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Ofgem Consultation on our Minded-to Decision and Further Consultation on Pathway to 2030

Introduction & Background

Wave Hub Development Services Ltd, trading as Celtic Sea Power (CSP) are a 100% subsidiary of Cornwall Council with funding from the Welsh European Funding Office (WEFO) and the Swansea Bay City Deal (SBCD) to develop 'The Pembrokeshire Demonstration Zone' (PDZ).

Celtic Sea Power is the **seabed lease holder of the PDZ**, an area located c.15km offshore from the South Pembrokeshire coastline of Wales and comprising a 90km² area leased from The Crown Estate (TCE) for a period of 45 years (see figure 1).

The PDZ is part of the **Pembroke Dock Marine** programme whose sponsor is Pembrokeshire County Council and project delivery partners include Port of Milford Haven, Offshore Renewable Energy (ORE) Catapult and Marine Energy Wales.

The project has secured funding up to the end of June 2023 to develop the PDZ and inform the next stage of the development pathway, which will target consent management and condition discharge, detailed design, and securing financial investment for the capital build.

<https://www.swanseabaycitydeal.wales/projects/pembroke-dock-marine/>

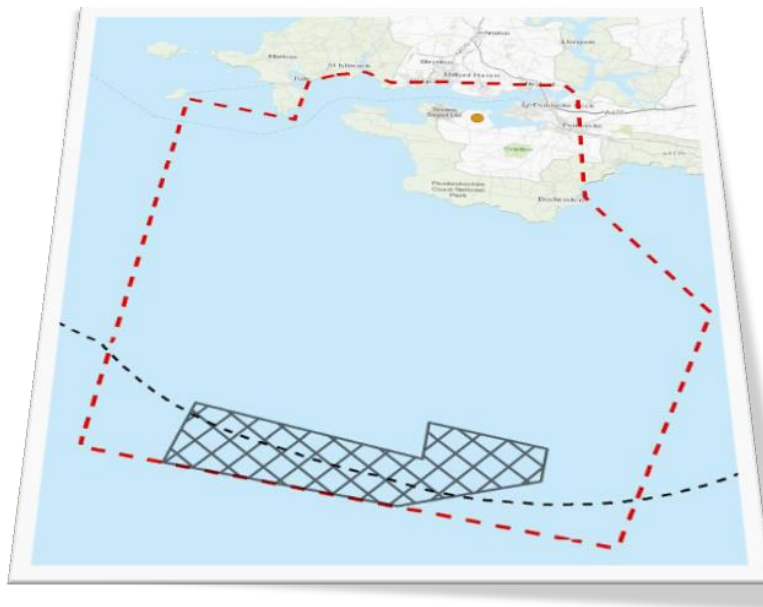


Figure 1 – PDZ Lease Area





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In response to changes in the marine offshore renewables market, including the rapid emergence of Floating Offshore Wind projects in the region, the project has been re-defined from its original purpose into a site for demonstrating multiple wave and tidal energy technologies to a site for the development of one or two **Multi-connection Offshore Substations (MOS)**. These MOSs are aligned with the **Shared Asset** concept referred to in this Consultation and aim to be capable of accommodating approximately 1GW of generation in a stepped approach as the market matures and The Crown Estate's 4GW by 2035 aspirations are realised.

The current thinking is that the MOS locations will be within the black hatched area in Figure 1 above. The project team are currently identifying appropriate off and onshore cabling routes within the red lined area to a point of connection with the National Grid Electric Transmission system, targeting Pembroke 400KV Grid Supply Point (identified as the yellow dot in figure 1).

At this point in time, Celtic Sea Power is working openly with all developers in the **Celtic Sea Developers Alliance** using public funding to develop a solution that seeks to maximise the commercial and social return for the benefit of UK plc.

We note that the Impact Assessment which sits alongside this minded-to-decision indicates that the decision is not expected to apply to developments within the Celtic Sea Region (noting that Ofgem will work with industry and stakeholders to provide clarity on the delivery model for that region in future). However, for the purposes of this response we have assumed that if the minded-to-decisions being consulted on are adopted, they could be applied to developments in the Celtic Sea (under the Pathway to 2030 and/or the Enduring Regime workstream, depending on timescales).

