June 28, 2022

Ms. Bridgette Duplantis
Office of Leasing and Plans, Leasing and Financial Responsibility Section
Bureau of Ocean Energy Management
201 Elmwood Park Boulevard
New Orleans, Louisiana 70123

Re: BOEM-2022-0023, Call for Information and Nominations for Commercial Leasing for Wind Power Development on the Central Atlantic Outer Continental Shelf

Submitted via www.regulations.gov

Dear Ms. Duplantis:

The American Clean Power Association[1] (ACP) and MAREC Action[2] (MAREC informally stands for "Mid-Atlantic Renewable Energy Coalition") appreciate this opportunity to comment on the Call for Information and Nominations for Commercial Leasing for Wind Power Development on the Outer Continental Shelf Offshore Central Atlantic. ACP and MAREC Action strongly support moving forward with lease area designations and commercial leasing in the Central Atlantic. Maximizing leasing opportunities in areas suitable for fixed bottom foundations is of significant importance to provide needed certainty for supply chain and industry development. The Central Atlantic is not just one of the most promising locations available for fixed foundation development off the east coast of the United States due to its proximity to population centers and potential for grid interconnectivity across multiple states that will benefit from the clean energy and economic development produced by offshore wind. It is also BOEM's *last* chance in the near

[1] The American Clean Power Association (ACP) is the national trade association representing the renewable energy industry in the United States, bringing together hundreds of member companies and a national workforce located across all 50 states with a common interest in encouraging the deployment and expansion of renewable energy resources in the United States. In the Central Atlantic, ACP represents several developers interested in building commercial-scale offshore wind projects.

[2] MAREC Action is a nonprofit organization formed to advance utility-scale renewable energy development within the PJM Interconnection and adjacent areas. MAREC Action's footprint includes ten jurisdictions within PJM (nine states and Washington, D.C.). MAREC Action members include utility scale wind, offshore wind, solar and battery storage developers, wind turbine manufacturers and non-profit organizations dedicated to the growth of renewable energy technologies.

term to issue new shallow water leases that can help extend the pipeline of projects needed to grow an east coast supply chain.[3]

ACP and MAREC Action are pleased to see areas appropriate for fixed bottom and floating technologies to be included in the Central Atlantic call areas. A proactive and diverse offering of lease opportunities throughout the Central Atlantic is essential to efficiently utilizing the region's offshore wind resources. Fully utilizing the potential of the Central Atlantic wind resources will help meet President Biden's offshore wind target[4] to deploy 30 gigawatts (GW) by 2030 and 110 GW by 2050, as well as and his broader agenda to address the climate crisis.[5] It is critical to continue setting and achieving both national and state goals of aggressive carbon emission reductions. Offshore wind is also a critical element of a diversified American energy supply, enhancing U.S. energy independence and strengthening trans-Atlantic cooperation among NATO allies.

We recommend that BOEM set a goal of leasing shallow water lease areas large enough to generate an estimated at least 12 GW within the Central Atlantic call areas using its standard National Renewable Energy Laboratories (NREL) conversion rates. We believe this goal is attainable in a variety of ways, and this letter does not advocate for the removal of any particular lease blocks from consideration. But we think it is possible to lease the majority of the call areas (at least 10 leases of at least 100,000 acres (~1200 MW)), each while still addressing the needs of other ocean users. We also commend BOEM for having the vision to identify potential lease areas further east and in deeper water, which will facilitate this country's long-term clean energy goals as floating offshore wind technology and regional offshore transmission networks develop in the coming decade.[6] Finally, we urge BOEM to prioritize the commercial considerations contained in ACP members' nominations. Developers have unique knowledge regarding which areas are most commercially viable—and will reach the lowest cost delivery of offshore wind energy. The comments that follow provide additional details on these points.

I. The Importance of Offshore Wind to the Central Atlantic, the Nation and Global Climate

[3] The only other Atlantic lease sale in BOEM's Path Forward 2021-2025 is in the Gulf of Maine, whose water depths are widely considered only suitable for floating technology—which has distinct supply chain and vessel needs.

