ESNZ Select Committee - Workforce planning to deliver clean, secure energy
Marine Energy Council (MEC) Response

Introduction

The Marine Energy Council (MEC) welcomes the opportunity to respond to the Energy Security and Net Zero Select Committee's inquiry into the ability of the UK's workforce to deliver net zero and its ambitious decarbonisation ambitions.

The MEC is the voice of the UK's tidal stream energy and wave energy industries. Established in 2018, the MEC's membership spans technology and project developers, key sites, manufacturers, and small and medium sized enterprises working in the supply chain. Our vision is for the marine energy sector to support a secure, cost-effective, and fair transition to net zero, enabling investment, exporting British innovation, and levelling up with employment opportunities across the UK.

TSE and wave energy offer unique benefits that will deliver significant system and energy security benefits:

- **TSE** is entirely predictable and could provide up to 11%[1] of the UK's current electricity demand. This predictability can help reduce supply/demand mismatch in the energy system and reduce dependence on fossil fuels and imports. TSE can be deployed rapidly, with the potential construction time of a consented site being less than three years.
- **Wave energy** provides a more consistent generation profile than solar or wind and could provide up to 20%[2] of the UK's current electricity demand. In addition, its harmonious relationship with wind means it can be co-located at offshore sites supporting a more cost-effective and efficient energy system. [3]

Marine energy presents a significant economic opportunity to the UK. With over 80% UK supply chain content spend going into projects that are currently being deployed in our seas. The UK can lead the world in developing, deploying and exporting marine energy projects around the world.[4] This will create green jobs and supply chains across the UK.

[1] Coles et al (2021) *'A review of the UK and British Channel Islands practical tidal stream energy resource'.* Available online.
[2] Jin et al (2021) '*Wave energy in the UK: Status review and future perspectives'.* Available online.
[3] In this response 'marine energy' refers to tidal stream and wave energy.
[4] University of Edinburgh (2021), What is the value of innovative offshore renewable energy deployment to the UK economy?

Inquiry response

Does the Government have an appropriate understanding of the skill needs to deliver the Clean Energy Mission by 2030 as well as decarbonise homes and businesses?

The Marine Energy Council (MEC) believes that the UK Government understands that the transition to net zero will require significant investment in the training, reskilling the UK's workforce, and attracting those with specific skillsets to this country. Initiatives such as the RUK and OEUK led skills passport for the Clean Energy Transition will have critical roles to play.

One of the challenges that emerging technologies face is in ensuring our voice is heard during these debates, and appropriate means of input is provided. For example, the Clean Industries Bonus, adopted by the current Government, only caters for and rewards wind energy. This is despite marine renewable projects being deployed with over 80% supply chain content spend. We have an opportunity to embed UK content in projects deployed here and around the world. This would create green jobs and supply chains across the UK. However, by not including marine energy this significant benefit is not being supported and investment in the UK becoming a Clean Energy Superpower is not being encouraged outside of wind.

A good example of the potential opportunity within this sector is Leask Marine. Leask Marine has worked on 216 tidal and wave projects internationally since 2003. In the past two years it has invested over £24m in new vessels and equipment to support the sector, developing the world's first submersible drilling rig (SDR) of its kind. With 68 employees, primarily located in coastal areas, Leask Marine is one of the most innovative companies in the world operating in this space. This is the sort of company the Government needs to engage with, learn from, and support to grow.

Leask Marine is based in Scotland, and a forthcoming report from the University of Edinburgh demonstrates the significant opportunity that marine energy will provide to Scotland in particular. The report finds marine energy could add £37bn GVA to Scotland's economy by 2050, with £28bn of this coming from exports. The report finds that if Scotland can seize the export opportunity marine energy could support 62,400 jobs in Scotland alone. Around half of these jobs will be from device construction. 15,000 of these jobs will be high-value jobs located in coastal communities. For context there are currently around 20,000 people employed by the wind industry.[5]

Emerging technologies need to be represented in existing initiatives like on skills passports, the development of an industrial strategy and in senior roundtables between DESNZ and the renewable sector. Government – industry taskforces have proven to be incredibly effective in identifying and removing barriers to renewable deployment. The MEC strongly supports the UK Government emulating the model used for wind energy in the Offshore Wind Industry Council and the Solar Energy Taskforce for marine energy.

Establishing marine energy as a subsector in the Government's Invest:2035 industrial strategy would be a helpful step towards securing a taskforce, which will be able to identify areas of need and ensure that Government is hearing from the marine energy sector about the skills needed to deliver its ambition to become a Clean Energy Superpower.

[5] This report is to be published in February and the MEC would be happy to share a copy with the Committee if of interest.

Engaging with the renewable energy sector beyond wind and solar will be critical in ensuring that the UK has the necessary skills to realise its significant marine energy potential. This includes over 30GW of indigenous resource and leading a global export market which could be worth £40bn+ GVA to the UK economy. Much of this economic benefit will be experienced in coastal communities and post-industrial areas. [6]

How might the Government ensure that the job market in clean energy roles is sustainable enough to incentivise private sector investment in training for 2030 and beyond?

The Government should consider the mechanisms that are used to secure renewable deployment that will in turn support and sustain clean energy roles. The Contracts for Difference (CfD) mechanism has been successful in supporting established technology growth, but the focus on Levelised Cost of Energy has not created the conditions to support green supply chain growth and jobs in the UK.

