APPENDIX G

Comment Letters and Emails Received during
Draft PEA Public Review Period
Vandenberg Offshore Wind Energy Projects

APPENDIX G-1 – List of Commenters

APPENDIX G-2 – Agency Comments

APPENDIX G-3 – ENGO Comments

APPENDIX G-4 – Fishing Organization Comments

APPENDIX G-5 – Labor Organization Comments

APPENDIX G-6 – Individuals Comments

APPENDIX G-1 – List of Commenters

Agencies

- California Coastal Commission
- California Department of Fish and Wildlife and California Ocean Protection Council (Joint Letter)
- National Oceanic and Atmospheric Administration, National Marine Fisheries Service
- National Oceanic and Atmospheric Administration, Office of National Marine Sanctuaries
- California Coastal Commission (Survey Response)
- Ventura County Air Pollution Control District (Survey Response)

ENGOs

- Environmental Defense Center (Joint Letter)
    - Defenders of Wildlife, California
    - Sierra Club California
    - Natural Resources Defense Council
    - Center for Biological Diversity
    - Santa Barbara Audubon Society
    - Ventura Audubon Society
    - Gaviota Coast Conservancy
    - Surfrider Foundation
    - American Bird Conservancy
    - National Audubon Society
    - Ocean Conservation Research
    - Monterey Aquarium
- National Audubon Society
- San Diego Audubon Society

Fishing Organizations

- Alliance of Communities for Sustainable Fisheries
- International Law Offices of San Diego
- Pacific Coast Federation of Fishermen's Associations
- Pacific Fishery Management Council
- Port San Luis Fisherman Association
- Tom St. John
- Gary Burke (Survey Response)
- Peter Flournoy (Survey Response)
- Chris Pavone (Survey Response)

Labor Organizations

- Attorneys for Southwest Regional Council of Carpenters

Individuals

- Richard Charter
- Andrew Rasmussen
- Michael Cohen and Michael Cohen (Survey Response)
- Bill Varney (Survey Response)
- Anonymous (Survey Response)

APPENDIX G-2 – Agency Comments

CALIFORNIA COASTAL COMMISSION
455 MARKET STREET, SUITE 300
SAN FRANCISCO, CA 94105
VOICE (415) 904- 5200
FAX (415) 904- 5400
TDD (415) 597-5885

September 13, 2021

California State Lands Commission
Attention: Eric Gillies
100 Howe Ave., Suite 100-South
Sacramento, CA 95825-8202

Subject: Comments on Draft Preliminary Environmental Assessment for two proposed offshore wind energy projects near Vandenburg SFB, CA

Dear Mr. Gillies,
Thank you for the opportunity to provide input on the Draft Preliminary Environmental Assessment (PEA) for two proposed offshore wind energy projects near Vandenburg Space Force Base. The two project applicants are CADEMO Corporation (CADEMO), and IDEOL USA, Inc. (IDEOL). Both the CADEMO and IDEOL projects are proposed in State waters approximately 2.5 nm off the coast. The CADEMO project would install four floating wind turbines with individual capability of generating 12 to 15 MW of renewable energy. These four wind turbines would test two different floating foundation designs to evaluate their performance. The IDEOL project would install up to four floating wind turbines using a damping barge floating foundation. The electricity produced from the IDEOL project would serve Vandenburg and California ratepayers. Both projects propose installing transmission lines to shore and would require onshore development, including additional transmission and a substation to transport the electricity to the grid.

The State of California has set ambitious renewable energy goals and is committed to achieving these goals in our efforts to combat climate change. As one of the agencies on the front line of efforts to adapt and plan for sea level rise and other climate change effects, Coastal Commission (Commission) staff understand the urgency of reversing our dependence on fossil fuels and transitioning to renewable energy sources. Given California's vast offshore wind resource, offshore wind energy has the potential to be a significant contributor to the State's renewable energy portfolio. However, as a new industry in California using nascent technology, it is important to remain thoughtful and thorough in the siting and design analysis of offshore wind projects both to ensure that impacts to our valuable resources are avoided and/or minimized and to facilitate success for early offshore wind projects.

The Commission has direct permitting authority over development in State waters, and as such, the proposed projects would require a coastal development permit from the

Commission. As authorized through the California Coastal Management Program, the Commission also has authority to review projects on Federal waters or lands that may impact the coastal zone. From the PEA, it appears that the onshore portions of the projects are on Federal land, and would thus be subject to federal consistency review under the Coastal Zone Management Act. Should the State Lands Commission proceed with an Environmental Impact Report (EIR), the Commission would use information in the EIR to assist with our assessment of impacts to coastal resources. Please consider the following comments:

Development of Project Alternatives
Commission staff strongly supports the development of alternatives to the proposed projects, particularly alternatives that consolidate the cable routes to shore, the substation, and other project elements that could be combined. Consolidating transmission elements of the two projects would reduce environmental impacts associated with laying cable and substation construction. Efforts to analyze the impacts of the projects with shared or consolidated transmission would be valuable to understand impacts to coastal resources.

Additionally, we support alternatives that consider turbines sited further offshore. Existing data generally shows that the closer the proposed project location is to shore, the greater the likelihood and magnitude of adverse impacts to sensitive marine species. Density maps for marine species compiled in the Offshore Wind Energy Databasin (https://caoffshorewind.databasin.org), indicate that marine mammals and seabirds are generally found in higher densities closer to the shoreline. Many of these species rely on the ecologically rich waters found in shallower water closer to the coast. Specifically, the proposed project location is in a biologically important area for blue whale feeding.[1] We support the inclusion of alternative locations for these projects in areas with lower marine mammal and seabird density, particularly areas further from the coast, to better avoid and minimize environmental impacts.

One potential benefit of the smaller projects proposed in State waters is to provide a research platform to advance the understanding of interactions of floating offshore wind with California's environment. The environmental research opportunities could inform impact analysis and the development of monitoring approaches and technologies for larger scale offshore wind projects located further offshore in federal waters. However, this is not a stated goal of either project, and thus it is uncertain if this benefit would ever be realized. Further, if research was conducted, it is unclear if the environmental data collected in these locations would be transferrable to projects located more than 20 miles offshore. Here again, examining alternative locations further offshore would

[1] A map of biologically important areas for blue whales is available here: https://caoffshorewind.databasin.org/datasets/e20a2b0787844ed597ec4523494f8557/

increase the likelihood that data and information gathered at these smaller scale projects would be useful for larger scale projects further offshore.