[4] https://www.whitehouse.gov/briefing-room/statements-releases/2021/03/29/fact-sheet-biden-administration-jumpstarts-offshore-wind-energy-projects-to-create-jobs/

[5] https://www.whitehouse.gov/briefing-room/presidential-actions/2021/01/27/executive-order-on-tackling-the-climate-crisis-at-home-and-abroad/

[6] https://www.boem.gov/renewable-energy/state-activities/new-york-bight

As a zero-emission energy generation source, offshore wind energy will play an important role in combatting climate change and is central to achieving the President's climate goals. Recent studies from Lawrence Berkeley National Lab,[7] Princeton University,[8] and the University of California at Berkeley[9] found that to achieve the carbon reductions by 2050 that scientists believe are necessary to avert the worst impacts of climate change requires increasing annual deployment of renewable energy, primarily wind and solar, by two to three and a half times the level achieved in 2020. This requires expanding deployment of wind and solar from roughly 32 gigawatts per year as in 2020 to 60-70 gigawatts per year, every year for the next couple of decades. Offshore wind is essential to achieve this level of deployment.

In the climate executive order (EO), signed on January 27, 2021, President Biden called deployment of clean energy technologies, such as offshore wind, "critical for climate protection" and established that "[i]t is the policy of my Administration to organize and deploy the full capacity of its agencies to combat the climate crisis to implement a Government-wide approach that reduces climate pollution in every sector of the economy… especially through innovation, commercialization, and deployment of clean energy technologies and infrastructure." The EO further called on the Administration to "accelerate the deployment of clean energy and transmission projects in an environmentally stable manner."[10] In addition, on March 29, 2021, President Biden set a goal of deploying 30 GW of offshore wind by 2030 and 110 GW of offshore wind by 2050.[11] Meeting the goal of 30 GW trigger more than $12 billion per year in capital investment in projects on both U.S. coasts, create tens of thousands of good-paying, union jobs, with more than 44,000 workers employed in offshore wind by 2030 and nearly 33,000 additional jobs in communities supported by offshore wind activity. It would also unlock a pathway to deploy 110 GW or more of offshore wind by 2050, supporting 135,000 total jobs, including 77,000 jobs in offshore wind and 58,000 induced jobs in communities with offshore wind activity. It will also generate enough power to meet the demand

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[7] Williams, J. et al., *Carbon-Neutral Pathways for the United States* (2021) available at https://agupubs.onlinelibrary.wiley.com/doi/10.1029/2020AV000284, Wiser, R., et al., *Halfway to Zero: Progress towards a Carbon-Free Power Sector* (2021) available at https://emp.lbl.gov/publications/halfway-zero-progress-towards-carbon.

[8] Jones, R., *Net-Zero America: Potential Pathways, Infrastructure, and Impacts* (2020) available at https://www.evolved.energy/post/princeton-net-zero-america-project.

[9] Univ. of California-Berkeley, Goldman School of Public Policy, *The 2035 Project* (2021) available at https://www.2035report.com/electricity/downloads/.

[10] Executive Order 14008, available at https://www.federalregister.gov/documents/2021/02/01/2021-02177/tackling-the-climate-crisis-at-home-and-abroad.

[11] https://www.whitehouse.gov/briefing-room/statements-releases/2021/03/29/fact-sheet-biden-administration-jumpstarts-offshore-wind-energy-projects-to-create-jobs/

of more than 10 million American homes for a year, and avoid 78 million metric tons of CO2 emissions. In addition to creating new jobs for the American worker in this burgeoning industry, we can also call on the experience of the skilled workers in existing U.S. companies who have decades of experience developing ocean energy infrastructure for the oil and gas industry.

Finally, the war in Ukraine highlights a critical need for the U.S. to build domestic sources of energy that are not tied to global markets. Offshore wind represents a uniquely large-scale source of homegrown, zero-emissions energy that has no fuel cost. Furthermore, offshore wind offers increasingly competitive, stable electricity rates for consumers that are untethered from overseas markets, as electricity cannot be transported in large amounts without a direct transmission line connection. Offshore wind developers and manufacturers continue to make U.S. supply chain investments a priority. Many components of the existing international offshore wind supply chain are situated in friendly European nations, including NATO allies like Denmark, Germany, Norway, and the United Kingdom. Building an offshore wind industry strengthens trans-Atlantic cooperation with these key security partners. As the White House stated in its recent Executive Order to spur domestic clean energy manufacturing, "With a stronger clean energy arsenal, the United States can be an even stronger partner to our allies, especially in the face of Putin's war in Ukraine."[12]

In determining how much acreage to lease in the Central Atlantic, we urge BOEM to look beyond the Administration's 30 GW by 2030 goal and consider an array of other clean energy and climate objectives that will require us to scale our offshore wind ambitions considerably:

