March 9th, 2022

Marine Renewables Industry Association response to *Offshore Wind Phase Two Consultation*

The Marine Renewables Industry Association (MRIA) represents the principal interests in Ireland engaged in marine renewable energy. The Association embraces firms engaged in device development and manufacture, utilities and developer interests (including ten major developers engaged in offshore wind), professional firms and academic researchers.

For further details, please go to the Association's web page, www.mria.ie . Also, please see Twitter at @Marineireland.

Overarching themes

The following themes underpin the MRIA response to the Consultation:

- The 2030 target of at least 5GW COD is challenging in light of the time available; (lack of) readiness of institutions e.g., MARA and of policies e.g., in respect of Marine Protected Areas (MPAs). It is critical, therefore, that Government should establish MARA in early 2023 and, also, that it clarifies its plans with regard to MPAs soon
- Developers have shareholders to contend with, shareholders who are already concerned by delays and uncertainties in Irish offshore renewables. The 'cliff edge' approach (e.g., the 'hard stop' at 2030) which pervades the Consultation will add to shareholder concerns and must be ameliorated inter alia to ensure both a competitive field at the ORESS auctions and a flow of projects. Project flow is necessary to meet ORE policy goals and to encourage and sustain the emergence of a local supply chain
- While recognising that the 2030 target is Government policy, the Association also considers that the expiry of current State Aids' approvals in 2025 is playing a part in driving this policy
- Grid questions - e.g., the need to address 'hybrid' issues; a policy target (at least 5GW ORE by 2030 as set out in the Climate Action Plan) that requires utilisation of *all* available capacity; concern about the social acceptance practicalities of delivering 58% of the minimum 5GW target from the Wicklow and Dublin offshore areas - are a major concern.
- A much higher level of ambition is required for grid e.g., through investment in early-delivery new capacity to support ORE and the resolution of 'hybrid' issues which could, in principle, free up extra grid capacity
- Floating Offshore Wind (FLOW) has a part to play in achieving targets under Phase Two and beyond. FLOW together with Wave (and, from a separate viewpoint, Tidal) are a key to generating jobs and income. This will arise via exports from industrial facilities

located in coastal areas leading to social acceptance of ORE as well as generating technology to exploit the Atlantic wave resource and contributing to grid balancing.

- MAC awards must be made to ORE projects generally (including in FLOW) as soon as possible. Such awards should not be constrained either by the Consultation target (5GW COD by 2030) nor by the *Shaping Our Electricity Future* grid capacity assessment (also 5GW) given potential changes to both that might be identified going forward.
- Issues around ORESS terms etc can be resolved at a later date but MACs will be needed shortly for all 2030 delivery projects to allow time for surveys, planning etc and the same will quickly apply too to Enduring Regime developments
- There are indications that the current 'State Aids' approval under which Ireland would support e.g., separate 'pots' within ORESS2 for categories other than Bottom Fixed Wind (BFW) may need amendment to enable the inclusion of e.g., a FLOW 'pot'. MRIA recommends that this matter be reviewed urgently by the Department of Environment, Climate and Communications (DECC)
- On the negative side, a failure to involve FLOW (as well as early Wave and Tidal and enable MACs for nongrid offtakes involving offshore wind) in Phase Two could see the new technologies postponed off the Irish coast until the 2030s - the implementation of the work in train under OREDP2; the introduction of zones; the complexity that will arise with a vigorous new Marine Protected Areas designation policy etc are all complications that could arise and drive such a delay.
- Such a failure will inter alia ensure that Ireland foregoes the opportunity to build a global supply chain in the new technologies which in turn may undermine efforts to build a 'Social License to Operate' for ORE generally among offshore stakeholders. An alternative approach - to undertake an ORESS3 post 2025 (e.g., in 2027 under an extended State Aids approval) specifically for the new technologies - is undesirable in light of the argument just set out
- MRIA recognises that MACs should be technology agnostic and that the strength of project submissions should be a key underlying decision-taking principle for MARA
- The dilemma ultimately posed by the Phase Two Consultation may be summarised as: how to reconcile the policy need to generate at least 5GW ORE from just 5GW of grid capacity while ensuring an open competition for ORESS2 (Bottom Fixed Wind projects will provide the lowest LCOE at the current stage of technology development) and, at the same time, providing an opportunity to engage FLOW in particular at scale by 2030.
- *MRIA, with the support of its developer Members, suggests innovative policy initiatives in response to this dilemma at 11 below*

Outline responses to questions posed in the Consultation

1. Which is your preferred option and why of:

A. THE ABOVE OPTIONS?

- Irrespective of which option is chosen, the Association urges DECC to clarify quickly whether or not a Strategic Environmental Assessment (SEA) is required in respect of sites being sought by developers

- The Association recommends that DECC consider the need for, at least, an SEA screening in line with the requirements of the SEA Directive as part of the Phase Two process.

B. THE ABOVE OPTIONS, VARIATIONS OF SAME, AND OTHER POSSIBLE OPTIONS WITHIN THE PARAMETERS OUTLINED IN THIS PAPER, PARTICULARLY SECTIONS 3 AND 4?

Options A and B

- A pre-qualification process is needed in 2022 in order to manage the Department's and EirGrid's resources in advance of a competitive MAC process.... but this may not be legally possible. As an alternative, DECC should issue 'draft regulations' (they would come into force only when MARA is legally in operation) dealing with the qualification criteria for Phase Two. This would help MARA to assess and issue MACs to Phase Two projects, at least, early in 2023
- It would also enable potential developers to prepare e.g., their MAC applications now, would help de facto to filter the number of projects down to those which possess appropriate technical and financial ability as well as being able to demonstrate a project programme that can achieve the 2030 target. It would reduce the administrative burden on MARA since, if an applicant drops out at the pre-qualification stage, MARA will not need to carry out assessment of that application.
- Options A and B are similar except insofar as B. provides for a competitive process operated by MARA, rather than a pass/fail assessment, of MAC applications
- One critical issue is exclusivity, and terms of exclusivity, once the seabed levy auction is complete.... but see our views at 3B. The other critical issues are: timing to get in place the IT infrastructure needed for a seabed levy auction if that path is chosen; lack of an appropriate Strategic Environmental Assessment and identified areas to bid on; concern about 'losing' a possible site to an MPA
- Overall, the Irish context is not ideal for competitive seabed levy auctions. See 3B later. Moreover, if Phase One projects roll over into a Phase Two ORESS auction, it would give the successful Phase One developers a competitive edge.
- The combination of a seabed levy and a development levy is onerous and fails to take account of development expenditure by developers. They are both a rent for the use of a segment of seabed
- The rate proposed for the development levy (€20k per Km^2) is unreasonable and will contribute to (already high) investor concerns. A rate of c10-12k per Km^2 pa is recommended and is the preferred option for leasing seabed areas rather than a seabed levy auction process
- A second and core issue is timelines e.g., for assessments and competitions. A 'stop clock' must be built in to the option chosen by Government to take account of circumstances where development is held up for reasons beyond a developer's control
- Equally, timelines must be set for the normal operation of the various public authorities involved with ORE: MARA, An Bord Pleanála etc
- Third, MRIA believes that ORESS2 *candidates* should be required to hold a development consent from An Bord Pleanála in advance of auction including ORESS2.