Project Duration
The PEA includes details on the turbines and equipment that indicates a design life of 25-30 years. This is a very long duration for a pilot or demonstration project. Should the project move forward in the CEQA review process, we request clarification from the State Lands Commission on the proposed lease duration for the project, and a rationale for the length of time required for the pilot or demonstration project.

Scenic and Visual Impacts
The Coastal Act states that "The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, [and] to be visually compatible with the character of surrounding areas," (PRC §30251). As discussed in the EA, the proposed projects will have visual impacts along the rail routes and at multiple beaches. We are concerned about potential visual impacts along an important and iconic stretch of coast and support a more detailed visual impacts assessment in future environmental analysis of the project.

Impacts to Marine Resources
The use of mid-water suspension for inter-array cables, as proposed in the projects, may increase the risk of entanglement to marine species. Whale entanglements have increased substantially off the west coast since 2013.[2] Commission staff recommends analyzing the feasibility of burying interarray cables to reduce this risk. Much of the focus on reducing entanglements has focused on the Dungeness Crab fishery, and the California Dungeness Crab Fishing Gear Working Group has developed best practices for minimizing whale entanglement that may inform inter-array cable design.[3]

Commercial and Recreational Fishing
Offshore wind development will likely affect other ocean users, including the fishing community and seafood processing community. Prior correspondence between fishermen and Commission staff have indicated that fishing communities have concerns about offshore wind being located in close proximity to the shore. In particular, the PEA and comments from industry members note the importance of certain commercial harvests such as market squid, halibut, crab, and several other nearshore fisheries. We encourage a thorough economic impact analysis of the proposed projects on the fisheries present in this area so that impacts to the fishing industry can be sufficiently

[2] The NOAA 2020 West Coast Entanglement Summary is available here: https://media.fisheries.noaa.gov/2021-03/2020_West_Coast_Whale_Entanglement_Summary.pdf?null
[3] 2020-2021 Best Practices Guide for Minimizing Marine Life Entanglement: https://www.opc.ca.gov/webmaster/_media_library/2020/11/2020-21_BPG_Final.pdf

characterized and necessary any potential mitigation measures can be taken to minimize fishery related impacts.

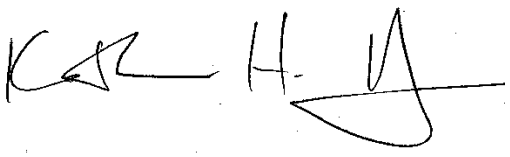
Commission staff recognizes and appreciates the considerable effort State Lands staff put into outreach to fisherman related to these potential projects. We hope that information gathered from community and fishing outreach undertaken as part of this process will help inform collaborative efforts by multiple State agencies, including the State Lands Commission, Energy Commission, Coastal Commission and Department of Fish and Wildlife to better understand potential impacts to harvesters and other industry members as a result of offshore development.

Navigation
The addition of these two offshore wind projects may present hazards to navigation. As the project description is further developed, please indicate how the projects would be identified to ensure safe navigation. A navigation safety risk assessment from the Coast Guard is an important part of the permitting process that would ensure safe navigation around the project area.

Decommissioning, Cleanup and Removal
As these projects are further considered, please ensure adequate contingency measures are ensured as part of this project's leasing process to ensure successful decommissioning and removal of all associated development, including buried transmission cables, in the future.

We thank you, again, for the opportunity to comment on the PEA. We look forward to learning more about the projects as they are further developed and working with you as you further consider and analyze the projects. If you have questions about our comments, please reach out to Holly Wyer at holly.wyer@coastal.ca.gov.

Sincerely,



Kate Huckelbridge
Deputy Director, Energy, Ocean Resources and Federal Consistency
California Coastal Commission

September 13, 2021

Eric Gillies
Assistant Chief, Environmental Planning and Management Division
California State Lands Commission
100 Howe Avenue, Suite 100-South
Sacramento, CA 95825-8202
stateapplications.OSW@slc.ca.gov

VANDENBERG OFFSHORE WIND ENERGY PROJECTS DRAFT PRELIMINARY ENVIRONMENTAL ASSESSMENT

Dear Mr. Gillies:

The California Department of Fish and Wildlife (Department) received a Draft Preliminary Environmental Assessment (PEA) from the California State Lands Commission (Commission) for the Vandenberg Offshore Wind Energy Projects (Project). The Department previously submitted comments via email, dated April 8, 2021, regarding the Project in response to the Commission's request.

Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project that may affect California fish and wildlife. Likewise, we appreciate the opportunity to provide comments regarding those aspects of the Project that the Department, by law, may be required to carry out or approve through the exercise of its own regulatory authority under the Fish and Game Code.

DEPARTMENT ROLE

The Department is California's Trustee Agency for fish and wildlife resources and holds those resources in trust by statute for all the people of the state. (Fish and Game Code, Section 711.7, subd. (a) & 1802; Pub. Resources Code, Section 21070; CEQA Guidelines Section 15386, subd. (a).) The Department, in its trustee capacity, has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species. (Id., Section 1802.) The Department is also responsible for marine biodiversity protection under the Marine Life Protection Act in coastal marine waters of California and ensuring fisheries are sustainably managed under the Marine Life Management Act.

Similarly, for purposes of the California Environmental Quality Act (CEQA), the Department is charged by law to provide, as available, biological expertise during public agency environmental review efforts, focusing specifically on projects and related activities that have the potential to adversely affect fish and wildlife resources. The Department is also submitting comments as a Responsible Agency under CEQA (Pub. Resources Code, Section 21069; CEQA Guidelines, Section 15381) and may need to exercise regulatory authority as provided by the Fish and Game Code. As proposed, the Project may result in "take," as defined by State law, of species protected under the California Endangered Species Act (CESA; Fish and Game Code, Section 2050 et seq.), and related authorization as provided by the Fish and Game Code may be required. Likewise, the Project may be subject to the Department's lake and streambed alteration regulatory authority (Fish and Game Code, Section 1600 et seq.).

Lastly, Fish and Game Code Sections 1002, 1002.5 and 1003 authorize the Department to issue permits for the take or possession of wildlife, including mammals, birds and the nests and eggs thereof, reptiles, amphibians, fish, certain plants, and invertebrates for scientific, educational, and propagation purposes. The Department currently implements this authority through Section 650, Title 14, California Code of Regulations, by issuing Scientific Collecting Permits to take or possess wildlife for such purposes.