- **Regional transmission means consideration of the energy needs of multiple states.** The Biden Administration and states are implementing policies to spur coordinated transmission development to integrate offshore wind on the Atlantic coast.[13] Once constructed, these lines will scale up the

[12] https://www.whitehouse.gov/briefing-room/statements-releases/2022/06/06/fact-sheet-president-biden-takes-bold-executive-action-to-spur-domestic-clean-energy-manufacturing/

[13] *See, e.g.* National Renewable Energy Laboratory, *Atlantic Offshore Wind Transmission Study* (2022) (study intended for completion in 2023, evaluating coordinated offshore wind transmission options from Maine to South Carolina), https://www.nrel.gov/wind/atlantic-offshore-wind-transmission-study.html; *Biden Administration Launches New Federal-State Offshore Wind Partnership to Grow American-Made Clean Energy* (June 23, 2022) (announcing partnership with states to address transmission and interconnection needs, among other offshore wind policies), https://www.whitehouse.gov/briefing-room/statements-releases/2022/06/23/fact-sheet-biden-administration-launches-new-federal-state-offshore-wind-partnership-to-grow-american-made-clean-energy/; New Jersey Board of Public Utilities, *PJM State Agreement Approach* (2021)

amount of offshore wind energy that can be integrated into the grid, as well as increase grid reliability. A wind farm off the coast of Virginia or North Carolina could provide clean energy to New Jersey, Pennsylvania, Ohio, West Virginia or beyond. Therefore, BOEM's analysis of load demand during its leasing process should look well beyond just the coastal states to which these lease areas will interconnect.

- **Future expansion of state offshore wind goals.** We expect already-robust state offshore wind goals in the region to expand substantially in the next few years.

    - New Jersey's Energy Master Plan projects at least 10.6 GW of offshore wind under the least-cost scenario, far exceeding the existing 7.5 GW goal.

    - Maryland's adoption of the 2022 Climate Solutions Now Act requires net-zero emissions economy-wide by 2045, representing a significant expansion in clean energy demand beyond the existing RPS. We estimate that Maryland would need approximately 31 GW of additional zero carbon electricity generation (at an average capacity factor of 40 percent) to attain net-zero carbon emissions by 2045 in line with the Climate Solutions Now Act of 2022. This rough projection assumes aggressive electrification of residential, commercial, and industrial end uses as well as road vehicle transportation. Given Maryland's small landmass and siting constraints, it is safe to assume a large portion of this additional capacity would need to come from offshore wind. We also note that in the February Task Force Meeting, Samuel Beirne of the Maryland Energy Administration requested up to five lease areas of up to 2000 MW each to address the state's energy needs.[14]

    - Though Delaware does not currently have an offshore wind target, Delaware's Department of Natural Resources and Environmental Control requested a report in February 2022, from the Special Initiative on Offshore Wind at the University of Delaware, analyzing market conditions and options for offshore wind.[15] The report looked at project sizes between 800 and 1,200 MW as the most viable and

(announcing collaboration between New Jersey and PJM Interconnection to develop transmission for 7.5 GW of offshore wind), https://www.nj.gov/bpu/about/divisions/ferc/saa.html.

[14] *See* https://www.boem.gov/renewable-energy/state-states-task-force-reports-and-feedback-draft-call (at 13:00).

[15] https://documents.dnrec.delaware.gov/energy/offshore-wind/SIOW-report.pdf

outlines a range of potential merits should Delaware put an offshore wind procurement target in place.

- Offshore wind development can help these states achieve their goals; siting offshore projects near these states allows for delivery of electricity directly to coastal cities, where prices are the highest (thereby enabling offshore wind to provide greater consumer benefits), demand is greatest, and generation and transmission siting are the most challenging. These ambitious and growing targets cannot be met solely through the issuance of Central Atlantic leases as outlined in these comments, but those targets cannot be achieved without bringing substantial new offshore wind lease areas to market in the next few years.