- This condition would serve several purposes. It would:
    - reduce the risk of attrition among successful ORESS2 applicants due to post auction planning consent issues
    - considerably reduce developer-risk in the ORESS2 auction which would result in lower bid prices and best value for the consumer
    - increase the likelihood of the available grid capacity being utilised and give greater certainty to all stakeholders
    - energise the public regulatory system to deal with ORE urgently and help to drive their efforts to recruit the necessary staff and expertise
    - bring ORESS2 into line with ORESS1
- Finally, MRIA considers a 'reserve' listing for grid allocation as unrealistic and unworkable. It is unlikely, given the timeframe available, that projects on a 'reserve' list (even if there were developers willing to go on such a list) could be delivered by 2030. Developers are unlikely to continue the development of a project at pace if that project is dependent on another developer's project with an ORESS award being cancelled!

Option C

- This option is not acceptable to the Association
- The process involved might actually increase shareholder expectations and, thus, risk for developers
- It introduces a further significant risk: ORESS bids would, by definition, be based on less-than-optimal information about potential cost e.g., due to lack of data about ABP conditions which may have cost implications
- Suggestion of an 'auction eligibility' requirement as indicated for site investigation would de facto be a 'MAC lite' requirement and would introduce delay and additional cost
- This option is particularly incompatible with the 2030 targets, given the level of speculative bids that are likely and the level of attrition and potential for volume sterilisation

Option D

- The Association does not favour this option
- It would be complex to apply and would, most likely, overstretch the limited resources available to MARA
- It doesn't take account of the cost of preparing bids for multiple sites and it introduces further delay possibilities
- Limited grid availability, as set out in *Shaping Our Electricity Future*, makes the likelihood of multiple parties being able to connect - bearing in mind that the minimum economic scale of individual projects amounts to c300MW + - at one connection point unrealistic, in some instances, at least

2.Option A proposes that a deployment security is required for to apply for a MAC in Phase 2.

A. How should the security be calculated and what rate should apply? If the security was to calculated on the basis of planned capacity, what rate should apply?

- Three constant themes of this Submission are that 1. the Irish ORE opportunity pre-Enduring Regime is small by international standards 2. the timeframes to develop projects under both Phase One and Phase Two are very tight and, therefore, 3. Irish ORE developments are deemed high risk
- MRIA is not supportive of a deployment security requirement, given the uncertainties that already exist around timelines and the consequent investor risk
- One possible alternative to a deployment security would be to have a 'project readiness for 2030 criteria' in the MAC assessment criteria - see 3B below

B. Should the security be required to be in place prior to application for a MAC or post-issuing of a MAC? If post-issuing, what is a reasonable timeframe?

- The issues raised in the first point in 2A above apply here too
- The imposition of a security levy in advance of MAC would raise the already high-risk profile of Irish ORE developments and may reduce the pool of potential applicants and, therefore, competition, thus leading to sub-optimal ORESS auctions and, potentially, a higher LCoE of ORE
- It adds complexity to ask so many parties for money up front.... only to hand it back again if they are unsuccessful in a MAC

C. Under what terms should this security be drawn down?

- We do not favour deployment securities. It should be noted that this regime does not apply to Phase One projects and a 'level playing field' principle should apply to Phase Two as well
- Developers cannot be held to account where interruptions are incurred due, for example, delays by consenting authorities or by court cases challenging decisions by consenting authorities (e.g., MARA, An Bord Pleanála) etc
- This highlights the need for timeframes to be set for each stakeholder - developers, public authorities, EirGrid - and not just for developers alone

D. The security, as proposed, expires with the securing by a project of a route to market. For projects successful at ORESS 2, this is also the stage when the auction performance security is due be put in place. Would it be beneficial for the deployment security to be rolled over towards the RESS performance security? How best this be managed?

- MRIA do not favour deployment securities

E. What other terms should apply to this security?

- -

3. Option B proposes a competitive MAC process.

A. What assessment criteria should be used in this process? What should the weighting of this criteria?

- MRIA agrees broadly with the criteria set out in the Consultation but see below
- To mitigate the risk of delays, Phase Two MACs should be processed in early 2023 with draft guidance on competitive MAC criteria to issue as early as possible in 2022. Also, see 1. above
- Currently, *Shaping our Electricity Future* lacks ambition. However, any revisions to this plan should be undertaken quickly and not create a further barrier to the early implementation of Phase Two. See also 11 below.
- Clarity is required on a number of issues: Site investigation works *(practical requirement for assessment is what?)* or other preparatory work undertaken, including stakeholder engagement (*ultimately, the latter is a matter of subjective judgement and could lead to endless debate e.g., what is the impact on the assessment of negative public reaction, at least from some parties, which is probably inevitable*)
- See 2A above also

B. Should a seabed levy auction be included in this assessment? What weighting should the auction result have?

- A seabed levy auction is a transparent method of allocating a site among competing developers in locations where Strategic Environmental Assessments have been carried out and identified for bidding. If DECC are considering a UK Round 4 or US - style seabed levy auction approach, then MRIA would be concerned as to whether this is a practical option without seeking further clarification on how it might work in the Irish context.
- In fact, MRIA recommends that there should be a fixed seabed levy and that, therefore, the seabed levy should not be among the criteria adopted to allocate seabed among competing developers. This would ensure that a consistent approach to ORESS is taken for both Phase One and Two projects.
- In instances where two or more developers are competing for a specific site, then an auction may be required but only as a last resort. For example, where there is overlap, but not totally so, between developers' specific site ambitions, then MARA should be directed to negotiate a solution between them if possible - an approach followed by the Crown Estate in regard to the recent ScotWind round
- The financial component must not be the exclusive determinant of seabed allocation. The 'biggest cheque book' wins approach is undesirable and also fails to take into sufficient account the Schedule 2 requirement under the MAPA which refers to an assessment of "whether the relevant person, or a person acting for or on behalf of the relevant person in the relevant person's capacity as such, has (or has access to), or continues to have (or have access to), as the case may be, the requisite technical knowledge or qualifications, or both, to undertake the proposed maritime usage, or continue to undertake the maritime usage, as the case may be"

C. Should a deployment bond be maintained under this option? Why, or why not?

- A deployment bond is not favoured by the Association under any heading for the reasons which have already been set out: an increase in investment risk to developers and their backers in a situation where the COD deadline is already exacting in light of the late start to establishing institutions, legislation and policy

4. All of the above options assume that Phase One projects retain their MACs for Phase Two.

A. Is this the correct approach? Why?

- The Irish ORE opportunity under Phases One and Two is cumulatively small at a time when other jurisdictions are offering, long term, large-scale opportunities within a well-established policy and institutional envelope e.g., Scotland
- Moreover, Phases One and Two are relatively high risk, particularly Phase Two, given the COD timelines
- Accordingly, the challenge will be to attract and retain the interest of sufficient credible developers to provide a real competition for ORESS2
- Given the potential for 'drop outs' from the winners of ORESS1 and 'drop outs' from both the ORESS2 competition and subsequent successful field for ORESS2, it would be self-defeating for the State to rule out unsuccessful Phase One applicants with MACs from participating in Phase Two
- The 'cliff edge' approach prevalent throughout the Consultation is unhelpful and, if maintained, will render it difficult, if not impossible, for developers to raise construction finance

B. Would requiring Phase One projects that are unsuccessful in securing a route to market, within a specified timeframe, to re-apply for MACs result in a better outcome for the sector, the State and consumers? Why?