Ocean Protection Council

The California Ocean Protection Council (OPC) is a Cabinet-level state policy body within the California Natural Resources Agency that advances the Governor's priorities for coastal and ocean policy and works broadly to protect healthy coastal and ocean ecosystems for current and future generations. OPC was established by the California Ocean Protection Act, and its actions are guided by the Strategic Plan to Protect California's Ocean and Coast (2020-2025). One of the stated blue economy objectives in the strategic plan is to work towards development of commercial scale OSW in California that minimizes impacts on marine biodiversity, habitat, currents and upwelling, fishing, cultural resources, navigation, aesthetics and visual resources, and military operations. OPC prioritizes collaboration between state and federal agencies and other partners to maximize consistency in decision-making and safeguard California's coast and ocean.

PROJECT DESCRIPTION SUMMARY

Proponents: CADEMO Corporation (CADEMO) and IDEOL USA Inc. (IDEOL)

Objective: The Project includes two lease applications (CADEMO and IDEOL) for similar offshore wind energy projects in State waters. CADEMO's objective is to install and operate four floating offshore wind turbines, each with the capability to produce 12 to 15 megawatts (MW) of electricity. CADEMO plans to assess the performance of two types of floating platforms, a barge platform and tension-leg platform, which would be moored and anchored to the seafloor within the 6.2-square-mile lease area. IDEOL's objective is to

engineer, construct, install, operate, and decommission a floating offshore wind electrical generation demonstration project, with up to four turbines capable of producing 10 MW of electricity each. IDEOL proposes to use floating barge concrete foundations moored to the seafloor within the 5.2-square-mile lease area.

Currently, the proponents are considering various options for offshore Project infrastructure, including different types of anchoring systems (drag embedment anchors, suction bucket anchors, vertical loading anchors, and suction piles) and inter-array cable (IAC) configurations. IAC cables would be at least partially suspended in the water column between turbines for both projects, using either a "free hanging catenary" or "lazy wave" configuration. CADEMO specifies that, outside the anchor patterns, IAC cables would be buried to a depth of five feet between turbines.

Both projects would also require installation of static cables to transport energy from the turbines to the onshore cable landing sites. Static cables would be laid on the seafloor by a cable-laying vessel. The proponents are considering a range of burial methods, including a cable plough, trenching tool, tracked-cable burial machine, free swimming remotely operated vehicle with cable burial capability, and burial sled. CADEMO specifies a burial depth of five feet. If, in certain areas, full burial is not possible, cables would be protected/stabilized using rock placement, articulated ducting/armored cable, grout or sandbags, URADUCT® product, and/or concrete mattresses.

CADEMO and IDEOL both plan to build new substations to serve as the onshore cable landing sites, from where they would install the offshore static cables using the horizontal directional drilling (HDD) method. Both proponents also plan to install new overhead transmission lines that would run from the new substations. CADEMO's transmission line would run for approximately 11 miles to another existing substation (Surf Substation), and IDEOL's line would run for approximately 4.2 miles to another existing substation (Substation N). Surf Substation and Substation N would both require expansions to accommodate new infrastructure.

The Project would require the use of one or, more likely, multiple ports for the construction and assembly of the floating platforms and turbines. Both proponents have expressed that Port Hueneme in Ventura County is their preferred port location and have also identified the Port of Long Beach as a potential location. It is anticipated that reinforcement of facilities at Port Hueneme would be needed to increase load capacity. Additionally, the navigation channel at Port Hueneme may not be deep enough to accommodate a fully assembled floating wind turbine and, therefore, an offshore construction site may be necessary for final assembly.

During Project operation, periodic visits to the wind turbines would be needed for inspection, maintenance, and repair activities. CADEMO expects four visits per month by one dedicated support/maintenance vessel. IDEOL specifies that system maintenance activities would require up to 12 personnel and four vessels per month. Onshore

substations and overhead transmission lines may also need regular maintenance and repairs.

Exclusion areas prohibiting public navigation would be created as part of each project. CADEMO proposes an initial 1,968-foot buffer around each turbine and anticipates this could be reduced. IDEOL proposes to prohibit use of the entire lease area.

Both projects would eventually be decommissioned, including removal of the turbines, mooring lines, and anchors. Unburied electric cables would also be removed, and buried sections of cables would be assessed to determine the feasibility, safety risks, and environmental damage associated with removing the cables or leaving them in place. Onshore infrastructure would also be removed if it cannot be repurposed.

Location: The offshore portion of the Project would be located in State waters off the coast of Vandenberg Space Force Base (VSFB) in central California, to the west of the Vandenberg State Marine Reserve (SMR). The onshore portion of the Project would be located on VSFB. The CADEMO lease area (approximate Lat/Long: 34.574702°, -120.701444°) is situated to the south of the IDEOL lease area (approximate Lat/Long: 34.607809°, -120.684538°).

Timeframe: Project start and end dates are not specified in the Draft PEA. The CADEMO turbines have a design life of 25 years, while the IDEOL turbines have a design life of 30 years.

BIOLOGICAL SIGNIFICANCE

This region of the California coast, where central California connects to the southern California bight, is of particular ecological significance for California's marine environment. As described in the Draft PEA, the meeting of the southward-flowing California Current and the northward-flowing Davidson countercurrent results in a mixing of cold- and warm-water communities and high biodiversity. This ocean region, including the Vandenberg SMR, hosts diverse habitats and hundreds of marine plant, fish, invertebrate, seabird, turtle, and mammal species. Habitats such as kelp forests, rocky reef, and the sandy seafloor provide organisms with nursery grounds, shelter, and areas to forage and reproduce. The state's economy is bolstered by this unique area of the coastline, which supports numerous fisheries, ecotourism, commerce, and recreation.

Similarly, the region stretching from Point Sal to Point Conception, is considered an important ecological transition between northern and southern California terrestrial ecology and supports unique plant and animal assemblages not found elsewhere in California. The Project is within the Pacific Flyway, a major bird migratory route.

COMMENTS AND RECOMMENDATIONS

The Department offers the comments and recommendations below to assist the Commission in adequately anticipating, identifying, and/or mitigating the proposed Project's significant, or potentially significant, direct and indirect impacts on fish and wildlife resources. The Department appreciates the Commission's consideration of our previous comments on the Project and intends to provide additional information and guidance regarding potential impacts that are not yet included in the Draft PEA below. The Department has referenced several Workshop Reports for the *State of the Science Workshop on Wildlife and Offshore Wind Energy 2020: Cumulative Impacts*. We recommend that the Commission refer to these reports for more information on the state of knowledge regarding offshore wind development's potential effects on wildlife and possible methods to address information gaps. The Department also recommends the Commission review the U.S. Department of Energy's Offshore Wind Synthesis of Environmental Effects Research (SEER) project reports that are due to be released Fall of 2021.