- **2050 Federal Offshore Wind Goals**. Finally, there is the Administration's much more ambitious 110 GW by 2050 goal as it moves through the nomination and leasing process in the Central Atlantic. Meeting the 110 GW by 2050 will require development of 80 GW in a 20-year period—which is achievable with a reliable supply chain, a trained U.S. workforce, and increased investment. BOEM's leadership is key to sending the market signals needed for this development. In considering which call areas to advance, BOEM should strategically consider the Administration's goals beyond 2030 and make decisions that would allow for faster and more regular development in the Central Atlantic and beyond. The Administration's goals should also inform BOEM's consideration of state and regional goals. While many Central Atlantic states have GHG reduction and offshore wind goals, there is room for them to become even more ambitious, especially with respect to offshore wind. Rather than tailoring the nominated areas to meet the current state goals in the Central Atlantic, BOEM should demonstrate leadership in this area and make available for leasing enough area to inspire more ambitious state goals. Therefore, BOEM should ensure it leases enough areas to provide offshore wind capacity that ***exceeds*** current state procurement targets and anticipates the proliferation of state targets in the future.

II. BOEM Should Make Areas Available for Leasing Large Enough to Accommodate Utility-Scale Projects, to Achieve Economies of Scale

A. BOEM Should Lift Limits On The Size Of Nominations

We urge BOEM to make available for leasing at least 10 lease areas in the Central Atlantic that can accommodate projects that are at least 1,200 MWs in size or larger, which translates to no less than 100,000 acres under NREL conversion rates. In the Call, BOEM stated that nominations that "considerably exceed" approximately 80,000 acres may be deemed unreasonable and not accepted by BOEM. While we recognize that BOEM's intention to limit lease area size stem in part from anti-competitive concerns, we caution BOEM against the creation of any unnecessary restrictions on the size of nominations that might limit the evaluation of viable locations for offshore wind development. Limiting nominations to a certain size fails to capture nuance, and could inaccurately imply that non-nominated areas would not be acceptable for development. We recommend that developers be permitted to nominate *all* of the portions of the Call Areas that they deem to be commercially viable, but express their strong interest in specific sub-portions of these areas by designating them as "preferred for development." The more detailed information BOEM has about commercial interest in an area—the better BOEM will be able to make decisions on setting future lease areas.

There are two reasons for this request. First, as projects get further from shore, HVDC transmission becomes the more economical option for grid interconnection. A project using HVDC cabling can easily be 1200 MW based on current technology,[16] and larger projects are being developed in Europe. In addition, the 80,000 acre limit is based on current technology, which is rapidly changing. Even setting that aside, the 1 GW project size is unwieldy. The optimal size of projects will change with technological advancements over time. For instance, while 800 MW might have been standard a few years ago under HVAC technology, HVDC projects are most efficient at 1,200 MW. Rather than pre-judge the optimal size for a project, BOEM

[16] *See* New Jersey Board of Public Utilities, *Offshore Wind Transmission Study Comparison of Options* at 32 (2020) ("Current marine HVDC cable and converter technology can transmit up to about 1,200 MW."), https://www.nj.gov/bpu/pdf/publicnotice/Transmission%20Study%20Report%2029Dec2020%202nd%20FINAL.pdf . *See also, e.g.* Pfeifenberger et al, *The Benefit and Cost of Preserving the Option to Create a Meshed Offshore Grid for New York* at 5, 11 (Nov. 9, 2021), (noting the higher transfer capability of HVDC cables as compared to alternating current, and evaluating 1200 MW to allow for transfers between onshore points of interconnection) *https://www.brattle.com/wp-content/uploads/2021/12/The-Benefit-and-Cost-of-Preserving-the-Option-to-Create-a-Meshed-Offshore-Grid-for-New-York.pdf;* Alassia et al., *HVDC Transmission: Technology Review, Market Trends and Future Outlook* at 28 (2019) (citing the SydVastlanken (South-West) link between Norway and Sweden, which is rated at 1,200 MW, as an example of underground cabling

should leave any such evaluation to the proposed and final sale notices, which will provide BOEM and the public with an additional opportunity for further refinement and comment.

Second, larger leases mean larger projects, which creates economies of scale that drive down costs and increase supply chain investments. To achieve economies of scale, projects must be large enough to minimize development costs and to warrant investment in a new offshore wind industry and the associated supply chain. Economies of scale from large-scale lease areas, which can support larger projects, are necessary to drive cost reduction, optimize layout and attract a regional supply chain. Smaller lease areas will require multiple projects to achieve the same installed capacity levels and, therefore, will typically come at a significantly higher cost; because the activities required for permitting, development, procurement, construction and operation will be compounded. In addition, as an increase in MW capacity of a project is heavily reliant on the size of a lease area, it is important that any offshore wind project installed off the Central Atlantic be sized appropriately in order to be cost-competitive with other sources of energy available in the state. Allowing BOEM set lease areas to allow for multiple projects of at least 1,200 MW (requiring roughly 100,000 acres) will help achieve those economies of scale in the Central Atlantic. Although some projects may be developed in phases, lease areas should be maximized to allow for 1,200 MW or more of total development per project area.

