

Written evidence submitted by Christoph Harwood, Director of Policy and Strategy, Simply Blue Energy Limited (REW0045)

I am writing in response to the Call for Evidence on Renewable Energy in Wales issued by the Welsh Affairs Committee. Simply Blue Energy welcomes the opportunity to outline its view on the way in which the UK Government can work to facilitate the deployment of renewable energy in Wales as part of the green recovery from COVID-19 and for the longer term.

Simply Blue Energy

Simply Blue Energy is an Irish based blue economy project developer developing floating wind, wave energy and low impact aquaculture projects internationally. It is currently developing two floating wind sites with a combined capacity of ~400MW in Welsh waters of the Celtic Sea in a Joint Venture called Blue Gem Wind with Total, the international oil and gas company. The first project, Erebus, is Wales's first floating offshore wind farm c.45 km off the Pembrokeshire coastline. The second, larger project, Valorous, is to be located c.50 km off the Pembrokeshire coastline. Combined, these projects represent an investment of over £2.4 billion. On 27th January 2021, Simply Blue Energy announced a Joint Venture to develop floating wind in Irish waters of the Celtic Sea. Global oil and gas major, Shell, are the development partner to progress a 1 GW project off the coast of Kinsale.

Simply Blue Energy's development focus is on maximising opportunities for the supply chain. A stepping stone approach, whereby floating wind projects progress from initial test and demonstration scale projects to larger early-commercial developments, will help to capture the highest local supply chain content for the projects that follow. This approach was adopted in response to a report¹ by the Offshore Renewable Energy Catapult (OREC) for the Crown Estate Scotland in 2018, that identified stepping stone projects as the best way to enable local supply chain growth in this new sector.

Key Challenges Facing the Floating Offshore Wind Sector

In this submission, detailed within Appendix 1, Simply Blue Energy provides evidence on the issues faced by the two Blue Gem Wind projects, Erebus and Valorous, but also reflects on the longer-term opportunity for Wales from renewable energy in the Celtic Sea. Simply Blue Energy is supportive of the 1GW of floating offshore wind to be commissioned by 2030 target and identifies that nearly 40% of this could be delivered by Erebus and Valorous. In order to ensure the deployment of these projects, the following areas require UK Government attention:

1. Timescales for test and demonstration project leasing - for our Valorous project to be viable it needs to be in the 2025 Contracts for Difference (CfD) Auction Round 6 so as to avoid competition with large projects out of ScotWind in subsequent rounds. This requires

site security confirmation from The Crown Estate by the beginning of Q3 2021.

2. Revenue support incentives, project delivery and local supply chain use - for test and demonstration floating offshore wind projects to be delivered, pot capacities, minima and Administration Strike Prices (ASPs) need to be set in a way that secures project viability and encourages developers to build the local supply chain with UK and Welsh Governments.

3. Infrastructure support. To significantly increase the opportunities for Welsh supply chain we would encourage the UK Government to work with the Welsh Government to ensure investment in

¹ Macroeconomic Benefits of Floating Offshore Wind in the UK. 2018.

Welsh and wider Celtic Sea ports so that the economic gains can be captured by the local communities.

Next Steps

As detailed within Simply Blue Energy's submission, there is a wealth of economic and environmental value that can be created for Wales should the UK Government work with developers, The Celtic Sea Alliance and Marine Energy Wales to achieve this. This Call for Evidence certainly starts a positive conversation on how this can be achieved and I look forward to discussing this matter further with you and colleagues at a forthcoming oral evidence session.

Appendix 1:

Welsh Affairs Committee – Call for Evidence on Renewable Energy in Wales Submission by Simply Blue Energy How can the UK Government best support the deployment of renewable generators in Wales?

Floating Wind

Simply Blue Energy invites The UK Government to view the Celtic Sea as a nationally significant wind resource that will be required to deliver the 2050 Net Zero target of at least 100GW. Research commissioned by Simply Blue Energy identified that there was up to 250GW of floating wind energy potential in the sea with perhaps up to 50GW being realisable.² Currently there is limited evidence that the Government recognises the value of this strategic wind resource with its main focus being on the North Sea. However, the Celtic

Sea can deliver more than just renewable power.

