness and investment, with the Government committing money to a wide range of projects without an overarching consideration for their end use. Operators on wind farms are also not contracted for long enough to see a return on investments associated with electric or other green boat solutions. Competitive jurisdictions such as the Netherlands and Norway have been more successful at incentivising the future use of alternative fuel vessels because their governments have shown leadership on the issue by listening to industry proposals, providing financial support, and buying these products to help them become operational. This has driven up interest and, eventually, encouraged other actors to purchase these products because they are perceived as 'trialled and tested'. Adopting a similar approach in the UK would provide a useful incentive to build lower emission vessels, as well as encouraging owners and operators to collaborate with UK designers and shipyards, supported by the wider initiatives within the NSbS Refresh.

In terms of financing, the perceived 'niche' nature of offshore wind means that lenders and investors generally require owners to have secured long-term employment for their vessel as a 'Condition Precedent' to providing finance. This threatens to restrict the flow of new purposebuilt ships for the offshore market and, because certain ship types are only used during specific phases of the construction stage for offshore renewable projects, this is too short a time to support the capital investment required and provides insufficient certainty for investors and lenders.

Uncertainty over design and other specifications has also served to temper shipowners' appetite to place orders for new vessels intended to serve offshore wind. This is particularly a concern where, because of the rapid pace at which the sector is developing alongside shifting environmental demands and regulations, newlybuilt vessels might be considered obsolete by the time they are delivered. This is reflected especially in relation to WTIVs due to the speed at which the size of wind turbines has grown in recent years. The drive toward net zero and the requirement for zero emission propulsion have also served to dampen shipowners' appetite to build vessels with traditional propulsion methods across all shipping sectors, including the offshore wind sector. An additional barrier has been the lack of a recently demonstrable track record for modern commercial shipbuilding in the UK, which represents an additional risk for prospective lenders and investors. The only solution to this is to build more ships.

#### Government Asks

- Reform the methodology for calculating UK content in ship construction, operation, management, and crewing, as it currently underrepresents UK value for existing operators.
- Invest in and implement the outcomes of the Clean Maritime Demonstration Competition (CMDC) for government vessels.
- Revise tax incentives and campaign to 'build British', subject to an appraisal of the current UK shipbuilding capacity.
- Give higher weighting to low carbon footprint supply chains, which will make green and alternative fuels a competitive advantage.

#### Industry Offers

- Promote career opportunities and training related to shipbuilding and demonstrate the need for skills in the sector.
- Promote commercial opportunities within the UK maritime sector to help attract domestic as well as international investment.
- Invest for the long term in advanced production techniques and skills with greater certainty in future order books and government support.

These asks and offers should be seen as a subset of the NSbS Refresh and are entirely coherent with government and industry's shared vision for the future of the UK's shipbuilding enterprise.



## Offshore Vessels

There are two main ways in which vessels are chartered for the various stages of an offshore wind development: offshore wind developers either charter vessels directly or – more commonly – they use multiple work packages that subcontract this work in an effort to reduce expenditure. Each work package is contracted to Tier 1 suppliers, who are responsible for the procurement of subsequent contracts, including the chartering of vessels for that specific offshore wind project.

## Opportunities for Offshore Vessels in the UK Market

Ships are vital enablers of offshore wind. Different types of ships occupy various roles that are critical throughout the lifecycle of a fixed offshore wind farm. This includes offshore wind surveying and geotechnical drilling, the laying of cables and construction of offshore wind substations, constructing and assembling foundations and offshore wind turbines, the operation, maintenance and repair of offshore wind farms, and the accommodation of offshore wind technicians, emergency standby vessels and offshore wind farm decommissioning. There are also opportunities in floating offshore wind for more traditional vessels such as anchor handlers, which can tow wind farm components to sites.

The UK currently has 11.4GW of installed offshore wind capacity and the *British Energy Security Strategy* set out the ambition to increase this to 50GW by 2030 but, to reach net zero by 2050, capacity will need to go up to 100GW, something that cannot be achieved without significant levels of investment. With the advent of floating offshore wind, wind farms are being developed further from shore, opening up new opportunities for offshore renewables in the UK and the shipping activity involved in it. Moreover, the trend towards larger turbines (in the past twenty years the average rotor diameter has tripled from 40m to 120m), floating technology in deeper waters to capture more consistent wind resources (0.2% of existing capacity is floating against 12% of potential capacity), and increasing UK content levels are all significant factors that will impact the future ships needed to facilitate these developments.

The North Sea Transition Deal sets out the joint offshore energy industry-government ambition to facilitate net zero by using offshore wind to electrify offshore oil and gas production platforms, alongside producing green hydrogen offshore, as part of the UK's energy transition. Crown Estate Scotland has also opted to double the lease period for some seabed sites tendered through its *Innovation and Targeted Oil and Gas* (INTOG) auction, with the goal of enabling small scale innovation projects – including offshore wind farms – that generate less than 100MW.<sup>15</sup>

There are therefore growing opportunities for vessel activity as part of the UK offshore wind supply chain and energy transition, especially from those vessels with extensive experience of working in the UK offshore oil and gas sector. There is also significant growth in the international market that could bring opportunities to the UK shipping industry. McKinsey forecasts that offshore wind capacity across the world will reach 630GW by 2050, up from 40GW in 2020,<sup>16</sup> while the Ocean Renewable Energy Action Coalition (OREAC) set out its vision for 1,400GW of global offshore wind capacity over the same period.<sup>17</sup> Such an increase in offshore wind capacity could potentially satisfy 10% of the global electricity demand and cut 3 billion tonnes of CO2 emissions each year.<sup>18</sup> To enable a greater number of UK companies to seize the opportunities on the international stage and become successful exporters, it is vital that more of them take part in domestic offshore wind projects. Without a track record of securing business domestically, it becomes more difficult to win export work.

In setting out the opportunities and barriers facing the shipping industry within the UK offshore wind sector, it is important to stress that the international elements of vessel ownership, management and operations will vary from company to company. The provision of offshore energy services to global markets using specialist vessels is inherently international, with extensive expertise from the UK's offshore oil and gas industry. Vessels with UK and international content will be vital for the growth in the domestic offshore energy sector and simultaneously in export growth markets, as part of the domestic and global energy transition.