B. BOEM Should Consider Transmission Options in Determining Lease Areas

The potential lease areas within the Central Atlantic Call Areas may be able to interconnect at multiple locations in the Mid-Atlantic, due to the potential development of regional or mesh transmission. Although all currently leased offshore wind projects intend to use radial interconnections to shore, BOEM should consider the potential for coordinated transmission approaches in adjacent or nearby lease areas. These could take the form of a true meshed network, with multiple points of interconnection and multiple offshore substations linked by high-voltage cables, or a coordinated radial approach in which projects share offshore substations, cable routes, or points of interconnection to realize economies of scale and reduce cabling costs and impacts. The optimal transmission solutions will ultimately depend upon the selected lease areas and the technological maturity of floating turbines and deep-water cabling when these areas are developed, but we recommend that BOEM begin to consider the potential applicability of transmission approaches other than single-project radial lines.

III. Offshore Wind Compatibility and Co-existence

At the outset, unless development is prohibited by statute, we caution BOEM against classifying any areas as entirely excluded from wind energy development at this early stage. Without a firm project plan in place, which is not feasibly developed until a much later stage in the leasing process, it is impossible to know the definite impacts or conflicts that wind energy development might have with other types of development or other uses of the ocean and ocean floor. That being the case, it is unwise and unnecessary for BOEM at this stage to designate areas as absolute "no-go" areas for wind development. While we understand that more consideration may be necessary at a later stage in development in specific areas due to their multiple use potential, at this time these areas should still be available for full consideration by BOEM as offshore wind leasing areas. This will enable offshore wind development project to be determined and designed in a way that best utilizes the space for each of the multiple ocean users.

A. DOD Activities

We are grateful for the efforts of the DOI, BOEM, DOD, over the last few years to jointly assess and resolve potential conflicts over sea-space for offshore wind in other coastal areas. We appreciate the years of hard work, collaboration and cooperation required to reach that point. Our members look forward to collaborating with the DOD through the Military Aviation and Installation Assurance Siting Clearinghouse and the BOEM permitting process to assess specific lease areas and proposed projects when the time comes to ensures compatibility between the military mission sets in the region and deployment of offshore wind. Furthermore, we appreciate the amount and intensity of military training and test activities off the Virginia and North Carolina coasts, and we believe these areas are vital to the future of the offshore wind industry. As noted above, to create economies of scale discussed above and promote the development of shore facilities adequate to the nascent industry, the industry will require multiple shallow water leases among the Central Atlantic call areas, each large enough to support at least a 1200 MW project. Wholesale exclusion of offshore turbines from DOD Warning Areas W-386, W-72A, and W-72B could stifle the industry's growth on the East Coast.

We therefore implore BOEM, DOD, and the Services to examine every viable possibility for collocated activities using technical mitigations, prescribed flight and/or surface corridors, and limited curtailment for test activities that require electromagnetically quiet environments. [17] .

[17] Although it was not specifically highlighted in BOEM's Call for Information, we also look forward to working with the National Aeronautics and Space Administration (NASA) to ensure that offshore wind does not conflict with its activities at and around the Wallops Island Flight Facility. Preliminarily, we believe such activities are not likely to conflict with offshore wind construction and

B. Vessel Navigation

In general, we are confident that offshore wind, once constructed, will be compatible with safe vessel navigation. Navigation of various types of vessels (cargo, tug and tow, commercial and recreational fishing etc.) is a key consideration in where call areas (and future WEAs) are established. In enacting the Ports and Waterways Safety Act (PWSA), Congress explicitly contemplated that navigation areas may be subject to multiple reasonable uses. Specifically, the PWSA requires the Coast Guard to: "reconcile the need for safe access routes with the needs of all other reasonable uses of the area[.]"[18] The offshore wind industry supports these overlapping activities by employing responsible, effective mitigation measures to alleviate some of the Coast Guard navigational safety concerns. Offshore wind farms have several characteristics that reduce the risk to marine navigation: they are constructed in a regular, grid-like pattern; spaced far apart, more than half nautical mile from one another generally, to minimize the wake effect of wind turbines on one another; and are installed on relatively narrow towers, approximately 5-10 meters in diameter, so that vessels will be aware of the presence of one another. These characteristics collectively contribute to an overall low collision risk.

