



Ministerial Priorities for the Climate Change, Environment, and Infrastructure Committee

We are writing in response to the Climate Change, Environment and Infrastructure Committee's call for evidence on priorities for the term of the sixth Senedd. Marine Energy Wales (MEW) welcomes the opportunity to represent our membership and provide feedback to this consultation around the opportunity of emerging offshore renewable energy in Wales. This is a sector which can deliver a meaningful contribution to the clean energy transition for Wales, anchor a burgeoning sector on Welsh shores providing economic development, regeneration and skills in Wales as well as a fulfilling a significant role in supporting a strong, green recovery from Covid-19 and a robust energy solution for climate change.

This consultation response seeks to provide a brief summary of the industry, to highlight the importance of the emerging offshore renewables sector to drive decarbonisation and the green recovery here in Wales, and to identify the Ministerial priorities that we would like to see in the next 12-18 months.

Marine Energy Wales

Marine Energy Wales (MEW) is *the* industry led stakeholder group representing the wave, tidal and floating offshore wind industries in Wales. **MEW brings together technology developers, test centres, wider sectoral alliances such as the Celtic Sea Developers Alliance and Tidal Range Alliance, the supply chain, academia and the public sector to establish Wales as a global leader in sustainable emerging offshore renewable generation.** MEW participate in, and contribute advice to key strategic projects underway in support of the sector such as MEECE, Tiger, Selkie, as well as the Celtic Sea Cluster and Celtic Sea Developer Alliance. MEW's vision is to create a thriving and diverse emerging offshore renewables industry in Wales, making a significant contribution to a low carbon economy.

The Welsh Opportunity

MEW champions a green economic recovery with emerging offshore renewable energy playing a pivotal role. Harnessing the power of the sea will provide a clean, low carbon and sustainable source to meet the UK's energy demands and contribute to a successful, resilient and diverse UK energy mix which aims towards net zero. Wales has a unique offer with abundant tidal, wave and wind resource right on our doorstep.

- **A Significant Resource** – Wales has significant, diverse wave, wind, tidal stream and tidal range resources. The UK's practical resource has been independently estimated at 15GW for tidal stream



and 23GW for wave energy¹ and approaching 20GW for tidal range including 6GW in Wales. There could be at least 50GW of electricity capacity available in the Celtic Sea in Irish and UK waters for floating wind².

- **People** – Wales has an experienced and skilled supply chain with extensive industrial and energy sector experience, which has already seen diversification into construction and deployment of emerging offshore renewable devices. With over 256 direct FTEs (with further indirect supply chain multipliers increasing this number), the sector is providing skilled employment, regeneration of peripheral communities and ports, and is encouraging low carbon economic growth in coastal regions across the country. Floating offshore wind alone is expected to generate 3000 jobs by 2030 *if* the early mover opportunity is seized. The Welsh supply chain has the capability, capacity and ambition to deliver emerging offshore renewable projects and the burgeoning industry offers real opportunities for local companies to diversify.
- **Developers** – There are 20 emerging offshore renewable technology and project developers actively progressing projects in Wales with seabed agreements in place for over 500MW of emerging offshore energy sites.
- **Test Centre Network and Demonstration Zones** – A number of test and demonstration sites are under development in Wales including the Pembrokeshire and Anglesey Morlais array scale Demonstration Zones, Marine Energy Test Area in Pembroke Dock and Ramsey Sound. These projects will provide test beds for innovative wave, tidal stream and floating wind technologies, enabling valuable learning across the sector and adding to the UK's world-leading test centre network. These will continue to attract not only the interests of UK based technology developers, but also further the inward investment successes already achieved from countries including Australia, Sweden, France and Spain.
- **Technology and Research** – Expert academic and world-class emerging offshore renewables research facilities at Swansea, Bangor and Cardiff universities including the Selkie Project and SEACAMS2.
- **Infrastructure** – Wales has eight strategically located ports and facilities sited along the North, West and South coast. R&D trials are currently underway to assess the potential opportunity that hydrogen production, storage and handling may also represent to Wales. There is significant storage and pipeline capacity at a number of Welsh ports which could represent a solution for alternative use of emerging offshore energy power; to be used to produce **green hydrogen** instead of being exported to grid. This green hydrogen could contribute to Ofgem's minimum 80TWh hydrogen requirement to decarbonise shipping and HGV sectors by 2050 in net zero scenarios³.
- **Grid Connection** – Wales has accessible 400kV transmission lines adjacent to resource areas which makes it stand out compared to other areas of the UK and Europe. Wales is a strategically important net exporter of power to the UK grid, generating more than double the electricity it consumes.
- **Two Strategic Alliances** - The Celtic Sea Alliance is a collaboration programme between Cornwall, Wales and Ireland to progress the development of utility scale Floating Offshore Wind development

