

STATE OF NEW JERSEY
BOARD OF PUBLIC UTILITIES

Docket No. QX18040466

**In the Matter of Offshore Wind Renewable Energy
Certificate (OREC) Funding Mechanism**

Comments of Deepwater Wind, LLC

July 26, 2018

Deepwater Wind, LLC (“Deepwater Wind”) respectfully submits the following comments in response to the Notice titled *In the Matter of Offshore Wind Renewable Energy Certificate (OREC) Funding Mechanism* (“Notice”) published by the Board of Public Utilities (“BPU”) on June 29, 2018. The Notice solicits comments from stakeholders in response to issues related to a future solicitation of 1,100 megawatts of offshore wind capacity as outlined by Staff of the BPU (“Staff”).

Deepwater Wind submits these comments as the only company to have developed, financed, constructed and operated an offshore wind farm in America. Deepwater Wind has been active in New Jersey’s offshore wind policy development since 2007, as we have in multiple other markets across the US. Deepwater Wind successfully developed the Block Island Wind Farm, the only offshore wind energy project in the US to achieve commercial operations to date, and the only offshore wind project in the world that successfully used tax equity for project finance. Deepwater Wind has also competed in multiple procurements in the US, and currently holds awards for three additional utility-scale offshore wind projects in the US: the South Fork Wind Farm which was awarded a power purchase agreement by the Long Island Power Authority in New York, the Skipjack Wind Farm which was awarded ORECs by the State of Maryland Public Service Commission, and the Revolution Wind Farm, which was awarded power purchase agreements in Rhode Island and Connecticut.

Deepwater Wind appreciates the opportunity to provide input into these important questions. The BPU’s policies on offshore wind procurement will define the potential for the offshore wind industry in New Jersey. By procuring multiple smaller offshore wind projects, New Jersey can cultivate multiple competing supply chains that will yield a durable, long term industry in New Jersey that will outlast the State’s procurement of 3,500 MW. Conversely, if the state makes a single award for the first 1,100 MW, there is a significantly risk that the State’s first and subsequent projects will be built mostly using imported labor, supplies, and would only create temporary jobs in the state in short boom and bust cycles. Deepwater Wind’s comments herein offer a direction that will provide New Jersey with both cost-effective clean energy and a vibrant local economy after full implementation of 3,500 MW.

Summary of Deepwater Wind Comments

1. The BPU should award 1,100 MW of ORECs in its initial application period in order to (a) capitalize on the expiring federal Investment Tax Credit and (b) accelerate the development of a competitive local supply chain.
2. The BPU should seek to avoid awarding all 1,100 MW to a single developer. Instead, the BPU should seek to make multiple awards in order to (a) cultivate multiple competitive supply chains, which will promote greater competition in subsequent rounds of OREC procurement, and (b) diversify the State's offshore wind market so that the unexpected delay or failure of a single project doesn't incapacitate the State's entire industry.
3. To effect the greatest competition in the initial OREC application period, as well as in the resulting supply chains, the BPU should require that all developers offer a standard 400 MW¹ proposal to allow for a like-for-like / apples-to-apples comparison of bids from competing developers. In addition to the required 400 MW proposal, the BPU should also allow developers to offer additional proposals within a range of 300 MW² to 800 MW³, so that the BPU may gauge the benefits and costs of projects at differing scales.
4. For future application periods, the BPU should issue a schedule with annual procurements of 400 MW to achieve the full 3,500 MW goal. Doing so will allow the state to capture future cost reductions resulting from improvements in technology, and will also cultivate a durable local supply chain by providing visibility for future business opportunities, which will result in an attractive environment for developers and suppliers to invest in New Jersey.
5. The BPU should clearly and unambiguously define evaluation criteria, how the net benefit test terms will be applied, and the assumptions that will be used to evaluate OREC applications on a level playing field. This will inform developers to submit comprehensive project proposals that can be easily compared by the BPU on a level playing field.

¹ We recommend a required standard offer of 400 MW because it is roughly the capacity that a single offshore wind installation vessel spread can install during a single construction season, given today's turbine technology and the permitted work periods in the U.S. Accordingly, it is the logical and appropriate size for a utility-scale offshore wind farm. This size has been adopted as a standard for both the States of New York and Massachusetts.

² We recommend a minimum offer of 300 MW so that the BPU will have proposals that allow it to award the full 1,100 MW in the initial application period. Examples could include: one award of 300 MW and two awards of 400 MW; or one award of 300 MW and one award of 800 MW; or two awards of 300 MW and one award of 500 MW, among other potential combinations.