- No, for the reasons set out above
- The key issue at all times is to attract a sufficient field of credible candidates to apply for Phases One and Two in what is deemed internationally as a relatively high-risk market due to historical issues (lack of a consenting system etc) and to the untried and untested nature of the system now emerging, new institution (MARA) etc
- This proposal might have the practical effect of *reducing* the competitive field which is not in the interest of any stakeholder

C. If Option D was selected would this require unsuccessful Phase One projects to relinquish their MAC before ORESS 2? If so, should these projects be given any preference such as a right of first refusal if they match a winning bidder's terms for their MAC area?

- MRIA does not favour Option D
- In the event this Option is chosen, similar arguments to those put forward earlier in regard to other Options apply here

- In short, placing obstacles in the way of genuine developer applicants who are willing to invest significant sums in the application process is not in the interests of the sector, the State or the consumer
- However, we do not favour giving unsuccessful Phase One projects preferential rights under Phase Two as this, again, reduces competition and disadvantages other stakeholders

5. To incentivise swift deployment, discourage speculative hoarding of the marine space, discourage MAC applications by projects incapable of delivering by 2030, and facilitate the coherent transition to a plan-led Enduring Regime, it is proposed that all MACs awarded in Phase One and Phase Two will expire prior to the Enduring Regime, should the holders of these consents be unsuccessful in securing a route to market.

A. Is this the correct approach? Why?

- No, expiry of MACs prior to the Enduring Regime is unworkable as projects may not be able to raise finance with this 'cliff edge' present. Clarification on DECC's thinking about proposed MAC timeframes and processes is also required to address the uncertainty in this area
- The current intention is to operate the Enduring Regime within Designated Maritime Area Plans i.e., zones which will be determined following the data collection and analysis exercise involved in OREDP2
- This in itself will have an impact on the number of Phase Two applicants able to 'roll over' into the Enduring Regime as their projects may not be located in the DMAP(s) chosen for a specific Enduring Regime ORESS auction(s)
- The holders of MACs under Phases One and Two should retain those MACs for the Enduring Regime insofar as being excused a second round of Fit Person etc due diligence (given reasonable DECC requirements to reconfirm an original positive rating in areas such as finance)
- A project with a route to market should be allowed to retain their MAC and to proceed regardless of the date of consent and assuming that the ORESS terms can still be met.
- Overall, a (new) 'Transition Protocol' may be required to enable Phase Two projects to extend into the Enduring Regime period. A balance should be struck between enabling 'hoarding' (which would tie up sites and grid capacity) and a 'cliff edge' which poses a major investment risk and may de facto reduce the number of ORESS applicants and, thus, potentially competitiveness and lead to a higher LCoE.
- In the absence of any information regarding how the Enduring Regime will work, it makes it difficult for developers to properly assess the risks for Phase Two projects, particularly where there will be a 'hard stop'.
- The approach is unrealistic and fails to acknowledge that, with the involvement of Phase One, there is already an acceptance of the principle of 'spill over'. The proposed staged approach to ORE development must recognise and account for previous Phases - the development of outline frameworks of each Phase is needed and these should be linked and enable long term planning.

B. Would this approach incentivise deployment and/or discourage hoarding of the maritime space?

- The approach advocated, but modified as per the comments above, would discourage maritime space hoarding.
- It may encourage deployment by successful applicants under Phases One and Two but reduce the field of participants in ORESS2
- The focus of the Enduring Regime on zones will reduce the value of maritime space hoarding outside of *the* zone which is the focus of a specific ORESS at any particular time (assumes ORESSs under the Enduring Regime are confined to one zone at a time).
- A clear roadmap of 2030-2050 is now required, at a much earlier stage than was envisaged when strategies such as the Climate Action Plan were drawn up, to ensure the viability of Phase Two projects in light of any proposals for the Enduring Regime.

C. Would this approach discourage MAC applications in Phase Two from projects with poor pre-2030 deliverability?

- Yes
- However, MRIA are opposed to the 'cliff edge' philosophy which permeates the Consultation.
- There is a risk that projects generally will not be able to secure financing for the construction stage while a 'cliff edge' is in place. A suitable extension for valid reasons (e.g., 'project continues to make progress') should at least be permitted.
- Notwithstanding the fact that at least 5GW COD by 2030 is Government policy, provision should be made for individual, phased projects i.e., developments which commit to, say, xGW COD by 2030 and yGW COD on the same site by, say, 2032. This approach would reduce the risk involved for developers; increase economies of scale and, thus, make for more competitive ORESS auctions. It would entail a higher COD target for the period to 2032 but would help to reduce the 'cliff edge' effect. See also our suggestions under 11 below. Nonetheless, MRIA recognise that 'phased projects' are a complex issue which should be considered and determined during the 'interim' period between now and the completion of ORESS1 - see 11 also.
- It should not have an impact on the timing of the Enduring Regime, introduction of DMAPs etc but rather overlap for perhaps two years with the distinctly different approach of the Enduring Regime.

6. What are your views on providing provisional grid offers to projects in the case where all projects receiving such an offer will not be able to obtain a full grid offer?

A. How can and should the award of full grid offers be tied to the auction result?

- Grid offers should be ratified automatically upon confirmation of ORESS auction results (i.e., firm offers to all successful auction participants). The entry criteria to ORESS2, as argued at 1A above, should include development permission. However, the approach suggested here does not account for 'other routes to market' e.g.,

PPAs and further clarification is sought on how to allocate grid, if required, to projects *not* entering an auction.

- The high investment risk profile of Irish ORE already prevalent would be increased by the introduction of further uncertainty such as lack of grid availability to 'winners' at ORESS auctions
- In addition, 'firm grid allocation to ORESS2 winners' would ultimately reduce the workload on EirGrid and make best use of the limited resources there
- Preliminary offers of grid are required at an early stage (in 2023, post MAC allocation) to assess the grid route and, generally, to enable the consenting ('planning permission') process. The preliminary offers to projects should become 'exercisable' once those projects secure ORESS2 or an alternative route to market
- Overall grid capacity is limited and over-concentrated (on the Dublin-Wicklow coast), necessitating flexibility to achieve full grid utilisation. Early treatment in the overall process of 'planning permission' - as suggested at 1A above - could help to mitigate this issue
- MRIA believes that a new dynamic is required in relation to grid - one possibility would seek the opening up hybrid opportunities - see 10. below

B SHOULD THE AWARD OF FULL GRID OFFERS BE TIED TO THE AUCTION RESULTS?