- Research commissioned by Simply Blue Energy has identified that the Celtic Sea wind resource has a low correlation with weather systems in the North Sea, meaning that one can deliver power when the other is not and vice-versa. This will provide enhanced energy security, reducing the need for storage or fossil fuel peaking systems.³
- Due to water depth, the Celtic Sea currently has no offshore wind farms and thus is geographically removed from other areas of offshore wind development in UK waters. By opening up the Celtic Sea, the UK can manage the combined environmental impact of wind farms and the concerns regarding Habitat Regulation Assessments.
- The Celtic Sea is located close to the areas of high demand in South Wales and Southern England and renewable generation from the sea would deliver economic benefits while enabling an efficient route to market, reduced electrical losses and the need for controversial grid expansion to bring energy from the north of the country. This is reflected in grid charges for renewable energy projects in South Wales which are - £5.24/kW compared to +£19.03/kW in the North of Scotland, indicating that power produced in the Celtic Sea and connected into South Wales will be more economically beneficial for the UK grid and support a better distribution of renewable generation on the grid.

²Assessment of Floating Offshore Wind Potential in the Irish and UK Waters of the Celtic. ITP Energised for Simply Blue Energy. 2019.

³ Analysis of combined Celtic Sea and North Sea Offshore wind variability. Wave Ventures for Simply Blue Energy. 2020.

It is encouraging that the UK Government has set a target of 1GW of floating wind to be commissioned by 2030. The two Blue Gem Wind projects in the Celtic Sea will deliver nearly 40% of this target subject to planning consent, a suitable supportive regime in leasing and success in the CfD allocation rounds.

- Blue Gem Wind currently has a lease for its first site, the 96MW Erebus project, leased from The Crown Estate (TCE) through its Test and Demonstration process. Blue Gem Wind has been in dialogue with TCE about the leasing of larger (~300MW) early commercial Sites [...] ⁴ not be able to meet this deadline which would have a significant impact on the 1GW 2030 target and the loss of a stepping stone project in the Celtic Sea.
- Revenue support will be required for at least the next ten years for floating wind projects and we support the UK Government's decision to include floating wind in CfD Pot 2 along with other small scale or innovative technologies. The Department for Business, Energy and Industrial Strategy (BEIS) has all the required capabilities to be able to set pot capacities, create minima and maxima and use Administration Strike Prices (ASPs) to ensure the delivery of projects at suitable value for money (see below). It is imperative that this is done in the context of a local supply chain strategy.
 - It is anticipated that the two Blue Gem Wind projects will be competing with similarly sized projects in Scotland. Nations across the UK are keen to build up their supply chains for floating wind and it is important that the CfD competition is not set so that only one project can be successful. This can be achieved by ensuring that there is enough capacity in Pot 2 and/or a floating wind minima, managing costs through the ASP. Alternatively, they could consider the creation of geographic minima as has been proposed by The Welsh Government.
 - Blue Gem Wind is prepared to support BEIS in its decision making by sharing the comparative costs between maximum use of local supply chain and the lower cost of fabrication and installation in Spain and France and direct tow to site. BEIS can use this in their decision making on the CfD but it should be understood that currently there is not a mechanism that rewards the use of local supply chains.

Wave energy

The Celtic Sea is known as a source of wave energy as exemplified by the creation of the Pembrokeshire Demonstration Zone as a wave energy and floating wind site. Simply Blue Energy is developing its first wave and floating wind project on the west coast of Ireland and will be reviewing its options across the UK for similar projects or standalone wave energy projects in 2021. For these sites to be viable there needs to be a similar regime in place as is proposed for floating wind.

- Access to sea bed; currently only 30MW can be leased from TCE outside a leasing round unless a developer can pick up an unconsented site on an existing lease from the leasing rounds held in 2014. This has not been taken forward due to the reduction in support for wave energy by the UK Government with the only one in Welsh waters being the Pembrokeshire Demonstration Zone.
- Revenue support; the CfD is able to support wave energy projects through its current design but requires the political appetite to do this. We believe that the earliest the

⁴ [...] indicates text has been redacted at the request of the submitter

Simply Blue Energy might wish to access CfD support in 2027 and will be engaging with BEIS for support in this round.

- Supply chain support; the advantage of wave energy is that the devices can be considerably smaller compared to offshore wind opening up opportunities in more ports and for other companies in the local supply chain.