Generally speaking, given the increased capital expenditure (CapEx) costs for larger vessels, it is understood that, as vessel size increases with incrementally complex equipment and/or lifting capacity on board, greater flexibility is needed in accessing international expertise to build and operate these vessels. This is because larger vessels require larger returns (and therefore sufficient worldwide earning through projects) to justify their investment, as well as specialist personnel to carry out the vessel operation and offshore energy services - which can often include significant UK expertise as part of that mix. With that in mind, it is hence important to stress that vessel specification and suitability for the required task should continue to remain paramount considerations when contracts are being tendered for offshore projects and services. In addition, larger vessels are generally more difficult to decarbonise, with existing ones even more challenging to retrofit.

## Barriers for Offshore Vessels in the UK Market

The most significant barriers for vessel suppliers in the UK offshore wind sector are primarily linked to its rapidly evolving technologies and installation requirements, something that makes investment decisions for new vessels difficult. This is not unique to the UK and the offshore large installation vessel market, related to wind turbines, is wholly driven by large speculative investments in new builds or significant amounts of funding from banks used to invest in the vessels themselves.

The most significant barrier to entry for UK companies in this space is the early upfront costs required and the limited spread of experience with installation of offshore wind turbine components. There is one UK company with extensive experience of operating offshore wind installation vessels. Factors that do not encourage the contracting of larger vessels with a greater UK operational presence, or indeed the decarbonisation of such vessels, include:

- the drive for lower costs through the current Contracts for Difference (CfD) model;
- the limited understanding of the UK presence in vessel operations;
- the current supply chain plans;
- UK content methodology;
- the trend to lower costs through the use of multiple work packages involving Tier 1 suppliers; and
- the auction strike prices of the CfD.

While there is significant UK presence through CTVs and smaller commercial vessel types, larger vessels generally have a greater international presence. With this dynamic in mind, the lack of recognition of vessels with UK content means that operators with higher levels of UK presence in their operations find it difficult to compete on a level playing field with international competitors.

Additionally, there are currently no direct financial drivers or support in the UK that could incentivise and encourage offshore wind developers and energy companies to collaborate with vessel operators in a way that would allow them to retrofit vessels with emission reduction technologies or build lower emission vessels for the UK offshore wind market, or for use in the UK Exclusive Economic Zone, in an economically viable manner.

There are precedents for a similar approach in other markets, notably in Norway with the <u>NOx Fund</u>, a longestablished collaboration between government, energy companies, vessel operators and other partners that aims to reduce emissions. The launch of the UK SHORE in March 2022 is a step in the right direction to developing exactly this type of government-industry collaboration, with the buy-in of offshore energy companies, to target carbon emissions reductions by funding costs associated with the retrofitting of technologies and by supporting research into the development and scaling up of zero carbon vessel alternatives. UK-SHORE could complement existing initiatives such as MarRI-UK and existing bodies within the offshore energy sector such as the Offshore Renewable Energy Catapult (OREC), the Oil and Gas Technology Catapult (OGTC), and so on.

#### Government Asks

Overcoming some of the barriers preventing UK shipping companies and operators from increasing the UK presence in the offshore wind sector requires the Government to:

- Reform the CfD process to reward sustainability and decarbonisation of the UK maritime supply chain involved in the offshore wind sector.
- This would include Tier 3 emissions, with a particular focus on CapEx costs such as vessels and correspondingly higher OpEx for UK presence, as well as encouraging long-term collaboration and chartering of vessels where possible.
- Design features within the CfD process such as the Supply Chain Plan and Supply Chain Questionnaire to yield information about the UK presence in the vessel operation and management in offshore wind farms, as this is likely to be underreported.
- This step has already been considered under recent consultations from BEIS.<sup>19</sup>
- Introduce initiatives for financing the decarbonisation of the offshore vessel fleet.
- Examples include the <u>NOx Fund</u> and the Norwegian Innovation Fund, which allocated NOK 150 million (c. £12 million) to subsidise shipowners' investments in environmentally friendly offshore vessels and the scrapping of older and more polluting vessels. Similar initiatives could interact with the Department for Transport's Decarbonisation Plan and the UK Emissions Trading Scheme (ETS).
- Recognise that vessels should be treated as national infrastructure, rather than being included in a blanket application of the UK ETS.
- Announcements in the 2021 Budget on rewarding infrastructure investments are a welcome step in this direction.<sup>20</sup>

#### **Industry Offers**

- Increase collaboration between offshore energy companies and vessel operators. With the added contracting complexities presented by the work packages model and the subsequent lack of transparency this creates, there are a couple of things that need to fall into place to properly enable this kind of collaboration:
- Financial drivers need to be in place for developers and energy companies to invest in decarbonising high CapEx assets;
- Resources must be pooled into a fund that can be used for the purpose of lowering or eliminating greenhouse gas (GHG) emissions from vessels, and with some potential government financial support;
- Support the emerging collaboration with the long-term chartering of vessels to enable a return of investment, and to remove elements of financial speculation and associated risks.

- Scottish Government, Sectoral marine plan offshore wind for innovation and targeted oil and gas decarbonisation: initial plan framework, February 2022
- 16. <u>McKinsey & Company, How to succeed in the expanding global</u> offshore wind market, 20 April 2022
- 17. Ocean Renewable Energy Action Coalition, The Power of Our Ocean, December 2020
- 18. Ocean Renewable Energy Action Coalition, The Power of Our Ocean, December 2020
- 19. BEIS, Contracts for Difference (CfD): changes to Supply Chain Plans and the CfD contract, May 2021
- 20. HM Treasury, Annual Budget and Spending Review 2021

#### FACT BOX: Contracts for Difference (CfDs)

raditionally, offshore wind projects have been supported by ational government support schemes, often providing a fixed rice for electricity produced once connected to the grid. This as offered revenue stability for those projects and allowed evelopers to secure high debt ratios and cheap financing. upport schemes have now changed from fixed tariffs to narket-based schemes such as the two-sided CfD.

The CfD scheme is the Government's main mechanism for supporting new low-carbon electricity generation projects. It applies to the UK but does not currently operate in Northern reland. A CfD is a private law contract between a developer of low-carbon electricity (the 'generator') and the Low Carbon Contracts Company (LCCC), which is a government-owned company (the CfD Counterparty). The generator is paid the difference between the 'strike price' – a price for electricity reflecting the cost of investing in a particular low carbon echnology – and the 'reference price' – a cost measure of the average market price for electricity.