- Those who win at ORESS auction (which under our proposal as set our earlier requires a prior development consent) should be guaranteed a grid connection as a general principle

C. SHOULD ALLOWANCE BE MADE FOR PROJECTS THAT DO NOT EFFECTIVELY COMPETE IN THE AUCTION BUT SHARE A PRELIMINARY CONNECTION OFFER WITH PROJECTS THAT DO TO REMAIN ELIGIBLE FOR A CPPA ROUTE TO MARKET?

- No
- Priority must be given to projects successful at ORESS2 and any consideration for projects unsuccessful at auction to identify alternative routes to market must take this position into account and should at least be time-limited
- Clarity is required as to how EirGrid would otherwise determine which project should be given a connection priority to ensure a fair and equitable process.
- Overall, the scenario set out creates extra complexity and risk for developers and will impact on 'bankability'

7. What are your views on auctioning capacity at particular grid nodes or regions in ORESS 2?

A. HOW SHOULD THIS OPERATE? SHOULD SUCCESSFUL PROJECTS BE REQUIRED TO SUBMIT ORESS 2 OFFERS THAT CLEAR BOTH THE OVERALL AUCTION AND THE AUCTION FOR A GIVEN GRID NODE OR REGION?

- MRIA does not favour this approach but, given the grid limitations and distribution of grid availability (as per *Shaping Our Electricity Future),* facilitating regional competitions within the auction process possibly may merit further consideration to ensure maximum utilisation of grid.

- The core challenges of the limited time remaining to target COD; the unknown impact of public reaction etc at the consenting stage; the unknown impact of MPAs; and the limited grid capacity all point to the need to keep the approach simple
- The requirement posited - to clear at both national and node or regional level - is likely to lead to confusion and unintended adverse consequences. The Association favours the use of the word 'region' exclusively in this context as 'node' is too narrow a term to employ for grid allocation purposes in an Irish context
- Moreover, the baseline capacity set out in *Shaping Our Electricity Future* is limited and does not lend itself to a complex system of allocation
- Non-ORESS routes to market such as PPAs may not figure to any significant extent in the time period of ORESS One and Two though this situation may change rapidly so consideration must be given to how to accommodate 'other routes to market'.

B. SHOULD ANY NODES OR REGIONS BE RESERVED FOR NON-ORESS ROUTES TO MARKET?

- The Association does not recommend any regions or nodes are reserved for ORESS or Non-ORESS routes to market as it is unduly restrictive. Clarity is required on the benefits of reserving nodes or regions in this manner.

8. In order to utilise grid capacity realisable by 2030 in totality, most options require the award of greater capacity in ORESS 2 than is realisable by 2030, and establishing reserve projects on grid orders of merit, possibly grid region.

A. HOW SHOULD THIS OPERATE? SHOULD SUCCESSFUL PROJECTS BE REQUIRED TO SUBMIT ORESS 2 OFFERS THAT CLEAR BOTH THE OVERALL AUCTION AND THE AUCTION FOR A GIVEN GRID NODE OR REGION?

- It is unlikely that this can work (i.e., seeking clearance of both national and local hurdles) without creating significant complexity and, possibly, delay
- If it is decided to adopt this approach, CRU could be charged with identifying a mechanism (some form of 'must not exceed' strike price) which ensures a minimum 'value for money' in each regional competition without seeking achievement by applicants of both regional and national price hurdles

B. SHOULD ANY NODES OR REGIONS BE RESERVED FOR NON-ORESS ROUTES TO MARKET?

- Although not strictly a non-ORESS route to market, it should be noted that provision should be made for Emerging Experimental Technologies (which are most likely to be in the Wave category), perhaps concentrated in Area E and an allowance for small Tidal device experimental projects around the coast
- This would require a resolution, <u>but on a very small scale</u>, of the hybrid issues identified in the Consultation - see 10. below - and a very small ORESS allocation

C. WHAT OBLIGATIONS SHOULD BE PLACED ON RESERVE PROJECTS AND WHAT, IF ANY, COMPENSATION SHOULD BE PROVIDED?

- All development monies and securities drawn down should be compensated to the developer
- There should be no bonding requirements applicable to reserve projects.

D. How should reserve projects be serviced so that they can proceed if required?

- MRIA is not convinced that the reserve concept can work readily in light of the short time frame to COD required and the unlikely 'bankability' of such a concept

E. How should reserve projects be held to the terms of their ORESS2 offer?

- Reserve projects will not be able to raise funds on the basis of terms such as a requirement for deployment securities being set

9. Option D outlines an auction with mutually exclusive offers and multiple bidders specifying the same MAC area and/or connection point allowing multiple bidders to specify the same MAC area and/or grid node/region and using ORESS 2 results to allocate the MAC area and/or grid node/region capacity.

A. What are your views on the feasibility of this option? What are your views on the feasibility of solving the auction using an optimisation approach?

- This is far too complicated and would be perceived as raising the already high-risk profile of Irish ORE substantially
- These points are enhanced by reference to the already tight timeframe for delivery of Phase Two

10. Hybrid grid connections are defined in this paper as single grid connections which facilitate the connection of both an existing or proposed thermal generation plant and a proposed offshore wind project.

A. Do you support the facilitation of such connections, as defined? Why?

- Yes, but it should be noted that there are indications which suggest that the volume of capacity from thermal stations is quite complex to assess
- Significant grid connection opportunities on the Celtic Sea coast and the south west Atlantic coasts may lie at hybrid connection points
- The amount of grid capacity available to support Phase Two is limited and is over-concentrated on the East coast, specifically off Dublin and Wicklow, with potential for adverse public reaction, ABP issues etc
- Efforts should be made to bring the hybrid connections 'into play'
- In fact, if all thermal stations close to the coast are taken into account, significant further grid capacity might be potentially available if the issues outlined at C. below can be resolved
- The Association requests early clarification of DECC's intentions regarding the treatment of hybrid connections.

B. ARE YOU AWARE OF ANY OTHER JURISDICTIONS WHERE SUCH CONNECTIONS ARE PERMITTED? DESCRIBE HOW HYBRID CONNECTIONS ARE TREATED FROM A TECHNICAL AND REGULATORY PERSPECTIVE IN THESE JURISDICTIONS.