The adaptation of policy and regulation to protect the interests of current and future customers looking across the spectrum of social, environmental and security of supply issues as the UK seeks to grow its floating wind capacity is imperative and we welcome Ofgem's commitment and progress to date.

Through the Pembrokeshire Demonstration Zone, we have an opportunity to develop a critical piece of co-ordinating infrastructure that can help bring forward the ambition for the Celtic Sea Region within the Pathway to 2030 timescales without compromising the capacity that will follow under the Enduring Regime.

Tim James
Infrastructure Development Director
Wave Hub Development Services Limited (Trading as Celtic Sea Power)



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Tel: 01736 800293

Mob: 07866936637

Email: tim.james@celticseapower.co.uk

Web: www.celticseapower.co.uk

Address: 1 Cleddau Bridge Business Park, Pembroke Dock, Pembrokeshire, SA72 6UP





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Formal Consultation Response

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Q1	Do you agree with the findings of the draft impact assessment published alongside this document?
A1	<p>CSP agrees that the current regime for developing offshore transmission assets is unlikely to deliver the level of offshore renewable generation deployment sought, within the desired timescales, in a way that is efficient and represents value for money for consumers. As such CSP also agrees that significant economic, environmental and social benefits (including value for money for consumers and improved security of supply) could be realised by facilitating and incentivising offshore co-ordination.</p> <p>Under the 'Generator Build' model that has been used for all competitively tendered offshore transmission assets to date, Developers take responsibility for the design, consenting, construction and commissioning of offshore transmission assets which are entirely dedicated to servicing the needs of that Developer's project.</p> <p>During the OFTO tender process, as part of determining the transfer value of the assets to be transferred to the OFTO Ofgem undertakes a cost assessment and any costs that are not "economic and efficient" are discounted (with the trade-off for the Developer bearing any resulting financial loss / cost that is discounted in this manner being that once their project is connected they should be able to be recoup that loss from the revenue generated from selling the electricity produced).</p> <p>We note that Ofgem is considering, via the Early Opportunities workstream, the changes that may be required to its cost assessment guidance to take account of its proposed changes to policy on anticipatory investment. We welcome Ofgem's clarification in its minded-to-decision that this review will also consider any consequential changes that may be required for Pathway to 2030 projects (bearing in mind that the HND contemplates Developers undertaking anticipatory investment). This will be very important to provide certainty to, and bring forward investment in shared assets by, Developers.</p> <p>Whilst all competitively tendered offshore transmission assets to date have used the 'Generator Build' model, CSP considers that the late competition OFTO build model options should not be discounted on the basis that they could place risk on OFTOs that may not be best placed to manage them due to their lack of GB offshore wind construction experience. As is acknowledged in the impact assessment, a number of potential and current OFTOs have experience of</p>



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	<p>delivering in other jurisdictions. It is also unproven that Generators will be best placed to deliver shared assets given that: (i) no such shared assets have been delivered by Generators to date; and (ii) it is not (yet) clear whether the work currently being done to seek to break down the barrier to shared asset development posed by anticipatory investment risk will remedy this issue / have its intended effect.</p> <p>CSP are aware that there is interest in the OFTO community (and among 3rd parties) to take a more active role in the development of shared assets in the UK. Whilst CSP agree that adopting a non-generator led approach does come with some delivery risk and re-allocation of upfront risk onto the consumer, in the impact assessment Ofgem acknowledges that it has a range of tools that could be used to replicate the 'natural' delivery incentives of Generators, and the UK has a great deal of home grown expertise in this area and could (and potentially should) be utilising these skills to ensure that the benefits of co-ordinating offshore assets are maximised in line with policy aspirations.</p>
Q2	<p>Where you disagree with the draft impact assessment, does this raise any issues with our minded-to decisions?</p>
A2	<p>Yes - CSP believe that since the minded-to-decision suggests that only Generators/Developers will develop shared assets: (i) it will, notwithstanding the work being done on anticipatory investment risk, increase the level of their initial financial exposure (and only time will tell if they can / are willing to bear this); and (ii) it pre-supposes that the placement of those shared assets should be determined (at least partly) based on the seabed lease area of the Initial User rather than via an assessment of what would be the optimum, and most efficient, engineering solution bearing in mind economic, environmental and community impacts.</p> <p>For the Celtic Sea, there is currently a timing opportunity to develop a shared asset development plan that targets the 4 x 1 GW project announcement in the Areas of Search identified by The Crown Estate in their recent announcement.</p> <p>The Crown Estate will spend the next 12 months taking the Areas of Search through the Habitats Regulations Assessment process which will refine them into project development areas, which will then be offered to the market via competitive tender in mid-2023.</p> <p>If a Developer led model is pursued CSP fears that the timing opportunity referred to above could be lost and that co-ordination of connections in the Celtic Sea Region to realise the 4.4GW of current leased areas and proposed project development areas could be delayed until the outcome of The Crown Estate's mid 2023 leasing round is known.</p>





