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Comments from Defenders of Wildlife on the CEC's Draft Research Concept for Offshore Wind 20-EPIC-01 EPIC 4 Investment Plan

Additional submitted attachment is included below.

California Program Office
980 Ninth Street, Suite 1730 | Sacramento, California 95814 | 916.313.5800
www.defenders.org

July 26, 2021

Laurie ten Hope, Deputy Director
California Energy Commission
715 P Street
Sacramento, CA 95814

Docket 20-EPIC-01

Re: Electric Program Investment Charge: 2021-2025 (EPIC 4) Investment Plan
Offshore Wind Energy R&D Opportunities for EPIC 4

Dear Deputy Director ten Hope,

Defenders of Wildlife (Defenders) thanks the California Energy Commission (CEC) for hosting the Electric Program Investment Charge (EPIC) workshop on July 14, 2021, and for soliciting comments on research needs to understand and mitigate the potential environmental impacts of floating offshore wind (FOSW) development in California. The CEC's commitment to transparency and the inclusion of all stakeholders and experts in the FOSW planning process will ensure that the CEC's investments in research to transform the electricity sector and meet the state's energy and climate goals will also protect California's extraordinary biodiversity and natural and cultural resources.

Defenders is a national, non-profit conservation organization formed in 1947 and dedicated to the protection of native animals and plants in their natural communities. To this end, we employ science, public education and participation, media, legislative advocacy, litigation and proactive on-the-ground solutions to impede accelerating rates of extinction, the associated loss of biological diversity, and habitat loss. We offer the following comments on behalf of our 2.2 million members and supporters in the United States, approximately 323,000 of whom reside in California.

Defenders supports utility-scale floating wind development in federal waters off the California coast to help the state reach 100 percent carbon-free energy by 2045, provide needed jobs and economic benefits to rural and coastal communities and support national energy independence efforts. At the EPIC workshop in July, panelists addressed a series of questions aimed at identifying research needs related to, among other things, environmental impact assessment, avoidance, and minimization. The most critical areas of research for supporting sustainable development of FOSW—and minimizing the undesirable effects—on California's Outer Continental Shelf include acquiring additional

baseline data on species' migratory patterns in and around, and to and from, the FOSW Call Areas; expanding the development and testing of new technologies to avoid, minimize, and mitigate adverse impacts, including cumulative impacts, to wildlife and natural systems; and establishing rigorous monitoring programs well before, during and long after siting, construction, operations, and decommissioning FOSW facilities both offshore and onshore.

EPIC funding should guide planning and research initiatives in a manner that seeks the *best* results for wildlife and the environment for FOSW development in California.

Governor Gavin Newsom's Executive Order N-82-20[1] directs California's state agencies to advance strategies that will conserve at least 30 percent of California's lands and waters by 2030 (30x30) as a way to combat the impending climate crisis, conserve biodiversity and boost climate resilience as soon as possible. As a renewable resource, FOSW aligns with the order, but many aspects of FOSW may compete with the order's intent to conserve the state's biodiversity and other environmental values. This issue underscores the potential conflicts between desirable renewable energy goals and 30x30 goals.

Realizing the value of offshore wind energy will rely on our ability to harmonize energy acquisition with environmental responsibility and place-based needs. The evolution from our reliance on fossil fuels to renewable energy systems must not impart different kinds of damage to the function of natural systems. The commitment to offshore wind demands upfront investment in research to ensure environmental questions are answered and protections are in place before economic forces—the push from developers, the rush to create new jobs, the promise of future investment—threaten to overwhelm the science. Rather than rushing toward lease sales and construction, state and federal agencies and industry representatives need to invest in and carry out research on the challenging questions that FOSW presents for coastal and pelagic wildlife, nearshore and benthic ecosystems and human communities.

EPIC funding should support research to provide baseline information and identify avoidance, minimization, and mitigation strategies for marine, coastal, and pelagic wildlife and ecosystems.

A 2020 report by researchers at Rutgers University,[2] based on an analysis of existing offshore wind projects in the U.S. and Europe and a series of detailed stakeholder interviews, highlighted the "patchwork approach to ecological monitoring" for at-risk species and environmental resources. California must build upon and improve the research and monitoring paradigm for offshore wind energy in California. Multi-year studies of wildlife movements and migration patterns in and around the FOSW Call Areas and through the coastal and in-port transit zones for shipping traffic, subsea and surface transmission lines, power grid connections and power storage sites are essential before leasing, permitting and construction occurs.