I. Protected Species

Species protected under state or federal law that could potentially be present near Project activities include, but are not limited to:

- Leatherback sea turtle (*Dermochelys coriacea*); federally endangered and state candidate species
- Guadalupe fur seal (*Arctocephalus townsendi*); state and federally threatened, state fully protected
- North Pacific right whale (*Eubalaena japonica*); state fully protected and federally endangered
- Sei whale (*Balaenoptera borealis*); federally endangered
- Blue whale (*Balaenoptera musculus*); federally endangered
- Fin whale (*Balaenoptera physalus*); federally endangered
- Humpback whale (*Megaptera novaeangliae*); federally endangered (Central America Distinct Population Segment [DPS]) and federally threatened (Mexico DPS)
- Sperm whale (*Physeter macrocephalus*); federally endangered
- Northern elephant seal (*Mirounga angustirostris*); state fully protected
- American peregrine falcon (*Falco peregrinus anatum*); state fully protected
- California least tern (*Sternula antillarum browni*); state and federally endangered, state fully protected
- Western snowy plover (*Charadrius nivosus nivosus*); federally threatened and state species of special concern
- Gaviota tarplant (*Deinandra increscens ssp. villosa*); state and federally endangered
- Beach layia *(Layia carnosa*); state and federally endangered
- Surf thistle (*Cirsium rhothophilum*); state threatened
- Beach spectaclepod (*Dithyrea maritima*); state threatened

- La Graciosa thistle (*Cirsium scariosum var. loncholepis*); state threatened and federally endangered
- California red-legged frog (*Rana draytonii*); federally threatened
- Monarch - California overwintering population *(Danaus plexippus* pop. 1); federal candidate species
- Steelhead - southern California DPS (*Oncorhynchus mykiss irideus* pop. 10); federally endangered
- Tidewater goby (*Eucyclogobius newberryi*); federally endangered

The California Native Plant Society's Rare Plant Ranking system ranges from presumed extinct species, California Rare Plant Rank (CRPR) 1A, to limited distribution species now on a watch list, CRPR 4. Plants with a California Rare Plant Rank of 1B are rare throughout their range with the majority of them endemic to California. All plants constituting CRPR 1B, 2B, and many of the CRPR 3 and 4 list plants, meet the definitions of the California Endangered Species Act of the California Fish and Game Code, and are eligible for state listing (CEQA Guidelines Section 15125 (c) and/or Section 15380). Species of Special Concern (SSC) and plants that meet the definitions of the California Endangered Species Act of the California Fish and Game Code and are eligible for state listing include:

- Crisp monardella (*Monardella undulata ssp. crispa)*; CRPR 1B.2
- Black-flowered figwort (*Scrophularia atrata*); CRPR 1B.2
- San Luis Obispo monardella (*Monardella undulata ssp. undulata*); CRPR 1B.2
- Coulter's goldfields (*Lasthenia glabrata ssp. coulteri*); CRPR 1B.1
- Sand mesa manzanita (*Arctostaphylos rudis*); CRPR 1B.2
- Coastal goosefoot (*Chenopodium littoreum*); CRPR 1B.2
- Robinson's pepper-grass (*Lepidium virginicum var. robinsonii*); CRPR 4.3 (S3)
- Point Arguello monardella (*Monardella undulata ssp. arguelloensis*); CRPR 1B.1
- Southern curly-leaved monardella (*Monardella sinuata ssp. sinuate*); CRPR 1B.2
- Mesa horkelia (*Horkelia cuneata var. puberula*); CRPR 1B.1
- Black-flowered figwort (*Scrophularia atrata*); CRPR 1B.2
- La Purisima manzanita (*Arctostaphylos purissima*); CRPR 1B.1
- Kellogg's horkelia (*Horkelia cuneata var. sericea*); CRPR 1B.1
- Blochman's leafy daisy (*Erigeron blochmaniae*); CRPR 1B.2
- San Luis Obispo monardella (*Monardella undulata ssp. undulata*); CRPR 1B.2
- Crisp monardella (*Monardella undulata ssp. crispa*); CRPR 1B.2
- Santa Barbara ceanothus (*Ceanothus impressus var. impressus*); CRPR 1B.2
- Townsend's big-eared bat (*Corynorhinus townsendii*); SSC
- Pallid bat (*Antrozous pallidus*); SSC
- Hoary bat (*Lasiurus cinereus*); SSC
- Western red bat (*Lasiurus blossevillii*); SSC
- Yuma myotis (*Myotis yumanensis*); SSC
- Northern California legless lizard (*Anniella pulchra*); SSC
- American badger (*Taxidea taxus*); SSC

- Western pond turtle (*Emys marmorata*); SSC
- Rhinoceros auklet (*Cerorhinca monocerata*); International Union for Conservation of Nature (ICUN) Red List

Recommendations: Project activities should avoid direct and indirect impacts to CESA-listed and other protected and rare species. Potential impacts include, but are not limited to, collision with offshore blades, take during placement of cables both onshore and on the seafloor, construction activities, and vessel strikes. The Draft Environmental Impact Report (EIR), if produced, should document all potential protected species in the Project area, potential impacts, and proposed mitigation. Impact assessments should include impacts to individuals (if plants, their seedbank), and the habitat that supports any CESA-listed species should be avoided. The Department recommends identifying seasonal abundance, migration routes, and known breeding and feeding areas of protected species in the vicinity of the Project. The Draft EIR should also consider best available science regarding how climate change may affect seasonal abundance, migration, and breeding and feeding areas. The Project should avoid migration routes and breeding and feeding areas to the greatest extent possible. For potential impacts to CESA-listed species, the proponents should further consult with the Department regarding incidental take coverage through a 2081(b) permit (Fish and Game Code, Section 2050 et seq.). A candidate species is afforded the same protections under CESA as a state-listed endangered or threatened species.