Under a two-sided CfD, a strike price is agreed between the developer and the Government (usually via a competitive auction). If the wholesale electricity price falls below the agreed strike price, the government will pay the difference between the strike price and the wholesale electricity price to the developer. However, at times when the wholesale electricity price is higher than the strike price, the wind farm compensates the Government.

13,47

The two-sided CfD does remove upside potential (because the electricity price is capped) but also downside risk by providing a price floor. This removes price uncertainty for the generator and therefore reduces the variability in project revenues. The revenue certainty provided allows projects to attract cheap financing and provide renewable electricity at a lower cost. It also has the advantage that participants in the bidding process do not have to forecast power prices years into the future.





# Ports and PortInfrastructure

UK ports have a long history of servicing offshore energy sectors. They are present in every development phase from manufacturing and assembly, project mobilisation and development, through to decommissioning.

The UK ports industry offers a strong, wide-ranging and proven capacity that has underpinned much of the UK's recent growth within offshore wind and other offshore renewable energy sources. While there are many success stories, there is much more potential to go after and port operators are ambitious to grasp that. But seizing this opportunity requires government action to support investment that ports are ready to make, as well as providing the regulatory conditions to enable development associated with ports.

Increasing investment in ports is a vital foundation to help the UK achieve its environmental targets, but – crucially – it also plays a positive role in the regeneration of coastal communities by delivering well-paid, high-skill jobs and prosperity. In these areas, ports are already the providers and enablers of 'beacon' jobs that are relatively well paid (40% above UK average remuneration), highly productive (51% above the UK average of GVA per job) and skilled. Each direct job in the ports sector supports a further 6 in supply chains and local economies.<sup>21</sup> This is levelling-up in action, with ports acting as key catalysts for prosperity and opportunity.

Ports provide landside host bases for the development work related to offshore wind farms pre-construction, as well as stage services such as surveying and site assessments. In the construction phase, they offer deep draught and jack-up berths for heavy-lift projects, providing both the necessary experience and equipment. Ports are also key players in complex project mobilisation, such as the installation of complex subsea infrastructure, and form an integral part of the infrastructure necessary for transport of equipment. The capability of the UK's ports has been proven in the oil, gas and wind sectors, as well as in large, complex energy infrastructure situations. Similarly, the port offering is applicable to a broad range of future energy infrastructure opportunities like hydrogen, carbon capture and storage.

It is not just about the projects themselves. Ports offer locations and facilities for manufacturers as part of their broader port-centric models for developing port estates, which could include turbines, blades, towers, monopiles and jackets, as well as space for the assembly of offshore energy structures, moorings, anchors and balance of plant. This can be both final assembly of shipped components, or the fabrication of related structures such as helidecks or access bridges. Manufacturing and assembly at a port means there is the right quay access that enables immediate shipping to the offshore site.

Once a wind farm goes into operation, UK ports offer buildings and facilities for the operation of wind farms on the landside, as well as cranage and pontoons for CTVs, and are investing significantly to provide a range of plug and play infrastructure options for customers. The assets are often backed by services such as local stevedoring, training, engineering with testing and training services available.

### Opportunities for the UK Ports Industry

There is an ambition across industry to grow their offering in existing and new regions. More established areas such as the North Sea still have opportunities for growth and stimulating economic activity, but the UK also stands on the cusp of an explosion of activity in new technologies and locations as the UK seeks to deliver its ambitious growth targets in areas such as floating wind, hydrogen power, tidal energy and carbon capture and storage. These all demand port capabilities. This does not only represent an opportunity to meet the UK's climate change targets. Offshore wind provides huge environmental benefits, while boosting jobs and increasing prosperity in often hard-hit coastal communities. Ports also have an important multiplier effect, acting as the 'anchors' for developing clusters of energy-related businesses and land development opportunities available for inward investment. The sector has the potential to deepen that positive impact where it is already being felt and widen it to other areas.

The ports industry has the ambition, assets, and capabilities to further enable the UK's offshore energy goals, as long as the right conditions are created. The industry wants to work together with the Government and Devolved Administrations to ensure that these ambitious targets are reached, and attain maximum value from the UK's transition to net zero.

#### Barriers for the UK Ports Industry

With the right conditions, industry and government can work together to increase the UK's offshore wind capacity and maximise its benefits for the entire UK supply chain. More than 24GW of seabed potential in Scotland has been awarded through the ScotWind leasing round,<sup>22</sup> while the Crown Estate also announced its intention to lease another 4GW in the Celtic Sea by 2023.<sup>23</sup> UK ports are primed to assist with manufacturing, lay down and staging, as well as providing bases for operations and maintenance along with specialist services. The UK ports industry is already in a strong position and it has the ambition to grow further, capturing more value for the UK economy. However, the Government needs to take action in a number of key areas in order to unlock this potential.

Current capacity has been created largely through the investment of ports and their owners, who stand ready to commit further resources provided that the right enabling conditions are in place. The UK ports industry, which is unique in Europe for being owned and operated in large part by the private sector, has delivered around £600 million of investment every year, developing a competitive network of ports that provides choice for customers, supply chain resilience and an infrastructural base for the UK's green energy revolution.

Therefore, the Government should see its role as less about providing direct financial support to ports – where there is actually the risk of adverse consequences from distorting investment decisions – and more about stimulating the development of projects within them, taking steps to increase the capture of value for the UK.

#### Government Asks

- Promote changes in procurement rules to reward developers who propose to deliver offshore wind farms with high levels of UK content, thereby maximising the value in using UK content in offshore wind.
- Give more force to Supply Chain Plans through additional non-delivery disincentive mechanisms such as a fining regime or a mechanism to claw back public money.
- Create a dedicated roadmap setting out the range of offshore renewable energy technologies and associated opportunities to ensure that the UK develops a robust supply chain, most immediately in floating offshore wind.
- Ensure that the UK's capacity is strategically spread across different clusters, reflecting the geographical scope of UK opportunity.
- Rethink the orientation of government support towards future proofing a broader range of locations to bridge the gap between commercial business case timeframes and the multi-decade timeline of government goals.
- Outline a planning framework for streamlined decisionmaking to allow ports to develop estate necessary to meet demands imposed by the transition to net zero quickly. This includes:
  - speeding up the issuing of marine and landside planning consents, whilst keeping conditions to a minimum; making funding and specialist recourses accessible for Local Planning Authorities to support the creation of Local Development Orders, which are often constrained by local capacity.