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	<p>Whilst we understand that the Celtic Sea will be considered separately, our comments above reflect that there is aspiration and plans for the region to play a key role as part of the Pathway to 2030.</p> <p>Further, if these minded-to-decisions could also be adopted for the Celtic Sea then consideration should be given to the increased technology risk for floating vs fixed offshore wind, and the fact that imposing the extra risk and financial burden of developing and funding the upfront cost of shared grid infrastructure on a floating wind developer could (depending on their circumstances, including their risk appetite and financial standing / access to capital) significantly delay project implementation.</p>
Q3	<p>Do you agree with the proposed introduction of a new Tender Entry Condition in the Tender Regulations requiring the confirmation of the offshore transmission system as 'economic, efficient and coordinated'?</p>
A3	<p>CSP believe this is an important addition to the Tender Regulations.</p> <p>We have explained in our comments on A2 that we have concerns that an Initial User / Developer led shared asset development plan may not select the "best" location from a co-ordination perspective.</p> <p>Against this backdrop, and in light of the significant additional development and expenditure associated with shared assets (per the scenarios underpinning in OFGEM's recent minded to decision on Anticipatory Investment, initial users will have to incur significant additional development and capital expenditure - £3m for Design 1 and £105m for Design 2 according to DNV's appended report), CSP considers that clarity over how any additional costs stemming from seeking to facilitate better co-ordination (particularly if the status of later users was uncertain when those costs were incurred) will be treated when OFGEM is assessing whether they are economic and / or efficient will be important (whether a Developer / Generator led or OFTO led model is chosen).</p> <p>Further, CSP believe that there is still a need for research and development (R&D) for offshore wind (particularly floating offshore wind) and that if a fourth element called 'future cost reduction' were to be added to the proposed new Tender Entry</p>



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	Condition this could open up the opportunity for shared assets to support R&D activity that could ultimately help to drive the LCOE down.
Q4	Do you agree with the introduction of the proposed gateway stage assessment process?
A4	<p>CSP welcomes the introduction of a gateway stage assessment process intended to provide Developers with certainty that their proposals will meet the requirements of the new Tender Entry Condition.</p> <p>CSP also welcomes Ofgem’s undertaking, in light of the gateway assessment process focussed on anticipatory investment that is also being put forward / consulted on in the Early Opportunities workstream, to work to develop a “standard” process which will be applicable to Developers regardless of workstream to provide certainty that projects can enter the OFTO regime.</p> <p>If a “standard” process may be introduced then some of the comments made by CSP in our response to the minded-to-decision on anticipatory investment consultation will also be relevant here, i.e. that given the timescales associated with the development and build of shared assets, the assessment process itself should be robust and protected from material modification while projects are mid-way through that process.</p> <p>CSP believe it is critical that investors have confidence in the integrity of the process and that a positive decision set out in any Ofgem decision letter will not change if there are no subsequent material changes to the scope of the co-ordination activities assessed.</p> <p>The inclusion of an even earlier gateway assessment at ‘preliminary or concept stage’ (i.e. prior to award of an Agreement for Lease with The Crown Estate or Crown Estate Scotland) might also be helpful in providing comfort / confidence to developers considering investing in concept to pre-EPCI design and development costs that might include AI.</p> <p>By way of analogy, the preliminary accreditation process under the Renewables Obligation was very helpful in providing early-stage investment confidence for developers and investors, thus helping to deliver policy ambition vis-à-vis increased deployment.</p> <p>A “preliminary or concept stage” assessment process may also provide a clear direction earlier to the market (and to government) around the shared asset strategy for a given set of projects or region (in the case of the Celtic Sea). This</p>