¹ ORE Catapult (2018) [Tidal stream and wave energy, cost reduction and industrial benefit](#)

² ORE Catapult (2020) [Supply Chain Report. Benefits of floating offshore wind to Wales and the South West](#)

³ National Grid (2020) [Future Energy Scenarios](#)



in the Celtic Sea. The Tidal Range Alliance works to highlight the scale, capacity, reliability and energy security/stability offered by tidal lagoons and barrages. It aims to demonstrate how tidal range projects will help to meet future electricity demand in a way that is compatible with climate change commitments and will be multi-functional (energy, environment, flooding protection and mitigation) and multi-generational.

- **The formation of cross border clusters** - MEW is a member of the Celtic Sea Cluster, which is part of the wider group of UK clusters supporting the development of offshore wind energy under the UK government's Sector Deal. The South West Industrial Cluster is also exploring mechanisms for decarbonising heavy industry in Wales including using emerging offshore renewable solutions to produce hydrogen.
- **Swansea Bay City Deal and North Wales Growth Deal** – The £60 million City Deal PDM project includes a UK Catapult led Marine Energy Engineering Centre of Excellence based in Wales, Marine Energy Test Area, Pembrokeshire Demonstration Zone and port infrastructure upgrades to develop a hub for marine energy in Pembrokeshire. There will also be tidal energy opportunities for the Morlais project through the North Wales Growth Deal.

Emerging offshore renewable energy presents an opportunity for Wales to **keep its own renewable energy technology value locally by supporting a currently homegrown industry to deliver a low carbon economy, with its own jobs and prospects, and export the knowledge, skills and expertise globally**. All whilst delivering a number of technological **solutions for the clean energy transition and decarbonisation of industry**.

Ministerial Priorities

In their letter, the Minister and Deputy Minister outlined that to support energy system transitions within the wider net zero agenda, we need to transfer to renewable sources of power and that energy generation must evolve in line with these wider changes. Marine Renewables **contribute to a diverse and resilient energy mix**. The wind does not always blow and the sun does not always shine. Marine renewables can address fluctuations in these energy sources to ensure that the lights stay on. They also enable **energy independence by reducing our reliance on fuels imported from abroad**. Generating power from **multiple diverse sources** is key to delivering a continuous uninterrupted supply of renewable energy to our homes.

The letter also references the Welsh Government's Marine Energy Programme, which we have been very enthusiastic to support, providing an interface to the marine renewable energy sector and seeking to understand ways in which Welsh Government can accelerate progress for the sector.

Despite a natural competitive advantage, innovative initiatives within the sector, and significant maritime experience developed over centuries, the **Welsh evolution of our energy generation is currently falling behind other areas of the UK and international competition due to a challenging consenting regime, slow delivery of policy intent and insufficient investment in infrastructure**. Resulting in the potential forfeit of the associated jobs, prosperity and economic growth for Wales as well as the provision of secure and predictable energy to the energy mix. Thus we risk once inherent strengths, including know-how, technology, economic value and employment prospects, leaving Wales and being drawn overseas.

With adequate and consistent policy and financial support from government, we will be able to capitalise on this innovative maritime opportunity that supports supply chain resilience and clusters, in some of our most peripheral economies across Wales. Which, we are already seeing, represents significant global export potential.

Wales' ongoing ability to benefit from this new low carbon opportunity will ultimately depend on;



- the delivery of government policy in support of clean technology deployment.
- timely deployment of our technology that is not unduly constrained by the consenting regime;
- ensuring the infrastructure required to build the technology and export the power is available at the right time and to the right scale;
- enabling the upskilling and up-tooling of our supply chains; and
- a renewed approach to the opportunity of tidal range in Wales.

The overarching asks of the sector are set out below to provide context. Appreciating that some of these have long timeframes associated, suggestions for Ministerial prioritisation for the next 12-18 months are provided in bold.