#### Industry Offers

- Endeavour to meet the ambitions on the level of UK content set out in the Offshore Wind Sector Deal.
- "The economic contribution of the UK Ports industry", The Centre for Economics and Business Research, May 2022.
- 22. ScotWind: List of Successful Project Partners, January 2022
- 23. Crown Estate, Celtic Sea Floating Offshore Wind, July 2022





# Marine Spatial Planning and Coexistence

Since 2002, UK offshore wind farms have gone from being a few isolated structures to strategically combined arrays totalling several hundred independent foundations in some cases, ending up in sizeable developments of many gigawatts farther offshore in deeper water.

Concepts and projects presently going through England's Planning Inspectorate feature individual turbines with blade tips reaching 400m above the sea level, with each turbine capable of generating up to 25MW. The trend for larger turbines requires more inter-array space and these newer, larger array sites will cover up to 1,000 square kilometres of seabed. It is paramount for the planning and consenting process to take a holistic approach in the placement of offshore wind farms, which enables the deployment of this energy resource and takes into account their impact on local ecosystems.

#### Importance of Marine Spatial Planning

Marine planning - which finds its legal basis in the Marine and Coastal Access Act 2009 - is a devolved matter with responsibility shared by the Marine Management Organisation (MMO) in England, National Resource Wales in Wales, and Marine Scotland in Scotland.

The main purpose of marine plans consists of setting out priorities and directions within the plan's area, informing the sustainable use of marine resources, and helping marine users understand the best locations for their activities (including sites where new developments may be appropriate). Agreements for Lease (AfLs) are awarded by the seabed owner to offshore wind developers to put forward an application

to the planning authorities for the development of offshore wind farms. These AfLs in the UK have typically been delivered through rounds issued by the Crown Estate for England and Wales or Crown Estate Scotland. AfLs are allocated by the seabed owner following a process to determine suitability and undertaking a Habitats Regulations Assessment (HRA). The process to determine suitability of the seabed area in respect to protecting the interests of other marine users has been of varying quality over the last twenty years and its importance has never been greater.

For the early rounds of AfLs for offshore wind farm developments, there was considerable sea-room and space for marine users. However, with each successive round of seabed leasing, the impact on other users increased progressively, particularly as wind farm sites have increased in scale. It is well understood that the waters around the UK's coast are becoming gradually busier with a wide range of uses - whether commercial, recreational, extractive, or depositional. With UK waters witnessing greater offshore wind farm development, marine spatial planning becomes crucial to minimising conflict and maximising coexistence. Navigational safety of life, ship, cargo, and environment cannot be allowed to erode or be reduced because of poor planning and placement.

#### **Scotland's Process**

In October 2020, the Scottish Government published its Sectoral Marine Plan for Offshore Wind Energy.<sup>24</sup> The result high-level plans seeking to protect and safeguard shipping and ports, this sectoral approach to marine spatial planning sets out to identify sustainable 'plan options' for the future development of commercial-scale offshore wind farms in Scotland,

including deep water floating technologies, and provides a holistic and considerate approach that should be emulated in the other nations of the United Kingdom.

The plan conducted extensive research into 'plan option' areas across the four regions of the Scottish exclusive economic zone (EEZ), looking at the impact for potential negative effects on bird populations, benthic habitats, cetaceans, navigational safety, seascape/landscape and commercial fisheries. This holistic approach to offshore wind, backed by analysis of marine activity, has led to Marine Scotland presenting fifteen 'plan options' of seabed being considered for application by developers, with these sites screened to ensure the safeguarding of access to ports, harbours and navigational safety, as well as life-line ferry and maritime transport services.

Crown Estate Scotland launched the ScotWind leasing cycle leading in April 2022, which resulted in 17 projects announced with seabed option agreements. All of these sites are within the areas of seabed identified in the Scottish Government's Sectoral Marine Plan for Offshore Wind. The approach taken by Scotland means that conflict between offshore wind farm developers and other marine users is minimised in most cases. This differs from the approach taken by the Crown Estate in England, which has led to repeated conflict at the individual development level.

Through limited holistic planning, engagement, and consideration of other marine users prior to awarding AfLs, developers are required to conduct extensive engagement whereby it becomes apparent that considerable deviation, routeing, scheduling, environmental and safety concerns exist. The front loading of analysis and determination of appropriate sites is essential for the seabed lessor to not lead to considerable challenge, cost and delay in offshore wind growth. As stated within the 2011 National Policy

## Statement for Renewable Energy Infrastructure (EN-3) the planning authority:

"Should be satisfied that the site selection has been made with a view to avoiding or minimising disruption or economic loss to the shipping and navigation industries with particular regard to approaches to ports and to strategic routes essential to regional, national and international trade, lifeline ferries and recreational users of the sea.

Where a proposed development is likely to affect major commercial navigation routes, for instance by causing appreciably longer transit times, the IPC [planning authority] should give these adverse effects substantial weight in its decision making."<sup>25</sup>

Regrettably, these criteria are not presently being satisfied in various instances and – more concerningly – there are proposed developments which may interfere with the use of recognised sea lanes essential to international navigation (i.e. sea lanes for the purposes of article 60(7) of the United Nations Convention on the Law of the Sea 1982). For these areas of seabed to be awarded, AfLs arguably outline a lack of due diligence from the lessor and, under the NPS for Renewable Energy Infrastructure (EN-3), the planning authorities should not grant consent.

On a positive note, the Crown Estate is undertaking a far more extensive process to determine potentially suitable project development areas through stakeholder engagement, ahead of the upcoming round to allocation seabed for up to 4GW of floating offshore wind farms, and it is important for this process to continue.

## Offshore Wind Evidence and Change Programme

There are various initiatives across the maritime sector with objectives for holistic and detailed research into the potential impact of offshore wind farms, as well as suggestions on how to mitigate and minimise it for other marine users.

In 2019, the Offshore Wind Evidence and Change (OWEC) programme was launched by The Crown Estate, in partnership with BEIS and DEFRA, with the aim to facilitate the sustainable and coordinated expansion of offshore wind to help meet the UK's commitment for low carbon energy through delivery in collaboration with devolved administrations and organisations from across the UK with an interest in planning for the future of offshore wind.<sup>26</sup>

Three vital projects to the continued safety of navigation in UK waters were proposed:

- Cumulative project to assess effects and investigate mitigation of cumulative offshore wind farms on risks to safety of maritime navigation, efficiency (continuity of trade & supply chains) and the marine environment (led by Trinity House).
- Equipment project to understand potential offshore wind farm effects and mitigations on the current and possible future maritime equipment (systems, infrastructure, technology, and services) for navigation and communications essential for safe, secure and sustainable operations (led by Trinity House).
- Layout project to understand the impact of offshore renewable turbine layout on surface navigation and emergency response (led by the Maritime and Coastguard Agency).