³ We recommend a maximum offer of 800 MW for several reasons. First, do ensure multiple utility-scale awards, which will diversify risk and cultivate multiple competitive local supply chains and diversify risk. Second, because it's a logical size, being twice the amount that a single vessel spread can install in a single year. And, third, out of prudence, recognizing that the largest operating wind farm in the world today is only 630 MW.

Responses to Questions from the BPU

1. *How should BPU stagger/phase in New Jersey's offshore wind procurements to realize the State's goal of 3,500 megawatts. Should this schedule be announced before any solicitations are released?*

The BPU should publish an OREC application schedule to reach the full 3,500 MW by 2030, with annual procurements of a standard size, such as our recommended 400 MW. Doing so will facilitate effective planning that will help to drive down prices, minimize project development risks and promote a more robust local supply chain. Frequent, predictable, competitive procurements reduce project development risk and encourages developers – even those who are not successful in initial rounds – to continue to invest in their site(s) in anticipation of a potential future award. It also provides certainty of demand that is necessary to attract investment in a local, NJ-based offshore wind supply chain. And, for both of the foregoing reasons, it will increase competition and result in lower prices in future procurements.

Following the initial 1,100 MW award(s), the BPU should conduct an annual procurement of a standard size, such as our recommended 400 MW. Annual, standard-sized procurements will allow for ratepayers to benefit from the declining costs of offshore wind, which are expected to substantially decline by 2030. Annual procurements of this size would also provide visibility and stability into construction and development activity in New Jersey rather than single large procurements which would create “boom-and-bust” cycles within the state. Consistent, scheduled procurement on an annual basis would also create a stable investment environment for suppliers to invest in NJ, which would result in the creation of permanent jobs in the state.

2. *How should the BPU structure the initial solicitation for 1,100 megawatts of offshore wind capacity as called for under EO8?*

In accordance with the legislative intent of the Offshore Wind Economic Development Act of 2010 (OWEDA), the BPU should maximize the potential for NJ to establish of a viable, vibrant and sustainable local OSW supply chain. Multiple awards in the first 1,100 procurement would right-size projects to enable local firms to grow with the industry and create a vibrant, lasting supply chain in New Jersey.

The BPU should avoid awarding the full 1,100 MW to a single project developer and should seek to award multiple projects in this crucial first round procurement. In order to do this, the BPU should require that developers submit a standard 400 MW size proposal, but also allow bidders to submit alternative proposals in the range of 300-800 MW. This requirement has precedence in Massachusetts and was used to compare multiple proposals on a similar basis but allowed for competing business models. The benefits to New Jersey of this strategy are outlined below.

Competitive local supply chains: The initial procurement of 1,100 MW is the most critical for New Jersey as it will irrevocably shape the local offshore wind supply chain. A single initial award of 1,100 MW would grant an individual developer monopsony-like control over the local supply chain in New Jersey, which would result in significant competitive barriers in future procurements. Less competitive subsequent procurement rounds would create fewer opportunities for economic development in NJ and result in higher prices for ratepayers in implementing the full 3,500 MW goal.

Local economic development: Multiple awards in the initial procurement would foster multiple competitive New Jersey-based supply chain to serve future procurement rounds, which will increase opportunity and expand the experience base. A single award of 1,100 MW would incent a developer to rely more on foreign suppliers and labor crews with more experience, leaving those based in New Jersey with less learned experience. With multiple, smaller awards, New Jersey suppliers and labor are better able to participate in the industry and gain experience in offshore wind. With this experience and investment, New Jersey-based labor and suppliers would be able to compete in both domestic and international markets outside New Jersey. By awarding multiple projects in the first procurement, the BPU stands to help promote New Jersey's long-term economic interests in the offshore wind industry.

Investment Tax Credit and Tax Equity Availability: Tax Equity is a material, but often-overlooked factor in the financing of offshore wind. To the best of our knowledge, the largest ITC tax equity transaction ever completed for renewable energy was for approximately \$300 million. For a single 1,100 MW project, a developer would have to attract over \$600 million of tax equity investment – roughly double the size of the largest comparable transaction – or choose to forgo the investment tax credit at the expense of New Jersey ratepayers. Alternatively, a 400 MW project would need to partner with tax equity investors with \$200 million of tax liability, which is more readily available for project finance.