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	<p>process could be run in parallel to TCE leasing rounds, accelerating the timescales associated with delivery.</p>
Q5	<p>Do you think the information sought as part of the gateway assessment process is appropriate and proportionate? Is anything missing?</p>
A5	<p>CSP considers that the kind of information that the consultation envisages will be sought from / provided by Developers in their submission for the assessment process appears to be appropriate and proportionate.</p> <p>Looking at the Celtic Sea region specifically, it is important that there is clarity over the timing, process and geographic location of project development upto 2035.</p> <p>A non-radial connection for 1 GW into Pembroke was included in the first draft of the HND co-ordinated designs for the Celtic Sea, and there is now an expectation that this will increase to 4 GW as the ESO also referenced increasing capacity to fall in line with the recent Crown Estate announcement.</p> <p>CSP also note that National Grid ESO's definition of a Shared Asset during the HND launch was an asset which provides wider system benefit in addition to co-ordinated developer activity.</p> <p>CSP are in the process of developing a co-ordinated solution that could offer a co-ordinated, efficient and economic solution to whichever developer or developers win a lease in 2024 Therefore there is scope for significant progress to be made in progressing a co-ordinated solution before the end beneficiaries (i.e. generators that might want to connect to that solution) are finally identified.</p> <p>CSP believe that, while the information that will be sought as part of the gateway assessment process appears to be appropriate and proportionate, the next level of detail / requirements and any certainty thresholds that may be applied by Ofgem during that process will need to be considered carefully, consulted on and set out in the guidance in as much detail as possible so that developers have confidence in / visibility over how their projects will be assessed. At the same time it will also be important that the bar is not set too high given that a number of assumptions will inevitably have to be made in the information that is provided where projects are still in the relatively early stages of development.</p> <p>CSP therefore welcomes Ofgem's statement that the process will be "light touch and proportionate". CSP believes that this will help to foster a more collaborative mindset among Developers who may be / are considering developing shared assets for Pathway to 2030 projects, or projects that may straddle the Pathway to 2030 and the Enduring Regime timelines, in a way that helps to minimise the risks</p>



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	associated with delivering the next phase of projects - which for the Celtic Sea could mean 20GW by 2045.
Q6	Do you have any views on the timing of the gateway assessment process?
A6	<p>CSP believe that projects that meet all of the eligibility criteria proposed for the gateway assessment process will be relatively mature, and that some Developers may not be in a position to revise designs in a way to maximise the benefits of co-ordination.</p> <p>An earlier stage process to set the strategy for leasing areas or regions could help to boost investor confidence, foster collaboration and ultimately benefit the consumer, hence why we have suggested the development / addition of an even earlier "preliminary or concept stage" assessment process.</p> <p>Such a "preliminary or concept stage" assessment could also provide an opportunity for non-generator, non-OFTO, third party developers to enter the market, providing a point of time in the development cycle which could help to facilitate the formation of partnerships between those third party developers and TCE lease winners or an OFTO.</p> <p>This could, in turn, lead to increased competition and to more efficient shared solutions being developed, for example, shared assets developed in locations that are optimal for the majority of connecting parties rather than being an "add-on" to the initial user's generating site. It may also lead to more projects / proposals coming forward and reaching sufficient maturity to go through the gateway assessment process, AI early assessment process and CFD auction rounds. All of which could, ultimately, help to drive down costs and increase value for money and security of supply for consumers.</p>
Q7	Is there any other information which you believe should be included in the confirmation to developers?
A7	CSP considers that the gateway assessment process must be transparent and not subject to unilateral change by OFGEM (at least while projects are mid-way through that process, and any changes made to the process after it is introduced should be consulted on and should not have retrospective effect).