- None found of the nature outlined in the Consultation but there are many versions internationally of hybrid connections in terms of a more general definition

C. ARE THERE POTENTIALLY UNINTENDED CONSEQUENCES ASSOCIATED WITH PERMITTING HYBRID GRID CONNECTIONS, SUCH AS POTENTIAL IMPACT ON GRID SYSTEM SERVICES PROVIDED BY THE ASSOCIATED THERMAL PLANT OR POTENTIAL IMPACTS ON THE RELIABILITY OF THE THERMAL PLANT?

- There are three separate issues here:

I. Possible technical issues associated with switching from thermal to ORE and vice versa on a frequent basis. *It should be possible to determine this and to identify solutions via an early study by technical experts*

II. The competitive issue including the thermal plant owners being de facto 'penalised' by virtue of 'their' grid connection being opened up to commercial rivals. *It should be possible for CRU to examine this and devise a fair solution. However, this may not directly arise as it may be possible for ORE to connect from an adjacent transmission bay*

III. The continuing importance of the thermal stations in light of demand growth; uncertainty over gas supplies; delays in delivering Phases One and Two. *This is the heart of the matter but at least an independent study (see 10 C. I above) should establish the validity and scale of this argument*

D. HOW SHOULD PROPOSED PROJECTS WITH HYBRID CONNECTIONS BE TREATED SO AS NOT TO DISTORT COMPETITION OR AFFORD UNDUE COMPETITIVE ADVANTAGE TO THE INCUMBENT OWNERS AND OPERATORS OF THE ASSOCIATED THERMAL GENERATORS?

- CRU should be charged with identifying options following a formal consultation with stakeholders and a review of international practice

- At the centre of the solution will lie a determination with regard to which connection at a hybrid connections should be dealt with in terms of priority dispatch.

E. DO YOU SUPPORT THE FACILITATION OF SUCH CONNECTIONS, IF THE DEFINITION WAS ADJUSTED TO, E.G., AN EXISTING OR PROPOSED ONSHORE BATTERY, SOLAR OR OTHER GENERATOR?

- The core issues are to open up the capacities at the hybrid connections to ORE and to facilitate a minimum of 5GW ORE COD by 2030
- Given the provisions within the CAP and the Annex of Actions, MRIA does support hybrids in the wider context indicated

11. Should any special allowances for innovation technologies be included in the Phase Two process?

A. What technologies should be provided with special allowances and why?

- A distinction should be drawn here between:
    - Emerging Experimental Technologies (EET), notably wave and tidal energy and
    - Emerging Commercial Technologies (ECT). The prime example in the immediate term is Floating Offshore Wind (FLOW)
- The reasons for supporting these technologies are argued below in B

B. What allowances should be made? At what stage(s) of the Phase Two process? Should capacity be reserved in the MAC and ORESS processes for any of these technologies?

Emerging Experimental Technologies

- MRIA's observations will be confined here to Wave and Tidal energy but recognises the possibility of further new technologies, notably offshore solar
- Ireland has Europe's premier wave resource and real expertise in tidal energy too through firms with global opportunities (notably in the UK which has 50% of Europe's tidal resource and a revenue support scheme for this new technology) such as ORPC, Verdant Power and GKinetic. The local tidal resource is limited other than off the Antrim coast.
- Lying alongside the energy resource is the intellectual and potential industrial support resource represented by the R&D facilities at the Lír National Ocean Test Facility, the MaREI programme, the test facilities at Galway Bay/ Belmullet/ Strangford Lough and the expertise at Queens University Belfast e.g., the Bryden Centre.
- Fulfilment of Ireland's long-term ambitions in ORE will require a balanced portfolio involving Wave and offshore wind technology and hybrids of the two, all of which can contribute to 'balancing' a grid capacity which will be based largely on renewables by the 2030s
- Studies to date show that Wave and Tidal can both contribute significantly to grid balance and, indeed, reductions in the cost of dispatched electricity - see Appendix for extracts from two such studies. Also, see the seminal article on this issue in an Irish context by Ringwood et al[1]
- Social acceptance of ORE will inter alia depend on a parallel industrial spin off/job creation in coastal communities at both the device manufacturing and the O&M stages.
- Given the limited scale of the local BFW opportunity and the maturity of the related device manufacturing industry, it is unlikely that Ireland can attract significant industrial (e.g., manufacturing) opportunities in Bottom Fixed Wind
- On the other hand, FLOW and green hydrogen (see below) and Wave and Tidal in particular are at an early stage where dominant manufacturers and industrial locations have yet to be determined

[1] **Fusco, F., Nolan, G.A. and Ringwood, J.V. *Variability reduction through optimal combination of wind/wave resources - an Irish case study*, Energy, Vol.35, No.1, Jan. 2010**

- The scale of the wave resource, the quality of the early Wave and Tidal companies and the extent and reputation of institutions such as Lír should attract new investment from both domestic and FDI resources, given engagement by Enterprise Ireland and the IDA
- The key requirement, however, at this stage is to provide an 'ecosystem' of support for the deployment of pilot devices.
- This would be in line with EU ambitions: the Commission has set a target of 100MW of pilot devices in Wave and Tidal to be deployed by 2025 and full commercial activity by 2030 - an EU target of 1GW deployed by 2030 has been set and this can only be fulfilled at scale at a small number of EU locations including Ireland due to the geographical concentration of the wave resource
- The bulk of the c250 (small) companies globally engaged in Wave and Tidal device and component development are European where the majority of patents world-wide in this field are held.
- The Commission is backing up its targets, and its nascent industrial ambitions in this field, with the recent easing of 'State Aids' rules for pilot devices and support being offered under four separate headings for Wave and Tidal projects in the latest draft Horizon Europe Work Programme 2024/25
- Moreover, SEAI is considering inter alia Wave and Tidal under a possible new approach to national energy R&D support currently under review
- To maintain and capitalise on its leading position (resource/R&D/test facilities) in Wave energy (and, at an industrial level, Tidal energy), Ireland needs a revenue support mechanism for Wave and Tidal pilot projects
- MRIA recommends that a separate 'pot' of 70MW for Wave and Tidal be reserved under ORESS2
- Given that this approach (a separate 'pot') is accepted, discussion will need to take place quickly on tailoring (within the boundaries of MAPA etc) a Scheme to support the EETs e.g., the proposed regime of Deployment Securities etc in the Consultation are totally **unsuited** to small pilot demonstration projects in pioneering technologies promoted by, typically, small companies with very limited resources.

Emerging Commercial Technologies

- The principal ECT of interest to Ireland is Floating Offshore Wind (FLOW)
- FLOW is a rapidly maturing technology and will form the offer of several potential applicants under Phase Two. It is noteworthy that 60% of the 24GW capacity awarded under the recent ScotWind seabed allocation competition is for FLOW projects while 4GW of FLOW in the Celtic Sea off Wales is provided for in UK ORE plans and policies.
- FLOW is vital to Ireland's offshore renewables plans in light of the limited sea space available for Bottom Fixed Wind (BFW) due to the water depths prevalent around Irish coasts - BFW is limited at maximum to 70m water depths
- FLOW is the only *wind* technology, therefore, that can exploit the bulk of the Celtic Sea and Ireland's Atlantic waters.
- Given its ECT stage of development, FLOW cannot compete on a 'level playing field' basis at present with BFW. The positive trend in cost competitiveness of FLOW, however, should be noted and is illustrated in the OPFLOW report (see Appendix) which was funded by SEAI.