Revenue support for wave and tidal stream projects - Continue to work with the rest of the UK to make a case at UK Government level to secure meaningful revenue support for wave & tidal stream technology through the Contracts for Difference (CfD) Scheme and Innovation Power Purchase Agreement (IPPA). Noting that an announcement is anticipated in the coming months around the CFD provision, whilst focus needs to be maintained on BEIS we have initiatives underway that can further support and accelerate progress in this regard. The Minister should seek to **support the Marine Energy Programme activities to provide a Welsh specific revenue support mechanism for early-stage technology projects in Wales to bridge the gap between grants and the CfD**. In combination with the CFD announcement the market signal and impetus that this would build for the sector could be considerable, anchoring technology companies in Wales that may otherwise be considering European relocation options to make securing grant funding easier.

Consenting and Evidence – We would welcome **increased support through both funding and personnel resources at the regulator, Natural Resources Wales (NRW)**. In order to ensure suitable and appropriate allocations, an **in-depth assessment of the delivery and timeframes associated with consenting** is recommended. NRW needs support from Government policy in order to make timely and pragmatic decisions and to collaborate further with the sector. A **clear mandate for NRW** to enable the deployment of more devices in the water, would result in an increased availability of evidence to progress the industry which currently poses a significant constraint to timely deployment and thus the appeal of development in Welsh waters. The Committee should simultaneously pursue the **prioritisation of the introduction of the Wales Infrastructure Consenting bill** at the earliest opportunity within the Senedd term to enable the existing arduous consenting processes to become streamlined and efficient.

Infrastructure and Supply Chain – A focus on the timeline for the **building of required infrastructure and developing grid capacity** is key to enable the growth and progression of the industry to deliver projects and the timely energy transition referenced in the Ministers' letter. Port development needs to be able to accommodate large scale technology components to be able to maximise opportunities for the sector in the 2030s. Furthermore, to address grid constraints integration with broader SMART energy systems and with the hydrogen economy should be encouraged. **Timely delivery of recommendations to Welsh Government's reports undertaken on grid and ports** should be encouraged by the committee. Support Welsh supply chain companies to become competitive through improved infrastructure and training, and wider initiatives to grow the skills needed to support the marine energy sector; using stepping stone projects to build capacity.

Celtic Sea – Encourage the UK Government to implement a **CfD system that supports the use of local supply chain even if it is more expensive to do so**, recognising the potential GVA benefits associated. Invest in ports to enable solutions that bring decarbonisation, regeneration and economic benefits to Wales. **Engage with The Crown Estate (TCE) to ensure that opportunities for 'early commercial stepping stone' floating offshore wind projects in the Celtic Sea are delivered through a timely leasing framework for**



generation up to 300MW in output. Support the development of the Celtic Sea as a floating wind development zone; working in collaboration with Ireland and the South West of England.

Tidal Range - Wales can lead the way in developing the necessary framework to demonstrate the value of tidal range to the UK. Rather than concentrating on simple cost of energy models, there **needs to be broad recognition of tidal range's unique multi-generational operating life, extensive co-benefits and contribution to Wales and the UK's energy security, stability and Net Zero targets.** We support the ongoing activities of the Marine Energy Programme and emphasise the need for a **fresh assessment of tidal range**, recognising these factors and using up-to-date independent engineering and financial models would not only provide the much-needed evidence needed to compare tidal range's unique features and benefits against other forms of low-carbon energy, but also provide the technical, environmental and financial models to guide Government and investor decisions.

Overall, we believe the committee must scrutinise the efficacy of Wales' efforts to both deliver and anchor this sector of significant promise here, in Welsh waters and on Welsh soil. After such commitment and support in recent years, the timely delivery of policy impact and a coordinated strategic approach to the ability to deploy in Welsh waters and achieve timely project development must be achieved. So that Wales' contribution to, not only national decarbonisation, but also to delivering solutions that can be used on a global scale to make a meaningful Welsh contribution to Climate Change.

We would welcome the opportunity to present the case for marine renewable energy and the sector asks of Welsh Government in more detail at any oral evidence sessions which result from this consultation. We look forward to continued engagement with the Climate Change, Environment and Infrastructure Committee on this emerging sector and the opportunities it presents.