Stakeholder engagement: Smaller project sizes grant developers flexibility in project design and construction, especially within the first procurement round. Considering that offshore wind is still new to the United States, public acceptance and best practices have not yet fully developed, and extensive engagement is necessary to ensure that project designs have minimal or beneficial impacts to marine environments and local communities. The BPU should initially proceed with smaller, multiple projects awarded in the first procurement as public acceptance grows and best practices are formed throughout the northeast.

Project quality and execution: Competition among developers will yield higher quality projects and reduce execution risk. Project execution risk is substantial, and awarding multiple projects in the first round, and ensuring frequent subsequent awards, will better position the State to achieve its goals of 3,500 MW by 2030. Also, multiple, smaller projects under development would result in multiple supply chains, which would naturally compete to execute on time and on budget. This competition would result in improved project quality compared to a singular large award.

Transmission and grid integration: Multiple awards of smaller projects would result in interconnection at multiple points and allow for better integration of offshore wind energy onto the New Jersey grid. Larger individual projects may result in severe constraints on the transmission system, or result in costly substation and transmission upgrades. With a goal of 3,500 MW by 2030 and offshore wind resources coming from the east, it will be less costly to integrate projects incrementally from all along the NJ coastline rather than singular large projects injecting into one location.

3. *Should the BPU request proposals scaled at 1,100 megawatts, or should the BPU request proposals in smaller blocks of capacity (i.e. 400 megawatts)?*

As stated above, Deepwater Wind recommends that the BPU require participating developers to submit a 400 MW proposal, but also allow alternate proposals between 300-800 MW. This approach will allow the BPU to compare proposals on the same scale, and also allow projects of

different scales to compete against each other. Due to the difference in sizes of wind energy areas and different financing strategies from each developer, the BPU may receive very different proposals that would not be easily comparable without standardization of proposal sizes. Using this approach in the initial procurement also supports the approach that no single developer will receive the full 1,100 MW award, which has the benefits noted above.

4. How may a solicitation be structured to ensure strong competition from multiple OSW developers?

New Jersey will attract offshore wind projects with the highest levels of local support, the lowest levels of execution risks and the best price and economic development offerings if it encourages developers to invest in their projects prior to an OREC award. To do so, the BPU should public commit to the dual goals of (a) making multiple awards in the initial round and (b) conducting recurring, annual awards until all 3,500 MW has been allocated. Doing so will encourage developers to continue to invest in their projects, even if they are not awarded in an earlier round.

New Jersey has the potential for robust competition from several developers with active leases for BOEM wind energy areas. However, Developers are only likely to invest in their sites and prepare comprehensive bids if they believe the competition is bona fide. Therefore, the BPU to limit eligible bidders to those who hold effective BOEM leases.

In addition to the above, Deepwater Wind also proposed recommendations related to this question in comments filed in this docket on May 18, 2018.

5. What conditions should be included to ensure maximum competition in terms of OREC Price?

In addition to the recommendations set forth in #4 above, the BPU should provide a weighting scale for its evaluation criteria so that developers can understand how to tailor their proposals to meet the State's goals in that procurement.

We note that OWEDA requires that awarded projects pass a net benefits test and the BPU should be able to reject OREC applications based on this legislative requirement. As noted above, the BPU should consider that this initial procurement will set the tone of the market for the full 3,500 MW goal, and the BPU should prioritize maximizing net benefits in addition to minimizing ratepayer costs for the full goal rather than just the initial 1100 MW procurement.

6. OWEDA requires the OREC Price to be an all-in price that includes the full cost of the construction, operation and decommissioning of the project with all revenues being refunded to ratepayers. What measures can be included in project proposals to optimize all revenues over the life of the project?

In order to attract cost-effective capital, Developers need certainty from the State and the BPU that the rate expected to be received from a qualified offshore wind project will not change. Introducing any uncertainty into the rate will result in materially higher costs of capital and in the OREC prices themselves.

We encourage the BPU to favor stability and predictability in any policy they elect to optimize revenues over the life of the project.

7. *OWEDA requires that offshore wind developers demonstrate a net economic benefit for the State. How should the BPU ensure net economic benefits in order to be able to compare applications?*

The State should seek to maximize net economic and environmental benefits, as set forth in OWEDA, by (1) ensuring an equitable, like-for-like / apples-to-apples comparison of proposals and (2) ranking proposals based on net economic and environmental benefits and awarding ORECs based on ranking of benefits.