- To involve FLOW in Phase Two requires either a reserved ORESS FLOW 'pot' which would, by definition, reduce the capacity available to open competition (notably in respect of Bottom Fixed Wind) if drawn from the overall 5GW of grid capacity currently deemed available. One alternative lies in the provision of a 'weighting' arrangement which in theory would place FLOW and BFW on an equal, competitive basis but which would be very difficult to devise and, therefore, is ruled out by MRIA
- Action 115 of the 2021 Climate Action Plan states "Facilitate the development of offshore wind, including the connection of at least 5 GW of offshore wind, based on competitive auctions, to the grid by 2030". The 5GW target in the Phase Two consultation is, on this basis, therefore, a *minimum* to be achieved and not a cap.
- The indicative schedule of auctions published by DECC (https://www.gov.ie/en/publication/8b63a-renewable-electricity-support-scheme-schedule-of-future-auctions/) provides for two offshore auctions with indicative volumes of between 22,500 and 35,000 GWh. This translates into a capacity (based on an EirGrid assumption of 45% capacity factors) of between 5.7 and 8.8GW. This means that, from an auction perspective, DECC could contract significantly more than 5GW of offshore wind. A schedule of (frequent) auctions should be included in the roadmap referred to at 5B
- *Shaping Our Electricity Future* states that there is only capacity available for 5GW of offshore connections and, crucially, indicates limited availability off the south coast and none off the south west coast. There may be, however, scope for additional grid connections on both coasts (e.g., 400MW off Clare) that would provide 'headroom' for additional capacity and much of this capacity could only be utilised by Floating Offshore Wind due to the related depths to seabed in those areas
- Failure to involve FLOW and the other new technologies in Phase Two could see them postponed off the Irish coast until the 2030s. As argued at the outset, the implementation of the work in train under OREDP2; the introduction of zones; the complexity that will arise with a vigorous new Marine Protected Areas designation policy etc are all complications that may arise and drive such a delay.
- Ireland would be in danger of foregoing the opportunity to build a global supply chain in the new technologies which in turn will undermine efforts to build a 'Social License to Operate' for ORE generally among offshore stakeholders.
- Moreover, Ireland needs early experience, in a high-RES environment, of the grid balancing attributes of the EETs in particular.
- We recommend not limiting MACs to the minimum required to match theoretically a total of 5GW of grid capacity. More seabed will need to be leased to developers to accommodate the 2030 target.
- MRIA believes that there should be one auction for Phase Two and that this auction should provide for BFW, EET and ECT in three separate 'pots' with an overall target of at least 5.87GW
- This approach would work as follows:
    - A total minimum requirement of 5.87GW to be dealt with under ORESS2 - 5GW ringfenced for BFW; 0.8GW for FLOW; .07GW for EET
    - ORESS1 takes place
    - Balance of the 5GW ringfenced for BFW in ORESS1 to be 'reserved' for BFW in ORESS2

- In the interim period, between now and the completion of ORESS1, EirGrid 'seeks' the extra 0.87GW sought under this approach
- CRU should be engaged in this process alongside EirGrid to ensure that, so far as possible, an equitable and economic solution is devised
- ORESS2 takes place and this one auction covers three separate 'pots':
    1. Balance leftover from ORESS1 of the 5GW ringfenced for BFW - this is reserved in ORESS2 for BFW
    2. 0.8GW reserved for FLOW (plus provision for FLOW to take on any shortfall of take-up by BFW of its reserved allocation)
    3. 0.07GW reserved for EET

- There are 'nongrid offtakes' projects in the pipeline They involve offshore wind farms generating electricity to enable e.g., hydrogen production. See also D below
- However, MAC applications from nongrid offtakes projects involving offshore wind farms should be processed prior to ORESS2 taking place i.e., they should be accorded the same priority for MAC decisions as projects entering ORESS2 to generate electricity for mainstream domestic market consumption.
- This suggestion arises from a concern that MACs for nongrid offtakes projects will otherwise be delayed until after ORESS2 and that opportunities already underway will be lost if the approach advocated above is not adopted
- The methodology suggested for ORESS2 has the following advantages. It:
    - is in line with both the 2021 Climate Action Plan and the DECC auction schedule
    - *improves* the chances of delivering the minimum 5 GW target (in light of all of the challenges cited earlier in this Submission) and enables early support of Wave and Tidal) due to the greater capacity - at least 5.87GW - involved
    - diversifies the solution to the 2030 target in terms of technology and geography
    - 'kick starts' the FLOW supply chain and may provide significant income creation and jobs to help offset the additional cost associated with supporting FLOW in particular.
    - ensures sufficient competition between FLOW projects to maximise potential auction benefits while at the same time facilitating at least two projects of an appropriate scale

- One concern about the single auction format is that projects could wait for a long period before the 'last project' (i.e., the one that is required for a competition ratio to be met) is ready. The Department's views on how this can be addressed are sought
- MRIA would *ultimately* like to see a frequent auction system instigated in Ireland with transparency over the amount allocated to each of the subsidy pots and the amounts in the subsidy pots that can be rolled over to the following auction.

C. SHOULD THESE TYPES OF PROJECTS ALSO BE REQUIRED TO DELIVER BY 2030?

- Yes, but with the strong caveats expressed at 11.B above

D. WHAT LEVEL OF OFFSHORE WIND CAPACITY COULD BE DEPLOYED BEFORE AND AFTER 2030 THAT DOES NOT DEPEND ON THE IRISH GRID FOR OFFTAKE? I.E., GENERATION THAT IS INSTEAD UTILISED FOR NON-GRID OFFTAKES SUCH AS GREEN FUEL GENERATION OR EXPORT BY CABLE TO ANOTHER JURISDICTION?

- Export by cable to other jurisdictions will be an important element of Ireland's longer term energy position but it may be restricted to 2030 by the limited potential offered by existing and currently in-train interconnector developments
- Nonetheless, 'capping' offshore wind generated electricity exports at this stage would be counter to the ambitions of the Government to establish Ireland as an exporter of energy and would stifle innovation
- Green fuel generation depends on the development of economically competitive green fuel technology and the most likely candidate here is green hydrogen
- Green hydrogen presents potentially significant opportunities for Ireland in light of our offshore wind and wave resource which can be developed well beyond domestic market electricity needs
- There are indications of early, real Irish project possibilities for nongrid offtakes for green hydrogen projects generated from offshore renewables
- These involve offshore wind farms with either co-located hydrogen etc plants or plants located on a proximate shore
- These should be facilitated under Phase Two because there is strong possibility that the 'early nongrid offtakes utilising offshore wind generated electricity' projects could be lost if they have to await the Enduring Regime for MACs or lie in a 'limbo' between ORESS2 and the Enduring Regime.