Impacts to CRPR plants or their habitats must be analyzed during preparation of environmental documents relating to CEQA, or those considered to be functionally equivalent to CEQA, as they meet the definition of Rare or Endangered under CEQA. To assist professional botanists in evaluating CRPR 4 species for CEQA consideration, the technical memorandum *Considerations for Including CRPR 4 Plant Taxa in CEQA Biological Resource Impact Analysis* (CNPS 2020) should be consulted.

II. Marine Impacts

1. Fisheries

Comments: Potential adverse impacts to commercial and recreational fisheries from the Project are a major concern for the Department. Impacts could result from a range of factors, including loss of accessible fishing area, loss of fishing gear from snagging on Project infrastructure, navigational hazards, degradation of habitat, and/or direct impacts on fished populations (e.g., changes in larval dispersion). The proposed lease areas and cable routes overlap with fishing grounds for several important fisheries, such as Dungeness crab (*Metacarcinus magister*), California market squid (*Doryteuthis opalescens*), and California halibut (*Paralichthys californicus*), and are located within Essential Fish Habitat for various species within the Pacific Coast Groundfish Fishery Management Plan (FMP) and the Coastal Pelagic Species FMP under the Magnuson-Stevens Fishery Conservation and Management Act.

Recommendations: During the development of the Draft EIR or sooner, the Department recommends that the Commission conduct a commercial and recreational fisheries analysis that focuses on impacts to both federally and state-managed species and associated habitats. The Commission should consult the Department, commercial and recreational fishers, National Oceanic and Atmospheric Administration (NOAA) Fisheries, the Pacific Fishery Management Council, and relevant data sources such as the California Cooperative Oceanic Fisheries Investigations (CalCOFI) larval fish data sets regarding potential impacts to fisheries from the Project and whether the proposed lease locations are in conflict with existing commercial and recreational fisheries. The Commission should also consult the above entities regarding appropriate mitigation measures. If the Commission moves forward with a Draft EIR, it should include an extensive detailed discussion of the fisheries analysis and mitigation measures discussed by the Department, other resource agencies, and stakeholders.

2. Changes to Ocean Dynamics

Comments: The Department agrees with the Draft PEA that the Project may result in changes to localized wind patterns, currents, wave action, ocean circulation, and temperature. These changes, in turn, may impact marine organisms and their habitats, and impacts could have greater significance due to the nearby Vandenberg SMR.

As stated in the Draft PEA, floating platforms my act as localized breakwaters and disrupt surface currents and other ocean conditions. A study funded by the Bureau of Ocean Energy Management (BOEM) conducted modeling experiments to evaluate potential changes in ocean circulation patterns due to installation of wind turbines off the coast of New England (Chen et al. 2016). Model simulations showed that the presence of wind turbines influenced currents, surface waves, and bottom stress, both within the facilities themselves and on a regional scale. The results indicated that near-coastal wind turbines, such as the Block Island Wind Farm, can have a more pronounced impact on local marine conditions than wind turbines farther offshore. Modeling also predicted changes in larval dispersion due to wind turbines.

Other studies have shown changes in suspended sediment (Vanhellemont and Ruddick 2014; Baeye and Fettweis 2015) and increased turbulence and mixing (Schultze et al. 2020) associated with offshore wind farms. These and other resources are referenced in the *Environmental Stratification Workgroup Report* for the State of the Science Workshop on Wildlife and Offshore Wind Energy 2020: Cumulative Impacts (Carpenter et al. 2021).

Recommendations: Currently, the effect of floating wind turbines on ocean conditions is mostly speculative, based on fixed-bottom turbines and other analogs. For this reason, the Department recommends that the Project collect baseline data and conduct hydrodynamic modeling similar to Chen et al. (2016) to simulate how the Project may change ocean circulation patterns including upwelling, and larval dispersion in the region to inform the Draft EIR. As stated in the Draft PEA, impacts from the platforms,

mooring anchors, cables, and cable protection materials on ocean conditions and processes should all be analyzed within the Draft EIR. If the Project moves forward, it will be critical to continue to study ocean dynamics in the Project area, as this will provide important information for future offshore wind development in California.

3. Water Quality Degradation and Pollution

Comments: As noted in the Draft PEA, water quality may be degraded by Project construction, cable laying, and unintentional discharges from vessels. Depending on sediment characteristics, the turbidity plumes from cable laying can reach several tens of hectares and persist in the water column for several days (Taormina et al. 2018). While temporary, associated impacts on marine life—such as light limitation, decreased feeding, egg burial (e.g., squid eggs), and fish gill damage—may have greater significance due to the cable routes' proximity to the Vandenberg SMR. The Department notes that in Farr et al. (2021), referenced in this section of the Draft PEA, the authors did not incorporate turbidity impacts into their evaluation of water quality changes, which they determined to be minimal. This assessment was mainly based on chemical contamination via corrosion and biofouling protection measures and therefore should not be used to characterize all potential water quality effects.

Water quality degradation around wind turbines may also result from increased deposition of organic matter in the form of detritus and biodeposits (fecal and pseudo-fecal pellets) from fouling communities that have established on the platforms. These are fine sediments and can collect below turbines and be easily resuspended by stronger currents, leading to the formation of suspended particulate matter plumes within the facility (Baeye and Fettweis 2015). Collection of biodeposits on the seafloor can also have effects on benthic communities (see "Benthic Habitats" below).

Recommendations: If the Project moves forward, water quality monitoring should be conducted in the Project area, including along the cable routes, before construction begins to establish a baseline. The Department recommends that the Commission model the hydrodynamics along the cable routes to predict how turbidity plumes from cable laying could impact the surrounding area, including the Vandenberg SMR. Water quality monitoring during cable laying and below/around the floating turbines during Project operation is also recommended.

If corrosion and biofouling protection measures are used, the Department recommends nontoxic alternatives, such as those discussed by Farr et al. (2021). The Department reminds the Commission and proponents that, pursuant to Fish and Game Code 5650, it is unlawful to deposit into, permit to pass into, or place where it can pass into waters of the state any substance or material deleterious to fish, plant life, or bird life.

Spill contingency planning is critical for protecting sensitive resources from damage. The Department recommends that the Commission and proponents consult with the Department's Office of Spill Prevention and Response (OSPR) regarding existing State

protocols for these types of projects. The Department recommends the use of Best Management Practices for all hazardous materials that may be used during the proposed Project and the creation of a Spill Response Plan prior to any construction activities.