Despite being launched over the last two years, these projects seem to have stalled and, due to the lack of appropriate resourcing, are now held in abeyance. Their importance is difficult to overstate, especially given the considerable pipeline of offshore wind projects in UK waters in excess of 40GW and the limited examination of these sites for safe navigation to date. As such, they should be prioritised and adequately supported.

#### **Future Shipping**

Shipping routes are at the same time long-standing and transitory. Through their planning applications, offshore wind developers need to take into account the existing commercial traffic originating, transiting, and leaving the UK EEZ, whilst also considering the potential for new trading routes in the future.

New trading routes have already developed in the aftermath of Brexit, but the poorly thought-out placement of offshore wind developments could potentially prevent their establishment through significant deviations, reduced efficiencies or even safety to navigation. Ports and harbours should be able to continue acting as key trade flow centres by enabling their growth through the construction of new quaysides and jetties, as well as capital dredging to allow larger, greener and more efficient ships to call at them. Commercial vessels have increased in size and capacity over the years, with the largest container ships going from 3,500 TEU in 1985 to 25,000 TEU in 2020, and vessel length, width and draft increasing in step. Offshore wind export cable connections to land must not interfere with, or limit, the opportunities for port expansion and requisite maintenance or capital dredging of navigational access channels which overlap them.

#### Decommissioning

The decommissioning of offshore wind projects is scheduled typically between 25 to 30 years after construction and should be undertaken in a manner which maximises the potential for future seabed use and other marine users. Whilst decommissioning programmes put forward by developers in accordance with the Energy Act 2004 do normally include the full removal of all physical infrastructure above the seabed, the practice of leaving the cabling underneath can provide encumbrance to safe navigation, snagging risk, and limit opportunity for future seabed users – despite often being considered desirable by developers. The removal of cabling should be a mandatory requirement for decommissioning.

#### Government Asks

- Require seabed lessors to undertake an extensive analysis of current activity and engagement with industry stakeholders prior to permitting Agreements for Lease (AfLs) with developers for specific sites in order to minimise conflict.
- Provide full funding and resources for the Offshore Wind Evidence and Change (OWEC) programme to undertake the holistic research into navigational safety so necessary.
- Safeguard future port expansion and necessary navigational access.
- Require the full removal of infrastructure from the seabed as part of the decommissioning plan to future proof the seabed for future opportunities.

#### **ndustry Offers**

- Fully commit to engage with seabed lessors and other stakeholders throughout the planning and consenting process for offshore wind farms.
- Provide industry expertise and feedback into the development of purposeful holistic plans that can maximise offshore wind farm development and safety/ efficiency of navigation.
- Put forward solutions to co-location and co-existence enshrining navigational safety.

- 24. <u>Scottish Government, Sectoral Marine Plan for Offshore Wind</u> Energy 28 October 2020
- 25. Department for Energy and Climate Change, National Policy. Statement for Renewable Energy Infrastructure (EN-3), July 2011
- 26. Crown Estate, Offshore Wind Evidence and Change Programme





## **Professional and Business Services**

The UK has a rich history of providing services for the global maritime sector, and the range of expertise available within finance and insurance, legal services and dispute resolution, surveying and classification societies, media and PR, shipbroking, and academia, makes the UK an international 'one stop shop' for maritime professional and business services.

The professional and business services cluster has contributed significantly to the development of the offshore wind industry, and the growth of this sector in the UK and globally represents an opportunity for all maritime professional service providers that make up the UK cluster to consolidate their enviable global position. Opportunities for the financial and legal services sectors in particular are explored in greater detail here.

#### **Maritime Financial Services**

Funding and financing are an integral part of any offshore wind project, something that has been recognised through various support and funding schemes from both government and industry over recent years. Following the signing of the Offshore Wind Sector Deal, the £100 million Offshore Wind Growth Partnership fund was established to raise productivity and improve supply chain competitiveness by helping UK companies move up the value chain and seize opportunities in a growing global market. In 2019, the Green Finance Institute, seed-funded by the Government and the City of London Corporation, was also launched to champion the UK's green finance brand internationally, bringing together global experts and practitioners to co-design sector-specific solutions - like the Sovereign Green Bond - that channel capital towards a clean, resilient, and environmentally sustainable economy. In the Ten Point Plan for a Green Industrial Revolution, further activity and investment was set out to support the



economy's transition to net zero, including targets to turn the UK into the number one centre for green technology and finance. In 2021, the Treasury announced that a total of £16 billion had been raised from the UK's Green Gilt for projects including offshore wind, making the UK one of the three largest national issuers of green bonds in the world.<sup>27</sup>

### **Opportunities for Maritime Financial Service Providers**

International financial markets have supported the growth of the offshore wind sector in the UK with both debt and equity. Low interest rates, cost improvements and further trust gained in new technology contributed to increased liquidity of funds and the deal flow of projects within the sector. Emerging new business and ownership models have diversified the pool of investors in wind energy and unlocked the potential for long-term sources of finance from banks, Export Credit Agencies (ECAs), and institutional lenders. This has led to a significant amount of affordable non-recourse finance in the sector. The maturing nature of the industry and the move to larger projects are incentivising financing models which are bringing infrastructure investors looking for longer term returns, as they are primarily focused on operational assets. There has also been a shift towards the construction and deployment phase of offshore wind projects as the sector matures.

Alongside development of partnerships, industry bodies, government initiatives and innovation activities, significant inward investment is required in relation to the CapEx elements of offshore wind projects. To date, investment in and lending to UK offshore wind farms has largely come from overseas. According to the Crown Estate's Offshore Wind Report 2021, utility companies own 63% of the generating and under-construction offshore wind farms, while financial investors had the next biggest share at 19%.<sup>28</sup> Utility companies are also on course to increase their capacity ownership stake to more than 80%, when taking into account wind farms that they have committed to and are currently going through the planning and consenting process. Orsted remained the largest owner of UK offshore wind farms at 18.3%, followed by RWE at 16.3%, SSE at 13%, and Equinor at 9.2%. According to WindEurope, 96 banks financed European wind energy farming in 2021, up from 76 in 2019. The top 15 banks accounted for almost half of the market share of banks in wind energy financing in 2021, with only one UK bank featured amongst them.<sup>29</sup> International banks have introduced more competition to the sector and feature predominantly in the top lending institutions for UK and European wind power projects.