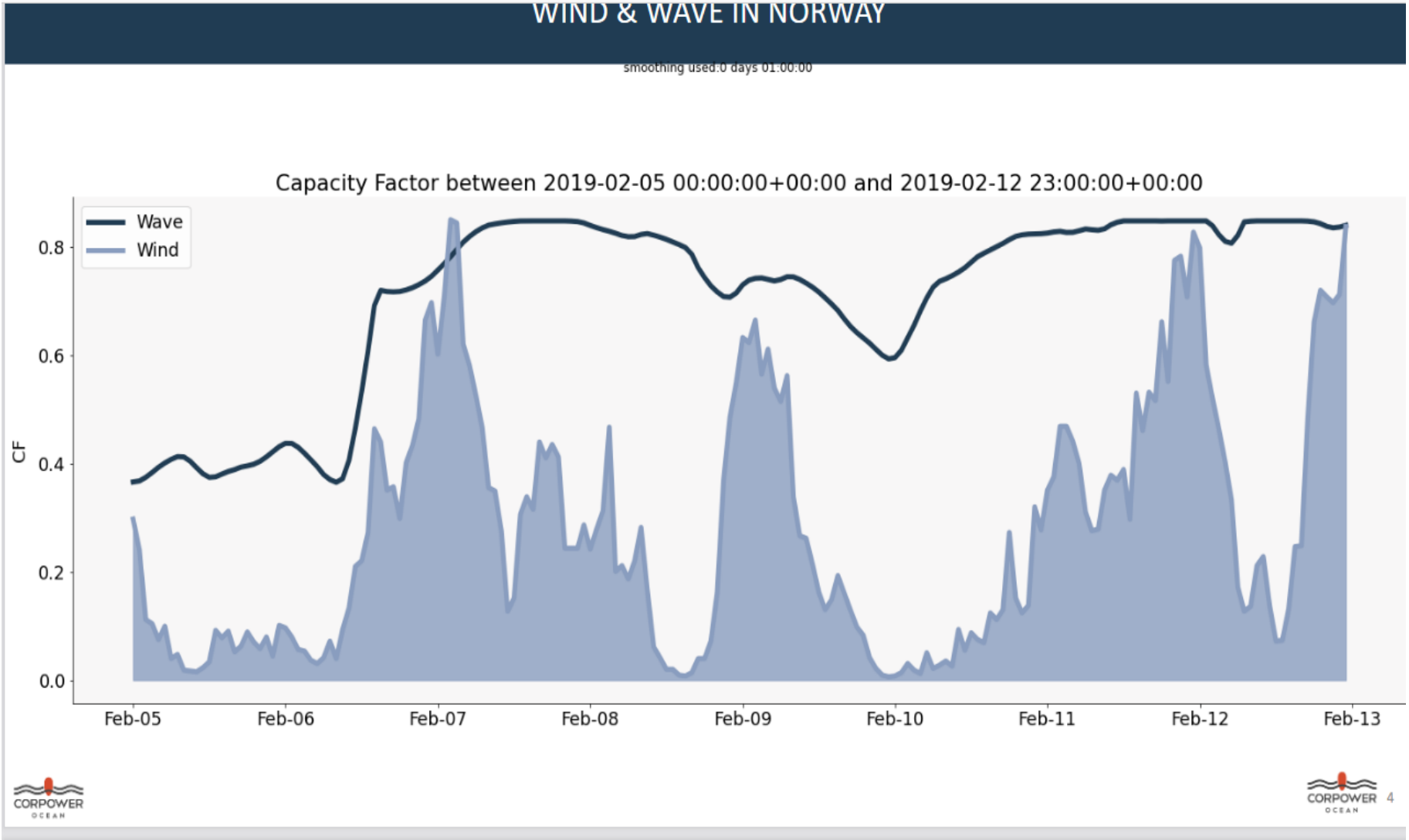
APPENDIX

RESULTS OF STUDIES INTO CONTRIBUTION OF WAVE AND TIDAL ENERGY TO GRID BALANCING:

- CORPOWER OCEAN
- UNIVERSITY OF EDINBURGH

COMPETITIVENESS OF FLOATING OFFSHORE WIND:

- FLOW LCOE
  OPFLOW FINAL REPORT: OPTIONS ON A PRE- COMMERCIAL DEMONSTRATION PROJECT FOR FLOATING WIND



1. STUDY OF WIND AND WAVE OFF NORWAY. SOURCE: CORPOWER OCEAN

System benefits of marine energy

Hypothesis: ocean energy can provide additional benefits to low carbon energy systems due to offsetting of resource with established renewable generation– such as wind and solar PV

GB load and generation comparison - first week of January 2015

SOURCE: EVOLVE PROJECT, INSTITUTE OF ENERGY SYSTEMS, UNIVERSITY OF EDINBURGH SCHOOL OF ENGINEERING NOTE: MARINE ENERGY = WAVE + TIDAL ENERGY

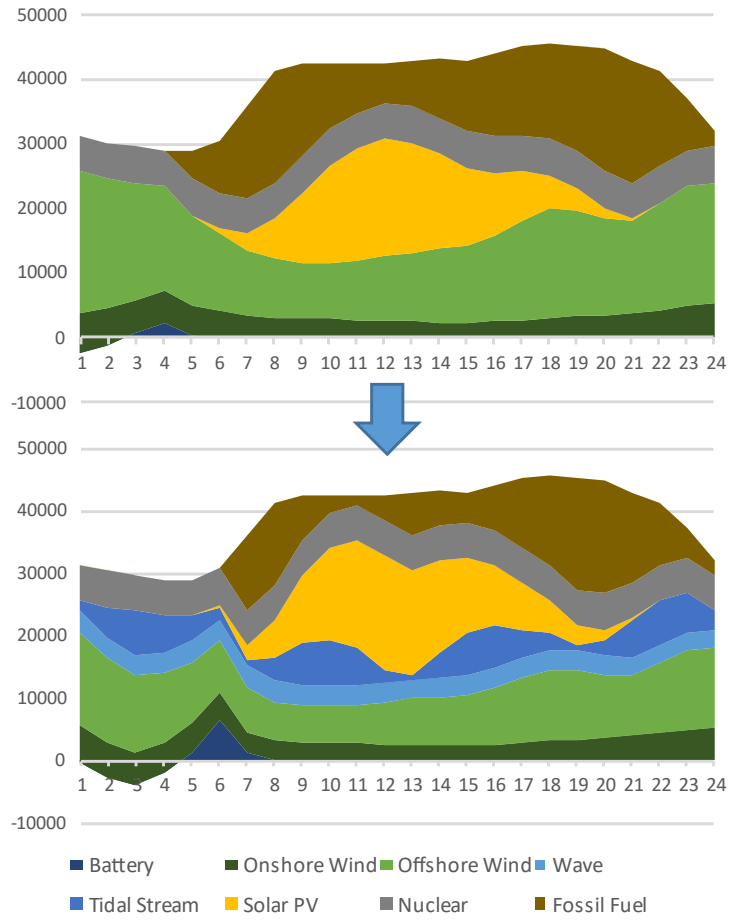
GB 2030 Modelling – example summer day

GB 2030 scenario 1 (no marine)
GB 2030 scenario 2 (15GW marine)

Metric	1 - no marine	2 -with marine
Average marginal price	£60/MWh	£60/MWh
% renewable generation	61.0%	68.9%
% fossil generation	39.0%	31.1%
Carbon emissions	82.9 ktonnes	56.9 ktonnes

31% reduction in CO2 emissions from including marine energy

1.
2.