Simply Blue Energy also supports the development by the Marine Energy Council (MEC) of a revenue support system for technology developers. This allows them to move from deploying one device to deploying multiple devices in an array. The one proposed by MEC is the Innovation Power Purchase Agreement (IPPA) that allows a project to sell power in excess of market rates with the additional costs to the buyers reclaimed through the tax system. This means that the private sector takes the risk as it is only paid on deployment and it is not the consumer picking up the innovation costs.

Grid

For all renewable energy projects in Wales there needs to be sufficient grid capacity to deliver future projects. Simply Blue Energy, whilst having grid agreements for its Blue Gem Wind projects, are awaiting the report from the Welsh Government on grid capacity to understand its recommendations for grid upgrades for commercial scale floating wind projects in the Celtic Sea based on a Crown Estate leasing round for large sites. This needs to cover the offshore grid, in alignment with the dialogue currently underway between BEIS and the industry on rationalizing cable landfall and onshore grid to carry the power to the centres of demand in South Wales and Southern England. It will need to accommodate at least the size of a full Crown Estate leasing round which might be 5-10GW going live in the 2030s.

How should the UK and Welsh Governments work together to support the development of renewable energy projects in Wales?

Pipeline

Given that The Crown Estate is an independent body both the UK and Welsh Government should cooperate to encourage the delivery of Test & Demonstration projects, early-commercial projects and full leasing rounds for floating wind and in time wave energy in the Celtic Sea. Currently there is no process for early-commercial floating wind projects which puts the Valorous project at risk and no plan for a full leasing round for the Celtic Sea meaning Wales is at a disadvantage vis-a-vis Scotland.

Supply chain & ports

The most important area of cooperation, however, is in the area of supply chain development and support. This should focus on port upgrades to ensure that the ports are fit for purpose for floating wind. It is understood that the £160m funding being invested by the UK Government into port infrastructure for offshore wind is destined for the east coast of England but further port investment should be encouraged for the Celtic Sea ports through subsequent rounds.

There is the opportunity for a collaborative approach to a port strategy in Wales to support renewables and Welsh Government and UK Government should identify areas for cooperation and potential co-investment. This collaborative approach has proved successful for the recent Pembroke Dock Marine project as part of the Swansea Bay City Deal. The role ports will play in local supply chain benefits cannot be overstated and currently there are challenges for Welsh ports to support, in particular, the fabrication and integration of platforms and wind turbines due to the scale and development of floating wind. Blue Gem Wind projects could potentially add significant value and

de-risk government investment in Pembroke Dock Marine, but to maximise the opportunity to Wales more port infrastructure investment is required.

Grid

As mentioned above, grid capacity is critical for the success of energy projects in the Celtic Sea and we would encourage both Governments to cooperate in ensuring that grid is available for projects in the 2030s.

Planning

The Wales Act 2017 devolves competence for the consenting of electricity generating stations up to 350MW both on and offshore, as well as associated overhead electric lines up to and including 132KV to the Welsh Ministers. It also devolves competence for harbour revision and empowerment orders and marine licences, and marine nature conservation functions in the offshore area. Blue Gem Wind's projects are being delivered under the 350MW cap planning process but we would like to highlight that in future projects, above 350MW, where the UK Government's planning process begins, it will be crucial that collaboration between the Welsh and UK Governments takes place.

Whilst not a direct matter for the UK Government it will be critical that Natural Resources Wales has adequate resources to deliver planning and consenting decisions to meet low carbon ambitions and targets.

What mechanisms can ensure that subsidies for renewable generators are good value for money?

The significant success from the CfD programme in reducing the costs of renewable energy is clear. We are pleased that BEIS has recognised, with the movement of fixed offshore wind into Pot 3, that this works well with established technologies but does not allow space for new technologies to develop. For new technologies one has to look at the value for money over the lifetime of the technology rather than at the cost of electrons in the early projects. A report published in January 2021 by the Offshore Renewable Energy Catapult established that floating wind could be subsidy free by 2030, aligning it with fixed offshore wind.⁵