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	<p>A process for change management for the initial user/developer will need to be implemented to mitigate the risk of the shared asset being a fully/partially stranded asset with no/fewer than anticipated later users.</p> <p>CSP considers that the proposed content of the confirmation that would be issued to developers appears to be appropriate. However, an area of uncertainty that remains is the nature and extent of any conditions or stipulations that could be included in the confirmation letter. Developers understand that OFGEM may not be able to provide clarity at this stage on what any such conditions or stipulations may be (e.g. because they may be project specific). That said, any such stipulations need to be reasonable and proportionate otherwise they could jeopardise the initial user /developer’s ability to attract other users to connect to the shared asset, or to successfully secure the necessary design/consents/procurements etc to reach financial close and deliver the project.</p>
Q8	Do you think changes are required to the current process to facilitate a very late competition model for non-radial assets?
A8	<p>CSP acknowledge that the Celtic Sea is not ostensibly within the remit of this minded to decision, but it is also not expressly excluded and therefore the outcome of this consultation could be adopted in the Celtic Sea and/or for other projects that could be borderline between Pathway to 2030 and the Enduring Regime.</p> <p>The first draft of National Grid ESO’s HND proposed a number of technical solutions across the UK that seek to address generator co-ordination, wider network benefit and combination of both.</p> <p>CSP understand that the Celtic Sea ambition, in terms of GW capacity will be revised up leading to an increased requirement for wider network benefit to play a part in the HND solution.</p> <p>The current process needs to be updated to reflect the market appetite to deliver the variety of technical solutions proposed. In some cases, e.g. where the solution is around co-ordination without wider network benefit, CSP agree a very late competition model will be appropriate.</p> <p>However, in other cases, which including the Celtic Sea, CSP believe the current process and any changes to it should facilitate the successful delivery of the most economic, efficient and co-ordinated solution, which also facilitates future cost reduction meaning that a developer led solution may not be appropriate.</p>



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	<p>However, any OFTO led or new process that facilitates both the shared asset development for generators and wider network benefit needs to be managed in a co-ordinated way between public and private stakeholders.</p> <p>Re-iterating the points made in A2 relating to timing and the identification of Agreement for Lease winners, there is currently significant opportunity to inform and de-risk the most economic, efficient and co-ordinated solution for the Celtic Sea, which CSP are supporting through their work on the PDZ project.</p> <p>This does, however, require formal backing from OTNR stakeholders to be successful.</p>
Q9	<p>Do you think changes are required to the current package of OFTO obligations and incentives due to the introduction of non-radial offshore transmission assets?</p>
A9	<p>CSP have received feedback on the risks associated with use of shared assets which is informing our technical design concepts.</p> <p>A major concern is the loss of revenue and any associated liabilities that could be incurred should a 3rd party generator fault impact the other generators' and/or the OFTO's ability to generate / receive revenue.</p> <p>The current obligations and incentives placed on the OFTO are based on 98% availability and contemplate infrastructure that only serves the needs of a single user.</p> <p>For non-radial offshore transmission assets, whether it is appropriate for the OFTO to bear the risk (via any impact on the availability of the common, shared infrastructure base, and potentially any penalties for underperformance) of the initial user's system causing knock-on faults / disruption to later users and vice versa should be considered carefully.</p> <p>Incentives should be available if the availability of the common, shared infrastructure base exceeds 98%, with the potential for further incentives to be earned in "partial availability scenarios" (i.e. for system robustness / resilience), such as where transmission of a non-faulting party's generation is maintained despite another shared asset user's equipment suffering a fault / failure.</p> <p>Further consideration should be given to obligations in respect of, and incentives for, shared assets which are also providing wider system benefits and/or helping to support future cost reduction (e.g. by providing connections for R&D facilities).</p>



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Q10	Do you think changes are required to other aspects of the OFTO regime, e.g. asset life or duration of the revenue stream?
A10	<p>CSP have made suggestions around how Shared Assets could be used to support wider network benefits and future cost reduction (by supporting R&D activity) in addition to supporting the needs of offshore developers.</p> <p>CSP have also suggested that there is currently an opportunity to develop credible offshore co-ordination development plans that will offer the most efficient, economic and co-ordinated solution and could benefit Agreement for Lease winners (expected 2024), and network providers.</p> <p>CSP consider that the design life associated with the common, shared infrastructure base and user specific infrastructure, and the timings of user specific infrastructure becoming the responsibility of the OFTO, will differ from one shared asset to the next, and thus may potentially not follow / be amenable to a single model. It is therefore important that there is sufficient flexibility in the OFTO regime (e.g. vis-à-vis duration of the revenue stream) to cater for shared assets with different designs / characteristics.</p> <p>If OFGEM is minded to consider these suggestions in the present Pathway to 2030 context, then further consideration / review of the OFTO regime may also be necessary to ensure an accelerated delivery of the Celtic Sea ambition (not only for the 4.4GW 2035 target, but also for the 20GW 2045 target).</p>