Renewables are a stable asset class with large scale, longterm investment opportunities, with offshore wind arrays now regarded as part of national infrastructure. The current and previous financial support mechanisms in the UK have not only enabled the industry and its supply chain to slash costs, but they have provided the long-term stability required to open up this growing market to new kinds of investors. The exponential growth of offshore wind projects in the UK and globally represents an opportunity for more institutional investors in the UK to participate in this success story going forward.

In the longer term, wind asset owners will have to address the merchant element in wind power projects as offshore wind power becomes increasingly exposed to market risk. While banks are used to dealing with portions of merchant financing, institutional equity investors may find it challenging to adapt to the new reality. This underscores the importance of financing solutions that capture the nature of merchant risk and stabilise the revenue flows in these projects. In 2019, Orsted entered in to a 10-year corporate Power Purchase Agreement (PPA) to supply electricity from Race Bank offshore wind farm to utility Northumbrian Water, the first of its kind in the UK. This is a sector that will likely grow as subsidy opportunity declines but requires enough corporates of suitable risk profile (and able to commit to such long-term energy contracts) to satisfy the growth pipeline needed. Bond issuances have been an important part of debt financing for wind energy projects across Europe. According to WindEurope, the majority of the issuances (91%), a total of €11.1 billion, came from corporate bonds. Orsted issued green senior bonds with a value of over €1 billion to invest in the UK's Hornsea 2 offshore wind farm. By divesting a share of their projects to third party investors during the construction phase, wind farm developers are able to start developing a pipeline of new projects at an earlier stage instead of waiting until each project is finished before starting a new one. This is a win-win for wind farm developers and investors who are looking for secure and stable cash flows and is leading to more major financial players investing in offshore wind.

In addition to the financing of the offshore projects themselves, the procurement of vessels for offshore shipping activity is also an important aspect to consider in terms of financing. Ship finance has evolved over the past ten years after many traditional lenders exited the market. Lease finance has become a mainstream alternative means of vessel financing, and Chinese leasing companies fill an increasing proportion of the void left following the exodus of traditional lenders after the financial crisis of 2008. No UK banks are currently lending for shipping activity, but several international banks run their shipping books from the UK, which is also home to alternative lenders providing debt and equity, primarily sourced from private equity funds. Whilst more expensive than traditional bank finance, alternative lenders generally offer greater flexibility and a higher risk profile. Poor market conditions in the offshore sector and the associated default risk, have further reduced the number of lenders and investors to the sector which, until recently, has included offshore wind.

#### **Barriers to the Financial Services Industry**

In order to take full advantage of the potential for the maritime financial services industry to support offshore renewable energy projects, innovative contract structures and credit support will need to be developed. The Sovereign Green Bond demonstrates that the Government is working to address this, but UK lenders and institutional investors could play a more significant role in the future financing of offshore wind in the UK and globally. This could further contribute to increasing UK content through the supply chain.

#### Government Asks

Encourage UK lenders and institutional investors to diversify their portfolios by investing in offshore wind, leading to the latter playing a more significant role in the future financing of UK offshore wind farms and initiatives to increase the use of UK content in the supply chain.

#### Industry Offers

Assist by continuing to build awareness of the success of offshore wind, growing the supply chain and highlighting the opportunities that exist for lenders and investors going forward. Investor appetite is present in the market and finance can be provided by industry, if suitable revenue support schemes underpin this.

#### Maritime Legal Services

The UK is a world-leading centre for the provision of legal services to the international maritime community. English shipping law is highly developed and it is used by many other countries in relation to shipping activity. There is a body of English case law that has developed in the shipping sector and plays an important part in drafting and interpreting offshore energy contracts. Legal services in the maritime sector are routinely required for contentious and non-contentious work relating to a range of matters including charter parties, vessel sales, shipbuilding, finance, commodities, insurance, cargo, collisions, salvage, general average, and pollution. They are relevant to offshore energy, including oil, gas and renewables such as offshore wind. Since maritime disputes have been resolved in the UK for so many years, there is a community of lawyers, technical experts, judges, arbitrators and mediators, all of whom contribute their specialist knowledge and experience.

Disputes are resolved through specialised Admiralty and Commercial Courts, as well as various forms of alternative dispute resolution (ADR). Arbitration is the most common form of ADR in the maritime sector due to confidentiality, as it allows parties to resolve their disputes privately. English arbitration awards can also be enforced readily against assets around the world under the New York Convention, which has not been affected by Brexit. More maritime disputes are referred to arbitration in London than to any other venue worldwide. Arbitrations in London are conducted under the Arbitration Act 1996, and the London Maritime Arbitrators Association (LMAA) Terms and Procedures are commonly adopted by parties to govern the conduct of the arbitration. These include streamlined procedures, designed to promote speedy and cost-effective resolution of small and intermediate claims. As global leaders in commercial maritime dispute resolution, LMAA arbitrators have a diverse range of commercial and technical as well as legal backgrounds. Many LMAA arbitrators have experience of the building and conversion of submersible or semi-submersible offshore units and specialised vessels for the energy sector.

Working to promote global standards and regulations for the maritime sector, BIMCO have developed a suite of standardised marine services contracts, such as WINDTIME, aimed specifically at the offshore wind sector, SUPPLYTIME, ASVTIME and DISMANTELECON intended to serve oil, gas and offshore renewable sectors more broadly. The standard BIMCO dispute resolution clause provides for London arbitration on LMAA Terms as the default.

However, many of the commonly used head contracts under which offshore wind projects are developed in the UK and elsewhere tend to be FIDIC contracts, tailored on a projectby-project basis so as to be fit for purpose. As such, they originate from the construction industry not the maritime sector, but there appears to be some support for the idea of creating a renewable sector-led and renewable sectorspecific contract form. This idea, however, needs to be further explored preferably by an appropriately placed trade association, or similar.