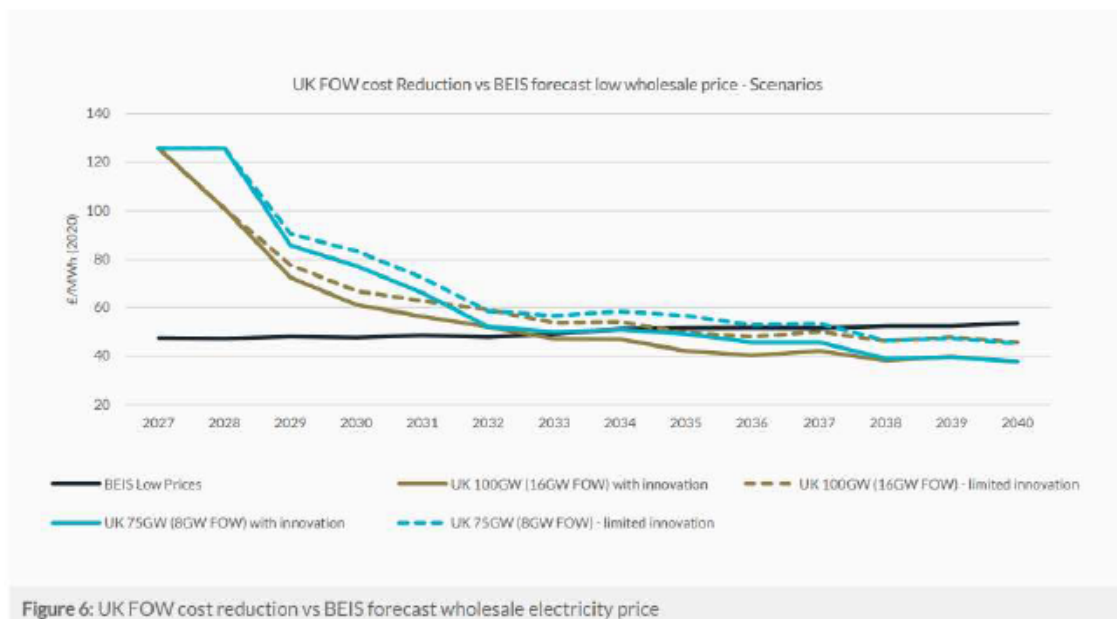


Figure 6: UK FOW cost reduction vs BEIS forecast wholesale electricity price

⁵ Floating Offshore Wind: Cost Reduction Pathways to Subsidy-Free, ORE Catapult, 2021

This means that after the stepping stones projects in the 2020s, the Celtic Sea will be delivering competitive energy to the market. The report details that of the nine sites analysed, one of the Celtic Sea sites came out as top priority based on levelised cost of energy. The stepping stone projects themselves offer value for money in two ways. Firstly, they are part of the learning curve for the industry to go through on the cost reduction activities required to achieve the 2030 position. Secondly, and importantly for Wales, they are delivering GVA benefit by enabling local ports and supply chains to participate in smaller projects before the larger projects are delivered. The OREC report, “Benefits of Floating Wind to Wales and the South West”⁶ commissioned by the Welsh Government and the Cornwall LEP in 2020 focussed on the importance of “deploying a number of pre-commercial floating offshore wind projects in the mid to late 2020s, increasing in size from 32MW at Wave Hub to 90MW at Pembrokeshire Development Zone (PDZ) or equivalent site (see Erebus) then a 300MW project and a 500MW project”.

The stepping-stone approach was further identified as “providing opportunities for the supply chain to prove capability on smaller projects before investing in larger facilities to support commercial scale sites”. Therefore, moving immediately to larger scale (>500MW) would not be optimum for local supply chain development. OREC, in this research, estimated that a programme that enabled 1GW of stepping stone projects could deliver 3000 jobs and £682m of GVA over a ten-year period.

The challenge for the UK Government is ensuring that these early floating projects which will have higher strike prices than fixed offshore wind deliver value for money, as they will support the local supply chain. Blue Gem Wind is prepared to share its costs with BEIS to that end, presenting how costs of local supply increase the costs to the project compared to towing in the floating wind platforms from the continent against the resulting supply chain benefits on a project-by-project basis. BEIS will then be able to adjust the minima, strike price and capacity of Pot 2 to support the local solution.

There will also be a challenge in CfD allocation rounds AR4 (2021), AR5 (2023), AR6 (2025) for BEIS in its support for the floating wind sector because there will be stepping stone projects in both Scotland and Wales that will be supporting the development of their local supply chains respectively. A tendency towards competition over supply chain development in Pot 2 could mean a loss of these development projects to either nation. Blue Gem Wind is willing to cooperate with BEIS on this issue to ensure value for money and growth in the Celtic Sea.