4. Habitat Alteration and Benthic Impacts

Comments: The Department expects that the Project will alter marine habitat primarily through benthic impacts and the creation of artificial reefs. As the Draft PEA describes, Project activities such as cable laying will likely displace or damage benthic invertebrate communities. The Department agrees that disturbance of hard substrate communities could have long-term adverse impacts on these ecosystems. The Draft PEA indicates that impacts to soft-sediment communities during wind turbine operation would be temporary, but the Department asserts that this may not be the case.

In soft-sediment environments such as the Project area, the addition of hard structure will increase available habitat for a range of native and nonnative marine species. Fouling organisms such as mussels, macroalgae, and barnacles rapidly colonize all submerged parts of any new offshore wind facility (Degraer et al. 2020) and their presence may alter the surrounding benthic habitat during the lifetime of the Project or longer. Monitoring at the Block Island Wind Farm within four years after installation showed substantial changes in benthic habitats up to 90 meters away from turbine foundations (Hutchison et al. 2020). Large mussel aggregations, some 50 cm deep, developed on the seabed within the turbine footprints. After three years, the benthic habitat (or biotope) out to 90 meters surrounding one of the turbines shifted from a polychaete-dominated biotope to a biotope co-dominated by barnacles and mussels.

Biodeposits from mussels and other fouling organisms could also impact the surrounding benthic habitat via organic enrichment (Degraer et al. 2021). At an offshore wind turbine in the North Sea, sediment grain size decreased, and organic matter increased along a gradient moving closer to the turbine (Coates et al. 2013). This phenomenon has also been observed within longline mussel farms, and changes in sedimentation, sediment chemistry, nutrient fluxes, and infaunal communities have been reported (McKindsey et al. 2010).

The benthic environment surrounding turbines and power cables may also be affected by the introduction of energy emissions such as electromagnetic fields (EMF), noise, vibrations, and heat (Degraer et al. 2021). As stated in the Draft PEA, there are various potential impacts to marine species from EMF (also see Fisher and Slater 2010); however, many information gaps still exist related to this topic. One consideration is that EMF may have different or greater effects on sessile/low-activity organisms or earlier life stages of mobile species inhabiting the seafloor (Degraer et al. 2021). Little is understood about the effects of noise and vibrations on benthic organisms such as fish and invertebrates; however, potential impacts include increased predation risk, reduced feeding, and effects on reproductive success (Popper et al. 2021). Power

cables will also generate heat, which may affect the surrounding benthic community (Degraer et al. 2021).

Recommendations: The Department recommends that the Project avoid any activity on or over hard-bottom substrate to the greatest extent possible. To do so, it will be critical for the Project proponents to complete detailed habitat characterizations of the lease areas and cable routes prior to development of the Draft EIR. The chemical and physical characteristics of the sediment should also be included, especially near the proposed turbine sites. The Department recommends continued benthic monitoring around wind turbines during Project operation to detect changes such as those described above. This should include, but not be limited to, assessment of changes in organic enrichment, sedimentation, and epifaunal and infaunal communities. The Department also recommends collecting baseline information within the Project areas on ambient sound, vibrations, EMF, and heat before Project construction were to begin. Continued monitoring of these conditions during Project construction and operation will provide valuable information for offshore wind development in California and elsewhere moving forward. The Draft EIR should also include an assessment of the impact of sound from turbine construction, cable installation, and operation of the turbines.

5. Wildlife Entanglement

Comments: Marine organisms may become entangled on Project infrastructure (e.g., lines, cables) or in lost fishing gear that has snagged on this infrastructure (i.e., secondary entanglement). As noted in the Draft PEA, entanglement with lines and cables themselves poses a greater risk for large whales, while secondary entanglement is more likely for smaller organisms, such as small cetaceans, pinnipeds, sea turtles, fish, and diving seabirds (Benjamins et al. 2014; Harnois et al. 2015). The *State of the Science Workshop on Wildlife and Offshore Wind Energy 2020: Cumulative* Impacts Marine Mammals Workgroup identified entanglement as a major threat to pinnipeds (Southall et al. 2021). Tertiary entanglement is also possible, where an organism already entangled in gear or other debris snags itself on Project infrastructure (Farr et al. 2021). All marine mammals and sea turtles are protected by federal law (i.e., Marine Mammal Protection Act, Endangered Species Act); thus, entanglement of any number of these species could be considered a significant impact of the Project.

Entanglement of white sharks (*Carcharodon carcharias*) by the Project is also of concern for the Department. The Project is located in an area that has been a known hot spot for white sharks in the past several years. As stated in the Draft PEA, elasmobranchs are especially sensitive to EMF emitted by power cables. In fact, they are even attracted to certain EMF frequencies and intensities and have been observed attacking submarine cables in the past (Fisher and Slater 2010). This may increase the likelihood of secondary and tertiary entanglement of white sharks and other elasmobranchs on Project infrastructure. Pursuant to Fish and Game Code Section 5517, it is unlawful to “take” (including catch, capture, or kill) any white shark in state waters.

While little to no empirical data exist regarding wildlife entanglement in marine renewable energy infrastructure, several efforts have been made to model aspects of this risk (Benjamins et al. 2014; Harnois et al. 2015; Copping and Grear 2018). One notable result is that certain mooring types likely pose a higher risk than others. NOAA is currently conducting another study, funded by BOEM, to model entanglement risk to fin and humpback whales, leatherback sea turtles, and other species offshore California in deep water (BOEM 2021). These simulations will include not only floating turbine moorings and power cable systems but also derelict fishing gear that is likely to interact with this infrastructure.

Recommendations: If a Draft EIR is developed, the Department recommends that it provide a thorough discussion of how the Project will avoid, minimize, and respond to wildlife entanglement. A marine species entanglement prevention and response plan should be developed. Regular inspection of the Project's infrastructure will be necessary to prevent fatal entanglements. Both Southall et al. (2021) and Gitschlag et al. (2021) suggest using cameras to monitor for entanglement; underwater surveys conducted by divers or ROVs could also be used. The Department recommends that, during inspections, any derelict fishing gear or other debris that has caught on Project infrastructure be removed in a timely matter.

III. Bat, Bird, and Terrestrial Impacts

1. Bats

Comments: The Department is concerned about impacts to bat species from the Project. Bats regularly occur miles offshore, with records of several hundred miles logged by fishers at sea (Pelletier et al. 2013). Pelletier et al. (2013) documents the use of bats to at least 12 nautical miles offshore using remote detectors.