In addition, without project specifics being known, it is hard to know how wind energy development in a certain area will impact marine navigation. We urge BOEM to continue to analyze maritime navigations conflicts and mitigation measures during site-specific NEPA reviews. Each potential offshore wind facility is subject to two separate NEPA reviews. The first review is an environmental assessment that is conducted with respect to the site assessment plan, which the lessee must submit to BOEM no later than 12 months after receipt of the lease. The lessee must also submit a construction and operations plan to BOEM at least 6 months prior to the completion of the site assessment term, which requires an environmental impact statement. Site assessment considerations during these reviews specifically include coastal and marine uses, including vessel traffic. These reviews are crucial elements of the siting process because they are site- and project-specific and therefore provide the best basis for evaluating a particular project's impacts on the overall environment, including navigation safety. Moreover, during the site assessment, specific traffic patterns and particular mitigation measures that would be most effective at avoiding navigational safety issues can be analyzed with respect to each project.

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operation within the Call Areas, but rather could be managed through lease stipulations (perhaps similar to the "hold harmless" provisions in Appendix C, section 3.1 of the Virginia commercial lease OCS-0483) and reasonable and project-specific conditions on COP approval.

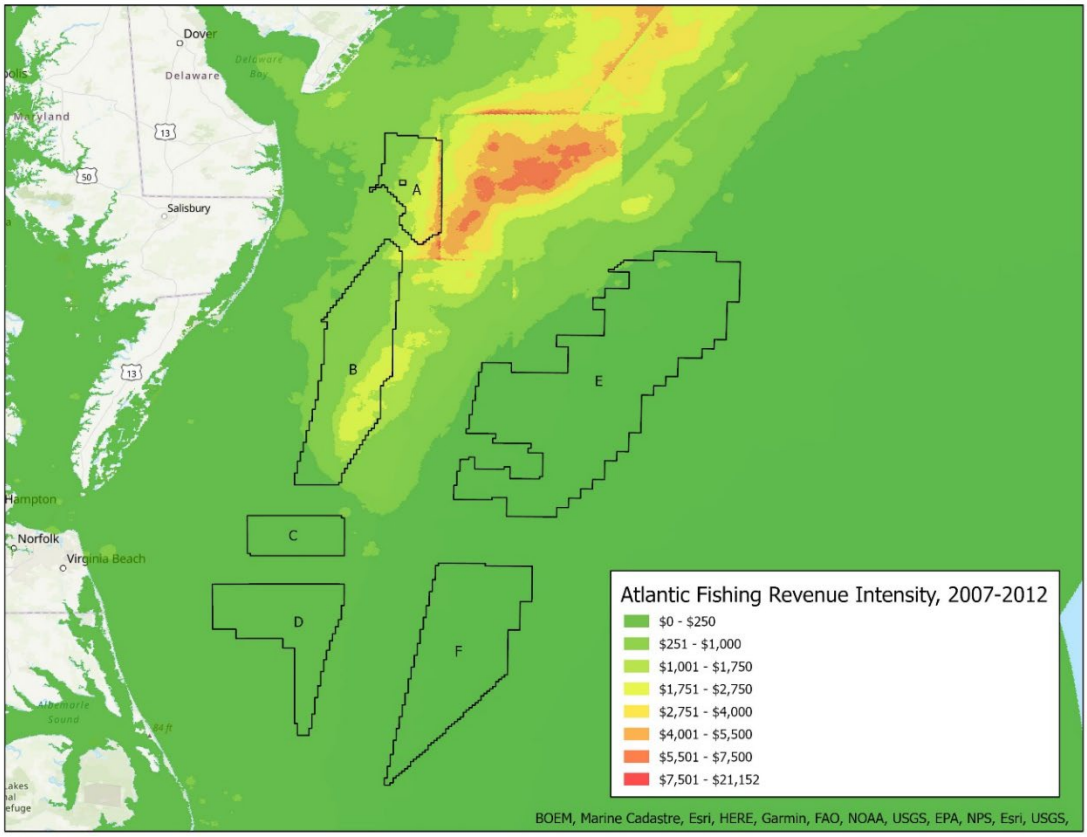
[18] 33 U.S.C. § 1223(c).