#### Opportunities for Maritime Legal Service Providers

#### Ad hoc LMAA arbitration

Whereas non-institutional London arbitration under LMAA Terms is very common for the maritime industry, the default position adopted by FIDIC in their suite of contracts is administered (rather than ad hoc) arbitration with the International Chamber of Commerce (ICC) as default administrator. There are fundamental differences between administered and ad hoc arbitration, and statistics show that the maritime industry favours ad hoc LMAA arbitration by a considerable margin. Ad hoc arbitration is by its nature faster and more flexible than administered/ institutional arbitration. Among other things, it gives the parties greater autonomy in the appointment of arbitrators and the procedure to be followed. As the offshore wind sector is looking to capture efficiencies and to grow in scale, maritime arbitration is arguably a compelling choice. It is worth noting that parties are not bound to appoint LMAA arbitrators by adopting the LMAA Terms or Procedures into their contracts, though there is depth and range in the skills and experience of LMAA arbitrators who include not only lawyers but also (for example) brokers and engineers. LMAA arbitrators are already frequently appointed under contracts for offshore services in the renewables sector.

There is a range of tools which may be used to assist in resolving disputes, either before arbitration or even while it is pending.

#### **Early Neutral Evaluation (ENE)**

Early Neutral Evaluation (ENE) is a form of ADR in which an independent and impartial evaluator is appointed to provide parties with a non-binding assessment of

their dispute. Its objective is to give them a realistic indication of the merits of their respective cases to help inform negotiations between them and, if the evaluator considers it appropriate, to put forward a figure or range for settlement. The LMAA recognises that many parties seek ways to resolve their disputes at an early stage in order to operate their contracts sensibly and preserve their commercial relationships. In doing so, they may also save valuable management time and legal expense. The LMAA ENE scheme helps to address this need. It offers the terms of a proforma ENE Agreement between the parties and an evaluator which can be adapted to the particular requirements of any case. That agreement can also be adopted for use in chain or otherwise related disputes involving more than two parties. The LMAA believes that it is useful for parties to appoint an experienced arbitrator for ENE. Although that individual will not then go on to determine the dispute as arbitrator if there is no settlement, his or her approach is likely to reflect that of other arbitrators with similar specialisations. This increases the prospect that the ENE will give the parties useful guidance on the prospective outcome.

#### **Dispute Boards**

Dispute Boards are most commonly used in construction and infrastructure projects. Also known as *Dispute Resolution Boards, Dispute Review Boards,* and Dispute Adjudication Boards, a Dispute Board typically consists of 1-3 individuals who assist contracting parties throughout the life of a project to avoid, manage and resolve disputes in real-time by identifying and addressing issues early on. Dispute Board members are trusted professionals, selected for their knowledge and experience in the relevant project areas, as well as impartiality and independence. If issues identified cannot be resolved amicably, either party can apply to the Dispute Board for a recommendation or decision. Decisions must be reasoned and are binding until finally determined by legal proceedings, arbitration or by agreement.

While Dispute Boards are not commonly used in shipping at present, they are an increasingly standard feature of

international construction and infrastructure development contracts and are often required by multilateral development banks and the World Bank in contracts financed by them. According to the <u>Dispute Resolution Board Foundation</u>, 60% of projects utilizing a Dispute Board have no disputes at all; and 98% of the disputes that reach a Dispute Board do not go on to further litigation or arbitration. Dispute Boards can provide a highly effective means of assisting parties in a project, not only to resolve disputes quickly but to avoid them altogether and to keep up the momentum of the project.

The LMAA recognises the role that Dispute Boards can play in areas such as shipbuilding and the commissioning and decommissioning of offshore platforms and wind farms, and it maintains a list of members who are prepared to accept appointment on to Dispute Boards. As always, parties should satisfy themselves as to the suitability of candidates for appointment on a case-by-case basis.

#### Mediation

Mediation is an effective way for parties to resolve disputes whilst retaining control of the process and the outcome. The mediation process provides an opportunity for parties to explore terms of settlement - through an impartial and independent third party on a 'without prejudice' and confidential basis – that takes account of a broader range of issues than litigation or arbitration necessarily would; and explore solutions that result in a balanced and constructive outcome.

A successful mediation brings about an early end to the dispute saving considerable time and costs. Mediation is a flexible process that can be conducted at any time either inperson or remotely, and London is home to a well-established and highly regarded maritime mediation community served by UK based world-renowned practitioners.

BIMCO's new Mediation/Alternative Dispute Resolution Clause 2021 is a very useful and important addition to the tools for resolving maritime disputes. It is designed for use alongside – and not in place of – a jurisdiction or arbitration clause. The LMAA assisted in its drafting and maintains a list of its members that are willing to act as mediators.

### Promoting wider use of Maritime Legal Service Providers

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Often, dispute resolution provisions that are contained (for very good reasons) in a head contract will be replicated in sub-contracts for consistency. On occasions, this replication may extend even to the offshore part of the work, for example heavy lift, installation, or the long-term chartering of vessels to service the wind farm. The consequence is that those vessel charters provide for (potentially lengthier and more expensive) *administered* arbitration as opposed to industry standard *ad hoc* LMAA arbitration.

The LMAA is an associate member of Renewable UK and is making a concerted effort to raise awareness in the sector of *ad hoc* arbitration, the LMAA Terms and Procedures and the benefits of ENE and Dispute Boards.

#### Government Asks

- Require, through the Crown Estate seabed leases or CfDs, that UK wind farm related disputes are resolved in the UK and that wind farm development contracts make provision for the use of dispute boards and/or ENE in the same way
- that international development banks increasingly require them to.

#### Industry Offers

- Urge the offshore wind sector to embrace the range of legal and dispute resolution mechanisms, such as *ad hoc* arbitration and ENE, that are a jewel in the crown of the UK maritime professional services cluster.
- 27. HM Treasury, Second UK Green Gilt raises further £6 billion for green projects, 21 October 2021
- 28. Crown Estate, Offshore Wind Report 2021
- 29. WindEurope, Financing and Investment Trends 2021