Recommendations: Information on the impacts of offshore wind turbines and bats is lacking; however, terrestrial wind energy facilities have been associated with high bat mortality (Arnett et al. 2016). It is important to establish a baseline level of pre-construction activity to which post-construction activity and mortality can be compared (Hein et al. 2021). Post construction operational monitoring is also necessary as pre-construction data may not fully inform the risk to bats due to the possibility of attraction to offshore wind turbines. The Department recommends using acoustic measurements of bat-activity levels offshore as a proxy for mortality risk. Bat carcass recovery is not possible at offshore wind facilities, so alternative technology to track and monitor bat strikes, to the species level, is necessary (i.e., strike detectors, thermal cameras, acoustic detectors). Monitoring plans should be integrated into turbine design before construction. This pilot project should look to validate these technologies at land-based wind facilities prior to their deployment offshore.

Baseline data should help inform patterns of year-round bat activity, movement (migratory species and local resident movement), and use of habitat in the offshore

environment. Baseline data collection should be corrected to account for the bias toward lower-flying bat species due to placing acoustic monitors near the water surface and not in the rotor-swept zone. Data should be analyzed to the species level.

The lack of any validated mitigation approaches for offshore wind turbines and bat mortality means the approaches developed for onshore wind energy projects should be explored, such as: 1) feathering of turbine blades below cut-in speed, 2) reducing turbine operations during high-risk periods, 3) use of deterrents 4) design of lighting to avoid attractive nuisance.

Any mitigation proposed should identify an acceptable level of mortality reduction to sustain viable populations, and a mitigation strategy proposed should be proven to reduce mortality below that acceptable level.

2. Avoiding Sensitive Biological Resources

Comments: The Department is concerned that the locations identified in the Draft PEA do not consider avoidance to onshore environmental impacts to the extent marine impacts were evaluated. The Draft PEA states preferred locations were chosen based on having few environmental constraints. However, this appears to only apply to avoiding impacts within the Vandenberg SMR.

The Department is concerned about the impacts to sensitive animals and vegetation communities in coastal Santa Barbara County, and in particular within the VSFB.

The Project has the potential to affect what the Department considers locally significant and sensitive vegetation communities. In 2007, the State Legislature required the Department to develop and maintain a vegetation mapping standard for the state (Fish and Game Code Section 1940). This standard complies with the National Vegetation Classification System which utilizes alliance and association-based classification of unique vegetation stands. The Department utilizes vegetation descriptions found in the Manual of California Vegetation (MCV), found online at http://vegetation.cnps.org/. Through this MCV vegetation classification system, the Department tracks Sensitive Natural Communities and their respective rankings using the MCV alliance and association names for vegetation communities.

Recommendations: The project proponent should provide the location, acreage, species composition, and success criteria of proposed mitigation information necessary to allow the Department to determine if the Project may have a significant effect on the environment. The Department requests an opportunity to comment on alternatives, provide avoidance measures, and assess the adequacy of the mitigation proposed.

A complete, recent assessment of rare, threatened, and endangered species, and other sensitive species on site and within the area of potential effect, including SSC and California Fully Protected Species (Fish and Game Code, Sections 3511, 4700,

5050 and 5515), should be completed. Species to be addressed should include all those that meet the CEQA definition of endangered, rare, or threatened species (CEQA Guidelines, Section 15380). Seasonal variations in use of the Project area should also be addressed. Focused species-specific surveys, conducted at the appropriate time of year and time of day when the sensitive species are active or otherwise identifiable, should be conducted and the results used to guide Project alternatives in the CEQA process.

The Department recommends that floristic, alliance, and/or association-based mapping and vegetation impact assessments be conducted at the Project site and neighboring vicinity. The Draft EIR should use vegetation data collected using current alliances for the purposes of establishing a baseline for the Initial Study (IS). The IS document should identify, map, and discuss the specific vegetation alliances within the Project Area following the Department's Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities (Survey Protocols; see: https://www.wildlife.ca.gov/Data/VegCAMP/Natural-Communities). The Department recommends avoiding any sensitive natural communities found near the Project.

Effective October 1, 2018, a Scientific Collecting Permit is required to monitor project impacts on wildlife resources, as required by environmental documents, permits, or other legal authorizations; and to capture, temporarily possess, and relocate wildlife to avoid harm or mortality in connection with otherwise lawful activities (Cal. Code Regs., tit. 14, Section 650). Please visit the Department's Scientific Collection Permits webpage for information (CDFW 2021). Pursuant to the California Code of Regulations, title 14, Section 650, a qualified biologist must obtain appropriate handling permits to capture, temporarily possess, and relocate wildlife to avoid harm or mortality in connection with Project construction and activities.

3. Onshore Overhead Transmission Line

Comments: CADEMO's Project proposes to construct a new onshore overhead transmission line for approximately 11 miles from the proposed substation to the existing Surf Substation for connection to the California Independent System Operator (CAISO) power grid. IDEOL's Project proposes to construct 4.2 miles of overhead transmission lines to connect to Substation N for electrical distribution.

The Department is concerned about introducing above-ground transmission lines through an important ecological habitat area that is prone to wind and at risk for devastating wildfires. Powerline fires tend to be larger than wildland fires from other sources (Mitchell 2009). Power transmission lines were responsible for 12 wildfires in 2017 and 17 major wildfires in 2018 (Calfire Incidents Archive 2021).

Southern California shrubland habitats are resilient to specific fire frequencies and intensities. More frequent fires, higher intensity fires, and/or unnaturally short fire-return

intervals can result in the replacement (type conversion) of native communities. In many areas, fires are occurring more frequently or at a higher intensity than they would naturally, often leading to type conversion from native habitat to a vegetation community dominated by invasive weeds.

Recommendations: The Department recommends placing any transmission lines underground to reduce the risk of wildfire in this ecologically important area. Transmission lines should be buried in already-disturbed areas such as under Coast Road, to reduce impacts to habitat. The Department recommends all transmission line alignments be placed away from any listed plant or animal species occurrences to reduce both direct and indirect affects to these species, including any necessary fuel modification impacts.

Incidental take permits (ITP) may be necessary to conduct the site-specific geotechnical studies during development of the Draft EIR, as proposed in the Draft PEA, to inform pole locations. The path of the transmission lines involves known locations of several CESA-listed species.

Linear utility projects should also develop a long-term weed management plan to address the long-term land disturbance that has been shown to facilitate invasion of weeds into wildland areas.