To ensure that proposals are evaluated on a transparent and equitable basis, the BPU should do two things. First, the BPU should publish its evaluation criteria and metrics as well as common assumptions (e.g. discount rates, reference indices, etc.) so that developers know what assumptions are allowable in advance of OREC application deadlines. Examples include:

- Guidance on application rules for how projects will be evaluated, including how net benefits tests will be conducted and all assumptions around wholesale electricity market prices.
- Guidance on confidence intervals, such as P50 estimates wind energy production estimates, to ensure applications can be compared on a level playing field.
- Specified metrics for local content and in-state employment in advance of the OREC application window.

Second, the BPU should retain an expert consultant to conduct an independent review of the proposals and a report for the Board that compares the proposals on a common basis, as the Maryland PSC did for their OREC application proceeding.

Finally, the BPU should rank proposals based on net economic and environmental benefits. ORECs should be awarded based on the highest level of net benefits

8. *What other elements should BPU consider including in the 1,100 megawatt offshore wind solicitation called for under EO8 (e.g. storage, other adjunct technologies)?*

As referenced elsewhere in this response, we encourage the BPU to consider the potential for its initial 1,100 MW procurement to cultivate a competitive, durable local supply chain. To that end, we offer the following thoughts:

- *Cultivate multiple competing supply chains by making multiple awards in the first procurement round in order to allow multiple developers to compete in subsequent rounds.* Awarding a single 1,100 MW project in the first round will create a monopoly-like supply chain for that winner and is likely to result in subsequent rounds being less competitive. Conversely, if the BPU creates competitive supply chains in the first procurement round, it will foster competition among offshore wind developers in subsequent procurement rounds. This increased competition would positively impact ratepayers in the form of lower costs to implement the full 3,500 MW goal and will result in a more robust local supply chain.
- *Avoid the “Pig-in-the-Python” problem by aligning procurement and supply chain planning to support the development of multiple utility-scale projects, rather than one*

single mega-project. Offshore wind is subject to step-wise economies of scale, based on limitations of the work a single vessel spread can do in a single construction season. As a result, bigger isn't always better. A single 1,100 MW project is likely to require significantly more onshore ports infrastructure, at a higher cost, than multiple phased 400 MW projects.

- Consider contributions to the local supply chain in the selection of offshore wind projects. Offshore wind is a nascent industry in the United States, but not in Europe, which creates both risks and opportunities. The greatest risk is that projects would rely solely on suppliers and labor from outside of the state without creating any long-term economic value for the state. The opportunity is for local suppliers and labor to become a part of the industry and grow along with the implementation of the 3,500 MW goal and with the global industry as a whole. Because OWEDA requires consideration of the local economic benefits of each proposed project, the BPU should consider not only the benefits of a single project's construction, but also the potential for such project(s) to spur the creation of a local supply chain.
9. *Should the BPU request bids for expandable, nondiscriminatory, open-access offshore transmission facilities for the efficient delivery of power to the onshore transmission system?*

No. Deepwater Wind strongly supports the BPU's proposed guidance filed in this docket on April 25, 2018, which requires OREC pricing to be based on "all-in" costs for the construction, operation, maintenance, inter-connection, upgrades to the grid, and decommissioning of an offshore wind farm. This structure allows developers to ensure deliverability of energy and will minimize "project-on-project" risk. The separate development of generation and transmission has led to significant delays and cost overruns for projects in Germany at the expense of ratepayers.^{4,5} Separation of these components, especially requiring separate development of transmission will place unnecessary and extraordinary risk on project development and will have a detrimental impact on offshore wind development in NJ both in terms of cost and ability to execute. Project investors would likely not provide capital for the generation unless the BPU took costly measures to provide revenue certainty in case the transmission was not ready to deliver energy.

Conclusion

Deepwater Wind recognizes and appreciates the Staff's diligence and focus on these issues. The BPU's decisions on these issues will impact the implementation of the full 3,500 MW of offshore wind in New Jersey, and will define its overall cost and economic benefits to the state. Deepwater Wind urges Staff and the BPU to accept the comments herein that will result in the best projects and a robust industry. We look forward to engaging with the agency and other stakeholders throughout this process.

⁴ Bloomberg; Brian Parkin; June 27, 2017; *World's Biggest Offshore Wind Developer Worries About Construction Delays in Germany*; <https://www.bloomberg.com/news/articles/2017-06-27/dong-says-german-grid-delay-risks-confidence-in-offshore-wind>

⁵ Offshorewind.biz; March 12, 2013; *Germany: One Billion Euros in Compensation for Delays in Offshore Connections*; <https://www.offshorewind.biz/2013/03/12/germany-one-billion-euros-in-compensation-for-delays-in-offshore-connections/>