GB 2030 Modelling – full year

S1 (no marine), S2 (1GW marine -0.4GW Wave + 0.6GW Tidal)

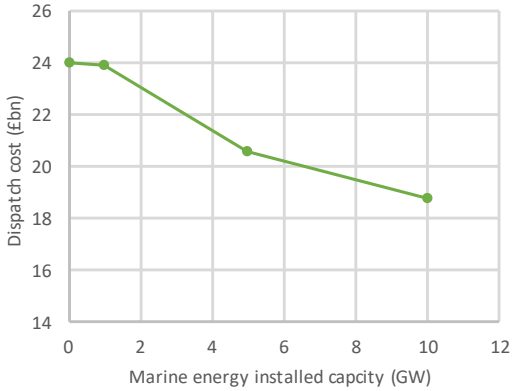
Metric	S1	S2	% change
Average marginal price (£/MWh)	57.61	57.32	-0.51%
Total cost of dispatch (£bn)	24.03	23.94	-0.36%
% renewable generation	74.84%	75.17%	+0.44%
% fossil generation	25.16%	24.83%	-1.30%
Carbon emissions (MtonCO2)	11.05	10.70	-3.12%

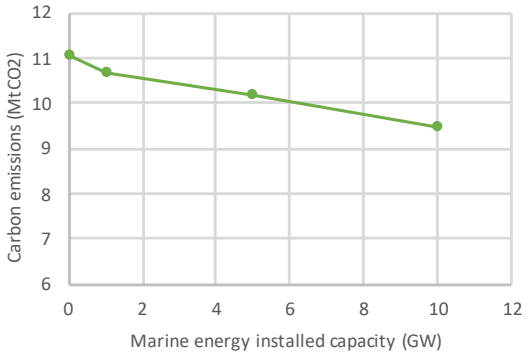
Price capture (£/MWh)	S1	S2
Tidal Stream	n/a	54.87
Wave	n/a	57.97
Offshore wind	36.28	36.01
Onshore wind	33.59	33.21
Solar PV	42.27	41.95

- S2 (FES with 1GW marine) performs best overall metrics – results are very close
- 3% lower carbon emissions, 0.5% lower dispatch cost for marine scenario
- £85M & 340ktonCO2 in savings between scenarios
- Marine energy able to capture higher market prices due to availability at times of low wind & solar resource

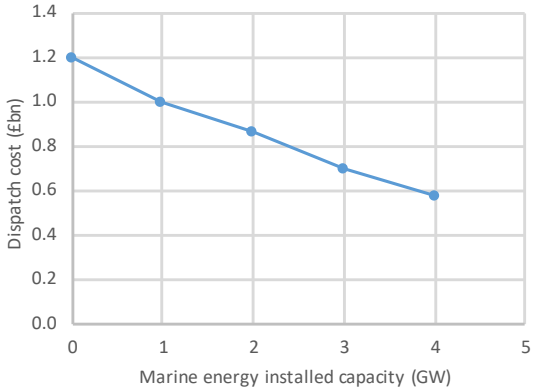
Country-scale modelling – 2030 initial results

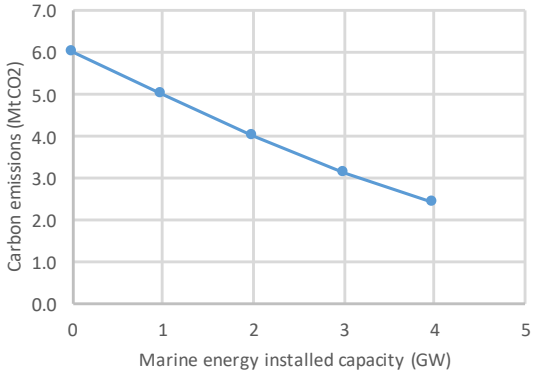
Great Britain



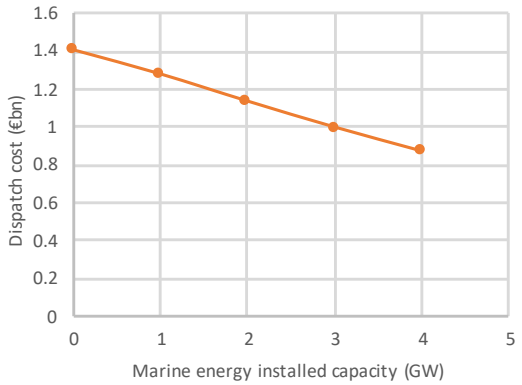


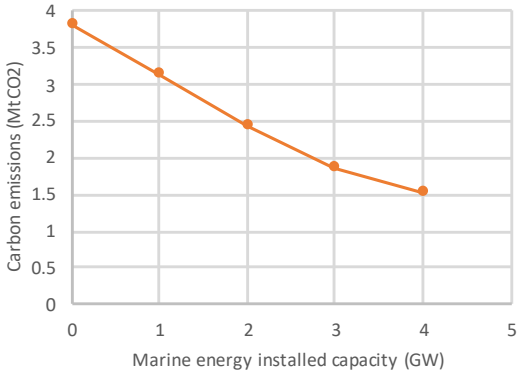
Ireland





Portugal





Dispatch costs reduce

Carbon emissions reduce

Marine energy installed capacity increases

FLOW LCOE

OUTPUTS	CORK COAST 120MW CS1 €M	CORK COAST 300MW CS2 €M	CLARE COAST 120MW CS 1 €M	CLARE COAST 300MW CS 2 €M
CAPEX	477	961	541	1094
OPEX	265	473	337	586
DECEX	29	72	67	157
SALVAGE	5	13	5	14
AVAILABILITY	91.57%	91.12%	83.78%	81.89%
LCOE	104/MWH	77/MWH	131/MWH	97MWH

Source: *OPFLOW Final Report: Options on a Pre-Commercial Demonstration Project for Floating Wind* Table 4.2

This table illustrates the LCOE achieveable in theory in 2020 with then existing FLOW technology at very different site types and shows also the benefits of deployments at scale.

The OPFLOW work is currently being updated by MaREI in light of recent technology etc improvements and the results should be available by early Summer 2022