Action Plan	Maritime UK recommends the following actions to capitalise on opportunities presented to the maritime sector by the growth of offshore wind.	Shipbuilding	<b>Government As</b> Reform the methodo operation, managem existing operators.
People and	Government Asks		Invest in and implem
Skills	Develop and maintain well-defined pathways towards employment opportunities in the maritime and offshore wind sectors for young people aged 16-24, as well		Competition (CMDC)
	as existing UK-resident seafarers who lost their jobs as a result of the COVID-19 pandemic.		Revise tax incentives current UK shipbuild
	Ensure that trade unions and employers have a voice in the Investment in Talent Group tasked with identifying skills needs and developing the curricula and		Give higher weightin
	accreditation necessary to broaden and deepen the sector's skills base.		Industry Offers
	Industry Offers		Promote career opp
	Commit to developing and utilising locally resourced workforces and UK-resident seafarers.		demonstrate the nee
			Promote commercia
			domestic as well as i
Manufacturing	Government Asks		Invest for the long te
and Technology	Encourage procurement bodies to give higher weighting in the tendering process to projects opting to meet the UK content target in the Offshore Wind Sector Deal.		certainty in future or
	Adjust the Maritime Capital Asset down sisting to reflect the technical lifetime	Offebore Vessels	Government Ac
	Adjust the Mantime Capital Asset depreciation to renect the technical metime		Boform the CfD proc
	field for manufacturers and incentivise purchasing of UK-made equipment		maritime supply cha
			This would include
	Introduce a suite of financial instruments similar to that available through UK		such as vessels and
	Export Finance for the offshore wind market to create a more level playing field		encouraging long-
	for UK maritime manufacturers also involved in the sector to compete with		
	overseas competitors.		Design features with Supply Chain Questi
	Provide grants for infrastructure and production facility investment for offshore		vessel operation and
	wind related projects, following the model set by the Floating Offshore Wind		underreported.
	Manufacturing Investment Scheme (FLOWMIS).		This step has alrea
	Industry Offers		

Coordinate efforts to promote UK-manufactured equipment for the UK offshore wind sector more widely such as the £215 million 'Economic Recovery through Advanced Manufacturing' proposals developed by the University of

more polluting vessels.

logy for calculating UK content in ship construction,

for government vessels.

and campaign to 'build British', subject to an appraisal of the ing capacity.

g to low carbon footprint supply chains, which will make fuels a competitive advantage.

ortunities and training related to shipbuilding and ed for skills in the sector.

l opportunities within the UK maritime sector to help attract

rm in advanced production techniques and skills with greater

ess to reward sustainability and decarbonisation of the UK

Tier 3 emissions, with a particular focus on CapEx costs d correspondingly higher OpEx for UK presence, as well as term collaboration and chartering of vessels where possible.

in the CfD process such as the Supply Chain Plan and onnaire to yield information about the UK presence in the management in offshore wind farms, as this is likely to be

dy been considered under recent consultations from BEIS.

s for financing the decarbonisation of the offshore vessel fleet. • Examples include the NOx Fund and the Norwegian Innovation Fund, which in environmentally friendly offshore vessels and the scrapping of older and

• Similar initiatives could interact with the Department for Transport's Decarbonisation Plan and the UK Emissions Trading Scheme (ETS).

Recognise that vessels should be treated as national infrastructure, rather than being included in a blanket application of the UK ETS.

 Announcements in the 2021 Budget on rewarding infrastructure investments are a welcomed step in this direction.

#### Industry Offers

Increase collaboration between offshore energy companies and vessel operators. With the added contracting complexities presented by the work packages model and the subsequent lack of transparency this creates, there are a couple of things that need to fall into place to properly enable this kind of collaboration:

- Financial drivers need to be in place for developers and energy companies to invest in decarbonising high CapEx assets;
- Resources must be pooled into a fund that can be used for the purpose of lowering or eliminating greenhouse gas (GHG) emissions from vessels, and with some potential government financial support;
- Support the emerging collaboration with the long-term chartering of vessels to enable a return of investment, and to remove elements of financial speculation and associated risks.

## Ports and Port Infrastructure

Promote changes in procurement rules to reward developers who propose to deliver offshore wind farms with high levels of UK content, thereby maximising the value in using UK content in offshore wind.

Give more force to Supply Chain Plans through additional non-delivery disincentive mechanisms such as a fining regime or a mechanism to claw back public money.

Create a dedicated roadmap setting out the range of offshore renewable energy technologies and associated opportunities to ensure that the UK develops a robust supply chain.

Maximise the benefits of floating offshore wind by:

- increasing its allocation within CfD auctions, which currently stands at 5GW by 2030;
- ensuring that the UK's capacity is strategically spread across different clusters, reflecting the geographical scope of the UK opportunity;
- promoting a greater percentage of local content, driven by low carbon targets, as the offshore wind sector develops;
- encouraging Tier 1 manufacturers to procure or locate their supply chains in the UK.

**Marine Spatial Planning and** Coexistence

transition to net zero quickly. This includes:

Industry Offers Offshore Wind Sector Deal.

minimise conflict.

navigational safety so necessary.

Safeguard future port expansion and necessary navigational access.

Provide industry expertise and feedback into the development of purposeful holistic plans that can maximise offshore wind farm development and safety/efficiency of navigation.

navigational safety

Rethink government support to future proof a broader range of locations to bridge the gap between commercial business case timeframes and the multidecade timeline of government goals.

Outline a planning framework for streamlined decision-making to allow ports to develop estate necessary to meet demands imposed by the

• speeding up the issuing of marine and landside planning consents, whilst keeping conditions to a minimum;

• making funding and specialist recourses accessible for Local Planning

Authorities to support the creation of Local Development Orders,

which are often constrained by local capacity.

Endeavour to meet the ambitions on the level of UK content set out in the

activity and engagement with industry stakeholders prior to permitting Agreements for Lease (AfLs) with developers for specific sites in order to

Provide full funding and resources for the Offshore Wind Evidence & Change (OWEC) programme to undertake the holistic research into

Require the full removal of infrastructure from the seabed as part of the decommissioning plan to future proof the seabed for future opportunities.

Fully commit to engage with seabed lessors and other stakeholders throughout the planning and consenting process for offshore wind farms.

Put forward solutions to co-location and coexistence enshrining

## Professional and Business Services

#### overnment asks

Encourage UK lenders and institutional investors to diversify their portfolios by investing in offshore wind, leading to the latter playing a more significant role in the future financing of UK offshore wind farms and initiatives to increase the use of UK content in the supply chain.

Require, through the Crown Estate seabed leases or CfDs, that UK wind farm related disputes are resolved in the UK and that wind farm development contracts make provision for the use of dispute boards and/or ENE in the same way that international development banks increasingly require them to.

#### Industry action

Assist by continuing to build awareness of the success of offshore wind, growing the supply chain and highlighting the opportunities that exist for lenders and investors going forward. Investor appetite is present in the market and finance can be provided by industry, if suitable revenue support schemes underpin this.

Urge the offshore wind sector to embrace the range of legal and dispute resolution mechanisms, such as ad hoc arbitration and ENE, that are a jewel in the crown of the UK maritime professional services cluster.





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