We appreciate that BOEM has already taken into account most anticipated USCG fairways and precautionary areas in the region in crafting the proposed call areas. We urge BOEM and the USCG to collaborate to minimize reduction of Call Areas A and B while still achieving the navigational objectives of USCG and the maritime industry. We look forward to working further with BOEM, USCG and the maritime industries to strike the right balance between multiple uses.

C. **Fishing Activities**

We appreciate that BOEM has avoided the most-fished areas in the Central Atlantic in creating the Call Areas, and we believe no further reductions are necessary to avoid prime fishing areas. A review of the Marine Cadastre data from 2007-2012 that included top 30 species in the area confirms that BOEM avoided the most-fished areas in creating the call areas.[19] This map was developed from the Bureau of Ocean Energy Management (BOEM) study entitled "Socio-Economic Impact of Outer Continental Shelf Wind Energy Development on Fishing in the U.S. Atlantic." Recent sea scallop fishery data shows that fisheries are mainly concentrated north of the Central Atlantic Call Areas on the shelf out to the shelf break, with more fishing nearer the shelf break. The map below makes clear that BOEM effectively avoided the areas of most fishing concerns.

[19] These species include : Ocean Quahog, Surf Clam, Little Skate, Squid (Illex & Loligo), Menhaden, Winter Skate, Channeled Whelk, Red Grouper, Atlantic Herring, Vermillion Snapper, Atlantic Croaker, Jonah Crab, Red Hake, Atlantic Mackerel, Silver Hake, King Mackerel, Butterfish, Yellowtail Founder, Winter Flounder, Summer Flounder, Black Sea Bass, Monkfish, Bluefish, Lobster, Spiny Dogfish, Scup, Skates, Cod, and Sea Scallop.



Moreover, the evidence shows that that offshore wind and fishing industries can co-exist. Offshore wind provides multiple benefits for the marine environment--biological productivity and fish biodiversity can actually increase with the creation of new structures producing additional habitats.[20] Structures in the water can create habitat for benthic organisms, including commercially important fish and invertebrates, which can have benefits to marine communities and fisheries. In Europe, for example, up to 90% of Danish annual gillnet fleet landings of plaice from 2010 to 2012 were from areas overlapping with windfarms. Therefore, fisheries, especially those structure-oriented species such as black sea bass and Atlantic cod, stand to reap long-term benefits from such installations.

Mitigation measures—both existing and innovative technologies--used by offshore wind developers can help offset any temporary shifts in community assemblages of marine species during construction, even though scientific data

[20] D.H. Wilber et. Al. "Demersal fish and invertebrate catches relative to construction and operation of North America's first offshore wind farm," ICEA Journal of Marine Science, (79, 4) May 2022, pgs 1274-1288, available at: https://academic.oup.com/icesjms/article/79/4/1274/6555702?login=true.

suggests that population-level impacts are unlikely. There is a considerable body of literature on marine structures, pile driving sound, wind farms in Europe, and other disturbances and their effects on fish, as well as a wide variety of mitigation measures that have been developed to avoid and minimize potential effects. Some examples of mitigation measures include seasonal construction windows and sound dampening technologies for pile driving. By considering these techniques, BOEM has previously determined that impacts from construction activities would be negligible to minor.[21]

The BOEM permitting process, especially at the site-specific construction and operation plan phase, can effectively assess and address these concerns. Even then, reductions in the areas identified as hotspots on fishing maps should be made only if there are multiple uses to be avoided (i.e., DOD, navigation) and not simply on the basis of a fishery's existence. BOEM should work with National Marine Fisheries Service (NMFS) and National Centers for Coastal Ocean Science (NCCOS) to determine overall relative suitability of areas in the Central Atlantic call areas to maximize suitability and minimize risk across various conflicts.

D. Biological Resources

In general, we appreciate BOEM's efforts to understand potential interactions between offshore wind and marine mammals and benthic resources and to establish the call areas that avoid the majority of these interactions. Based on this robust review, we do not believe that BOEM should further reduce call areas due to interactions with biological resources. ACP agrees with BOEM's siting of the call areas in the region and recognizes that BOEM has made efforts to avoid the biologically important habitat for North Atlantic Right Whales and the designated Habitat Areas of Particular Concern for regional fisheries.[22] We request that BOEM work with NCCOS, NMFS, USFWS, and relevant state agencies to refine and update wildlife and habitat maps and support the ability to make them available on Marine Cadastre and other databases, and work to prepare and provide updated guidance as appropriate for archaeological resources, fisheries, tribal engagement, benthic