[1] https://www.gov.ca.gov/wp-content/uploads/2020/10/10.07.2020-EO-N-82-20-.pdf

[2] Allen, M. C., & Campo, M. (2020). *Ecological Monitoring and Mitigation Policies and Practices at Offshore Wind Installations in the United States and Europe*. https://doi.org/10.7282/t3-wn1p-cz80

FOSW leasing, development, and operations requires ongoing study of methods and technologies that will lessen or mitigate the deleterious effects—especially population-level effects—on coastal and pelagic wildlife and associated ecosystems in California. To identify and assess mitigation strategies that might reduce the magnitude of the environmental effects from FOSW, Farr et al. (2021) conducted a qualitative review[3] of published articles on existing wind energy projects. The authors determined these projects could serve as analogs for estimating and minimizing the potential harmful effects of FOSW caused by physical, acoustical, electromagnetic and other assaults on ocean and atmospheric dynamics and marine habitats and species.

State and federal agencies must support further study of the distribution and migration patterns for marine mammals, birds, sea turtles and fish. Existing data suggest that the Call Areas in California overlap important wildlife transit corridors, and additional research (e.g., modeling, population viability analysis) is needed to understand whether the siting of FOSW turbines and associated construction and servicing operations will displace, attract or otherwise impact the natural behavior or survival of these species.

Comprehensive monitoring must occur beyond the post-construction phase of wind projects to identify future problems and adapt mitigation strategies over time. Research and information systems must use and build upon existing technologies and datasets, such as the Motus Wildlife Tracking System[4] and the PaCSEA[5] bird survey data, to document movements of wildlife within and around the California FOSW Call Areas. Stakeholders will have to identify monitoring gaps by chronicling and evaluating the utility of existing monitoring capabilities; however, EPIC funding can make a long-term programmatic commitment to study and apply new monitoring technologies to mitigate the potential harmful effects of FOSW and allow offshore renewable energy generation to coexist with coastal and pelagic wildlife.

EPIC FOSW research priorities should include:

- Analysis of secondary entanglement risks from FOSW turbine structures
- Analysis of marine mammal habitat displacement risks from FOSW siting and operations
- Analysis of distribution impacts to marine mammals and fishes
- Analysis of offshore wind-related structure impact on benthic habitats
- Evaluation of electromagnetic field risks to sensitive species
- Creation of a monitoring technologies development roadmap

Funding should be provided to evaluate potential specific and cumulative impacts of FOSW development and operationalization on marine wildlife and natural systems.

[3] Farr, H., Ruttenberg, B., Walter, R. K., Wang, Y.-H., & White, C. (2021). Potential environmental effects of deepwater floating offshore wind energy facilities. *Ocean & Coastal Management*, *207*, 105611. https://doi.org/10.1016/j.ocecoaman.2021.105611
[4] https://motus.org/
[5] https://databasin.org/datasets/09d1c7ad519b43b3a2682d850bbf787b/

In 2020, several workgroups formed out of the State of the Science Workshop on Wildlife and Offshore Wind Energy,[6] which was hosted by the New York State Energy Research and Development Authority. The seven topical workgroup reports[7] covered Bats,[8] Benthos,[9] Birds,[10] Environmental Change,[11] Fishes & Mobile Invertebrates,[12] Marine Mammals[13] and Sea Turtles.[14] The task of the workgroups was to identify a list of priority studies that could be implemented in the next five years to position the stakeholder community to better understand cumulative impacts as the offshore wind industry develops in the eastern U.S. EPIC funding should be considered to support a similar approach for California.

Provide ongoing funding to support and expand the Offshore Renewable Wind Energy Gateway.

Research must target critical questions and data gaps specific to California and the identified Call Areas, and that data has to reside in an accessible location for use by all parties. The Offshore Renewable Wind Energy Gateway,[15] designed on the DataBasin[16] platform to support BOEM's California Intergovernmental Renewable Energy Task Force, is a valued resource is this regard; however, the Gateway requires continued funding and expertise to remain current with pertinent data. Over the next several years, priority studies will generate extensive datasets on wind resources, ecological and natural resources, commercial and recreational uses and stakeholder values that will have to flow into the Gateway to maintain its utility as a mapping and analysis tool.

Conclusion

Defenders appreciates the CEC's continued efforts to understand the intertwining issues of FOSW development and the protection of California's marine wildlife and ecosystems. We urge the CEC to support intensive, long-term scientific study of the cumulative impacts of FOSW on marine and coastal natural resources. Please contact me at AJohnson@defenders.org if you have any questions.

Sincerely,

Andrew Johnson
California Representative

[6] https://www.nyetwg.com/2020-workshop
[7] https://www.nyetwg.com/2020-workgroups
[8] https://a6481a0e-2fbd-460f-b1df-f8ca1504074a.filesusr.com/ugd/78f0c4_fe36c3c091724b14a884851859966ad1.pdf
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[15] https://caoffshorewind.databasin.org/
[16] https://databasin.org/

cc:
Wade Crowfoot, California Natural Resources Agency
Armando Quintero, California Department of Parks and Recreation
Jack Ainsworth, California Coastal Commission
Charles Bonham, California Department of Fish and Wildlife
Jennifer Lucchesi, California State Lands Commission
Mark Gold, Ocean Protection Council