For wave energy there will be similar issues with the CfD but the immediate requirement for the sector is to ensure the delivery of a support for technology developers through a mechanism such as the IPPA as mentioned above. This has been designed by the Marine Energy Council to limit costs to HMT as payment is only made if power is delivered and there is a ratchet mechanism to reduce costs over time as more projects come on stream. It is estimated that it will cost £50m in tax rebates each year for twenty years for tidal stream (and similar for wave energy) whilst delivering a net benefit of ~£22b by 2050.⁷

What opportunities are there for renewable generators in Wales of greater interconnection with other electricity markets?

In 2020, Simply Blue Energy asked the consultancy Cornwall Insight to provide a review of the routes to market for energy generated in the Celtic Sea. It was encouraged that in the 2020 Brexit Deal that cooperation on the development of renewable energy projects in the North Sea will continue and it

⁶ Benefits of Floating Offshore Wind to Wales and the South West, OREC, 2019

⁷ Marine Energy Council. 2020.

hopes that this cooperation will be extended between the UK and EU states, particularly Ireland, in the Celtic Sea. This could manifest itself in the following ways.

- The UK could benefit from projects in Irish waters providing power to the UK grid. This is because not only are the costs of energy competitive with other sources of energy, especially given the spatial constraints in other locations, but the projects can also be supplied from Welsh supply chain. These projects could provide power directly to the UK or they could be hybrid projects supplying both Ireland and the UK.
- The role of interconnectors will also increase in the decades to Net Zero. The UK is expected to be a net exporter from the mid-2030s onwards with most power going to the continent. However, there will be times when Ireland will require power from the UK and vice-versa and so Simply Blue Energy expects there to be further developments in this area. A key opportunity for the Celtic Sea is to support the European Union's aspiration for 300GW of floating wind by 2050. Given the scope for cooperation proposed in the Brexit Deal, it is hoped that some of this could be provided by UK projects in the Celtic Sea but also by projects in Irish waters delivered by the UK supply chain.
- The incoming hydrogen economy will not only increase demand for renewable power but hydrogen should also be considered as a vector of energy transport for interconnectors, enabling deliveries of hydrogen to the continent. However, we do not think that sufficient analysis has yet been carried out in this area to establish a position.

How can the UK Government facilitate Welsh contributions to COP26?

Simply Blue Energy believes that the UK, Irish and Welsh Governments should announce an agreement at COP26 to cooperate in the development of renewable energy, especially floating wind, in the Celtic Sea. We believe that a Celtic Sea Economic Zone with this focus would increase wealth for the countries involved and help them deliver their respective Net Zero targets.

The Celtic Sea Alliance⁸ of which Simply Blue Energy is a member, is planning to carry out some research (2021) into the benefit case of a Celtic Sea Economic Zone building on the work done by the Offshore Renewable Energy Catapult on supply chain benefits of floating wind to Wales and the South West. in 2019. ⁹ We believe that it will be able to identify and quantify three benefits:

- Creation of a significant pipeline of projects and the benefit of the local supply chains;
- Delivery of cost reductions by creating collaboration across a wider ranging supply chain which can deliver significant synergies;
- Creation of a centre of excellence to set the standard for international markets and generating exports for both economies.

What implications is COP26 expected to have for Wales?

This is not our area of expertise.

Has the COP26 Year of Climate Action had any significant implications for Wales?

This is not our area of expertise.

What opportunities are there for renewable energy to aid Wales post-COVID-

⁸ <https://www.offshore-energy.biz/celtic-sea-alliance-targets-floating-wind-projects/>

⁹ Benefits -of -Floating -Offshore -Wind -to -Wales -and -the -South -West, OREC, 2019

19 economic recovery?

Blue Gem Wind's projects in the Celtic Sea provide a practical example of a sector that, to date, has remained generally unaffected by COVID-19. With an increasingly stable and supportive policy background, studies demonstrating a subsidy free future, and significant interest from the market, particularly from oil and gas majors, there is increasing development of floating wind projects.

The joint venture has committed [...] of private investment to take the two projects to FID in 2023 and 2026 respectively. To date, 85% of the [...] of contracts let date have been won by UK companies, with [...] allocated to businesses in Pembrokeshire.

Planned development investment has and will continue during and post-COVID-19 demonstrating a level of resilience and the significant opportunity that floating wind could play in an economic recovery. Erebus is progressing well but the real risk to the second project and the [...] of associated investment is the lack of a leasing process for floating wind above 100MW in England and Wales outside any full scale leasing round.

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