[21] South Fork Wind

[22] Roberts JJ, Best BD, Mannocci L, Fujioka EI, Halpin PN, Palka DL, Garrison LP, Mullin KD, Cole TV, Khan CB, McLellan WA. Habitat-based cetacean density models for the US Atlantic and Gulf of Mexico. Scientific reports. 2016 Mar 3;6(1):1-2;
LaBrecque E, Curtice C, Harrison J, Van Parijs SM, Halpin PN. 2. Biologically Important Areas for Cetaceans Within US Waters-East Coast Region. Aquatic Mammals. 2015;41(1):17, available at https://cetsound.noaa.gov/biologically-important-area-map;
NOAA Essential Fish Habitat Mapper available at https://www.fisheries.noaa.gov/resource/map/essential-fish-habitat-mapper.

habitat data collection. Our understanding is that NCCOS is already working with BOEM to look at suitability in these Call Areas, similar to work done for suitability of aquaculture opportunity areas[23]. BOEM should encourage and support collaboration and data sharing among Delaware, Virginia, Maryland, and North Carolina for wildlife and fisheries distribution and use mapping, conversion of aggregated and anonymized datasets for fishing activity into publicly available map products, and integration of data products into existing modeling frameworks, such as those developed by NCCOS in the Gulf of Mexico for aquaculture suitability mapping.

As noted above, there is plenty of mitigation technology available and BOEM has previously considered these technologies in conducting site-specific assessments of wind projects. With vessel speed and noise propagation technology constantly improving, we expect proposed mitigation measures to be much more advanced by the time leasing takes place in the call areas. We also encourage BOEM to take the same forward-thinking approach when creating guidelines for future leasing activities, and collaborate with other state and federal agencies to use the best available science and models for understanding suitability (including NCCOS suitability modeling techniques). We also encourage BOEM to collaborate directly with industry on the logistical, engineering, and practical issues associate with areas and allow for flexibility in technologies to apply for site assessment and characterization activities, including underwater autonomous vehicles and other new technologies throughout the leasing and development process. Innovations in site characterization technologies are underway, and we suggest asking BOEM to allow for maximum flexibility in site characterization equipment.

IV. Floating Offshore Technology

We appreciate President Biden's leadership in supporting offshore wind nationally in the United States, including by investing $100 million in researching and developing floating wind technology in America.[24] Floating technologies are technologically and economically ready for lease sales to be offered in the depths

[23] Riley, K.L., Wickliffe, L.C., Jossart, J.A., MacKay, J.K., Randall, A.L., Bath, G.E., Balling, M.B., Jensen, B.M., and Morris, J.A. Jr. 2021. An Aquaculture Opportunity Area Atlas for the U.S. Gulf of Mexico. NOAA Technical Memorandum NOS NCCOS 299. Beaufort, NC. 545 pp. https://doi.org/10.25923/8cb3-3r66. Available at https://coastalscience.noaa.gov/data_reports/an-aquaculture-opportunity-area-atlas-for-the-u-s-gulf-of-mexico/.

[24] The White House, *FACT SHEET: Biden Administration Opens Pacific Coast to New Jobs and Clean Energy Production with Offshore Wind Development* (May 25, 2021), https://www.whitehouse.gov/briefing-room/statements-releases/2021/05/25/fact-sheet-biden-administration-opens-pacific-coast-to-new-jobs-and-clean-energy-production-with-offshore-wind-development/.

available in the Central Atlantic call areas. We urge BOEM to maximize utilization of the areas appropriate for fixed and floating technology development in the Central Atlantic because of the clear regional interest in developing offshore wind, the high estimates of wind resources present in the area, and the close proximity of the areas to major population and interconnection potential.

To best facilitate the first floating wind project lease sale in the Atlantic, we recommend that BOEM carry out lease sales in the Central Atlantic promptly and offer extended site assessment terms for floating leases to allow for additional surveys and time to mature the technologies and installation techniques necessary to develop these deeper areas in a cost-effective manner. The technologies and timing for fixed and floating wind farms in the Central Atlantic are on different tracks. These newer technologies and processes would benefit from flexibility in those timelines to accommodate the highest quality assessments and data collection that will need to be performed.

V. Conclusion

We appreciate the opportunity to comment on this Call for Information and looks forward to continuing engagement with BOEM and offshore wind stakeholders going forward.

Sincerely,

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