To be eligible to bid into the CfD mechanism a project requires a lease, marine licence and grid offer. This can be an expensive and time-consuming process. Emerging technologies without a ringfence, or a guarantee that a ringfence will be maintained, are disincentivised through making this investment as there is no sight of a route to market in the future.

One way the UK Government could get around this issue is by setting clear deployment targets. This will indicate to the renewable sector that it is committed to marine renewables, and in working with the sector to realise the Government's 30GW+ of marine energy potential.

The MEC advocates the Government sets a 1GW tidal stream and a 300MW wave energy deployment target for 2035.

This would be an important step in encouraging investment in the future domestic workforce and ensuring that a pipeline of skilled workers with backgrounds in essential underpinning skillsets such as electrical engineering; mechanical engineering; naval architecture; and project management, is nurtured and developed.

Given the long lead times associated with training workers, efforts should be focussed now to ensure that the development of a future workforce enables the UK to realise its marine energy potential

Targets should be supported via a Marine Energy Taskforce, and a plan developed between government and industry for the sector. This will give employers the confidence to put people through training that will benefit the sector. By being able to see the market, industry will be able to gear up to deliver its needs. At present those needs are not visible to those we need to attract into the space.

Sustainable funding for technical and vocational training programs is essential, as many current initiatives rely on short-term, project-specific funding. Establishing centralised, continuous funding streams would help maintain a steady pipeline of skilled workers prepared for roles in project development, construction, and operations. Strengthening industry-academia partnerships is also critical. Government support for apprenticeship and trainee programs, particularly in technical and operations roles, would help bridge current skill gaps and prepare the workforce for emerging technologies like wave energy.

[6] University of Edinburgh (2021), What is the value of innovative offshore renewable energy deployment to the UK economy?

The means to fund and support training must be in place and this will range from the re-skilling of members of the existing workforce through to developing the uptake of STEM subjects in junior schools and maintaining that interest throughout school careers.

How can the new Office for Clean Energy jobs contribute to workforce planning in the energy sector?

The Office for Clean Energy jobs can contribute to planning for the workforce for the future by consulting across the renewable sector and ensuring that it creates opportunities for marine energy to contribute its views.

As noted above the MEC welcomes the work undertaken by OEUK and RUK to move forward with aligning standards and recognising transferable skills and qualifications. However, there should be an opportunity for marine energy and the MEC to contribute to this work, and to highlight where there will be synergies for offshore wind, tidal stream and wave. This will help transferable skills within the renewable energy sector and future proofing the UK's skill force.

These efforts should not solely target higher education graduates from a STEM background, who are an important consideration of any future skilled workforce, but also consider apprenticeships and existing workers transitioning from the oil & gas and other relevant sectors, who often have transferable skillsets and exposure to the challenges of working in a marine environment.

Additionally, future workers with the ability to work in highly digitized and automated workplaces will become increasingly important as these new ways of working are integrated into a modernised domestic supply chain. Working closely and engaging in an ongoing dialogue with marine energy technology developers will be essential to accurately gauge their needs and that of their sector.

What more can the Department for Energy Security and Net Zero do to ensure the workforce is in place to deliver the Clean Energy Mission and accelerate the retrofitting of homes and businesses?

The UK is in an international race to develop and lead technologies key to the net zero transition. Within marine energy it has significant advantages that can be built upon, and the Government should go further to incentivise investment in supply chains, manufacturing and in providing opportunities for individuals to gain the skills they need to play an active role in the transition.

The development of domestic supply chain capabilities fit to support the ongoing Net Zero transition is a vital step in maintaining the socio-economic benefits associated with a successful marine energy sector within the UK. Without adequate financial support and policy oversight into supply chain capabilities, there is a very real danger that the marine energy sector, and the GVA and jobs benefits that are associated with it, could be led by other competing nations. Furthermore, a robust supply UK supply chain with the capability to underpin the marine energy sector has the added bonus of increasing overall energy security and providing a meaningful contribution to a fair transition to net zero by providing jobs in coastal communities.

The Government should work with the industry on a strategy that builds up the supply chain for domestic projects, with the aim of gaining core skills and a competitive advantage for mass

manufacturing and exports. This is the strategy Denmark adopted a generation ago in wind and it is one of the reasons why that country is one of the world's leading wind manufacturers today, with over 30,000 people employed in the sector and multi-billion export sales. By contrast, the UK has one of the largest offshore wind capacities in the world, but the core wind turbine generation technology is all imported. With marine energy we have an opportunity to manufacture the technology and export it overseas.

With regards to the manufacture of key underpinning subsystems, common across different marine energy devices, it is essential that if the UK wishes to maintain its world-leading position within the sector, then comprehensive policy support and financial investment is both provided and incentivised across the supply chain. Primarily this support should be utilised to provide a fully modernised supply chain, capable of competing with other established nations in the manufacture of key subsystems. This may include the uptake of advanced manufacturing techniques; automation of welding and other fabrication processes; digitisation and data analytics; and the use of robotics. Furthermore, policy support programmes to enable the competitive manufacture of these subsystems at volume, should be guided by a comprehensive framework that considers additional underlying drivers with the potential to influence the UK's competitive position, which may include drivers such as market opportunity; workforce capability and research & innovation support. In doing so policy programmes that can potentially enact sector-wide improvements could be implemented.

A range of underpinning subsystems manufacturing sectors such as tidal turbine blades; fabrication of device substructures, certain power take-off components; system integration; and device operation and maintenance should all be supported if the UK wishes to enforce its position as the leading nation in the development of the marine energy sector.