4. Birds: Offshore (Pelagic), Migrating Birds, Nearshore Birds, Raptors, and Shorebirds

Comments: The Project is located in the Pacific Flyway, which is one of four major migratory routes for North American birds, especially waterfowl. The construction and implementation/operation of the Project have the potential to, directly or indirectly, impact SSC, CESA-listed, and federal Endangered Species Act-listed (ESA-listed) birds. The Draft EIR should evaluate both the potential impacts due to construction, as well as evaluate potential impacts to bird migratory paths from the operation of the wind turbines.

Studies have found that high cloud cover reduces the ability of birds to migrate over the Pacific Ocean (Lethaby et al. 2012). The Department is concerned that reduced visibility fog or cloud conditions will lead to injury of seabirds and shorebirds by turbine blades.

Adams et al. (2017) found that pelicans, cormorants, gulls, jaegers, and terns have the greatest population collision vulnerability with offshore wind turbines due to low in-flight turbine-avoidance rates and a high percentage of time flying at the height of turbine blades. They also found that species that migrate during the night are at higher risk for offshore turbine collisions.

Offshore turbines can function as a perch for species including falcons, serve as avoidance/movement barriers, displace birds from feeding grounds, and serve as a collision hazard. BOEM (2020) found that cormorants are strongly attracted to offshore turbines, and grebe, northern gannet, loons, sea ducks, fulmars, and alcids exhibited avoidance behaviors toward offshore wind turbines.

Recommendations: For marine birds and birds that utilize open water flight, determining the spatial and temporal variation in marine-bird distribution can help determine potential exposure of these birds to impacts from offshore wind turbines. The Department recommends utilizing BOEM's (2020) guidelines based on statistical analysis to inform potential impacts and investigate Project designs that will minimize adverse effects to birds that utilize flight over the Pacific Ocean during their life history.

For terrestrial-bird impacts, the assessments should include the Project area plus a 500-foot buffer for any occurrences of these species. Focused surveys by qualified individuals knowledgeable in shorebird biology should be conducted for presence/absence of these species, extending into the 500-foot-buffer zone, to account for Project direct and indirect effects. The Department recommends that measures be taken to avoid Project impacts to nesting birds. Migratory nongame native bird species are protected by international treaty under the Federal Migratory Bird Treaty Act (MBTA) of 1918 (Title 50, Section 10.13, Code of Federal Regulations). Sections 3503, 3503.5, and 3513 of the California Fish and Game Code prohibits take of all birds and their active nests including raptors and other migratory nongame birds (as listed under the federal MBTA). Proposed-Project activities including (but not limited to) staging and disturbances to native and nonnative vegetation, structures, and substrates should occur outside of the avian breeding season which generally runs from February 1 through September 1 (as early as January 1 for some raptors) to avoid take of birds or their eggs. If avoidance of the avian-breeding season is not feasible, the Department recommends surveys by a qualified biologist with experience in conducting breeding bird surveys to detect protected native birds occurring in suitable nesting habitat that is to be disturbed and (as access to adjacent areas allows) any other such habitat within 300 feet of the disturbance area (within 500 feet for raptors). Project personnel, including all contractors working on site, should be instructed on the sensitivity of the area. Work within the bird-nesting habitat may require mitigation if work occurs within the nesting season. Close coordination with the Department is necessary if CESA-listed birds are found within the above identified buffers (300 feet for passerines, 500 feet for raptors) to allow the Department to determine if an ITP is warranted.

5. Alteration of Microclimate

Comments: The proposed Project is a pilot project that could open the door to future offshore wind projects in these waters. The microclimate of the VSFB coast is unique in that the fog produced there supports vegetation communities, including CESA-listed plants such as the Gaviota tarplant.

The potential alteration of the fog-driven microclimate from air mixing behind turbines including altering average surface temperatures for day and night, changes in wind speed from turbines, heat island effect, and the Project's incremental contribution to cumulative impacts (indirect impacts) should be analyzed during CEQA to help drive Project alternatives and mitigation measures.

Recommendations: The Department recommends studies be conducted to assess the potential effect the Project might have on modifying the local micro-climate and how this might affect offshore and onshore biological resources. Data and models from existing offshore wind farms should be used to inform the data collection and analysis for the impact assessment.

IV. Monitoring and Data Collection

The Draft PEA states IDEOL plans to use their facility to "provide an opportunity for scientific and environmental data collection and research opportunities for public research institutions, including research to advance the fields of conservation biology, meteorology, oceanography, military operations, and renewable energy generation." Monitoring and data collection from Project operation and adaptive management should not be compromised by other activities co-occurring on the turbines. The Department recommends all data collection and monitoring be pre-determined in a monitoring and management plan, pre-funded, and remain the sole responsibility of the Project proponents, and not public institutions. Competing research interests should not be allowed to compromise reliable data collection on species impacts connected to the operation of the Project. Methodologies should remain consistent for year-to-year comparison, and comparable to data-collection efforts at onshore wind facilities when possible.

V. Project Timeline

The Project proponents describe their projects as "demonstration" or "pilot" projects but have project lifespans of 25 and 30 years, as stated in the Draft PEA. The Department recommends that the Draft EIR provide further information on the definition of a "demonstration" or "pilot" project, what kind of lease would be issued for such a project, and how long the lease would be.

CONCLUSION

The Department and OPC appreciate the opportunity to comment on the Vandenberg Offshore Wind Energy Project Draft PEA to assist the California State Lands Commission in identifying and mitigating Project impacts on biological resources. We understand offshore wind represents an opportunity for California to generate carbon free energy near coastal load centers and diversify the state's renewable energy portfolio. California also has a deep commitment to conserving and enhancing the tremendous natural resources, recreational, economic, scenic and other important values of the coastal

environment, including protecting fisheries resources, marine life, and cultural resources. To that end, location of offshore wind projects in areas that pose minimal impacts to biodiversity, fisheries, aesthetics and viewshed, and cultural resources is a high priority for both agencies. This proposed project, located nearshore in some of California's most productive and diverse state waters and adjacent to the Vandenberg State Marine Reserve and terrestrial lands with extraordinary biodiversity, raises numerous unique concerns that should be carefully assessed.

Questions regarding this letter or further coordination should be directed to Amanda Canepa, Environmental Scientist at (831) 277-9740 or Amanda.Canepa@wildlife.ca.gov.

Sincerely,

DocuSigned by:
343995CB95354BC...
Craig Shuman, D. Env
Marine Regional Manager
Department of Fish and Wildlife

DocuSigned by:
Ed Pert
A87CE992DB57479...
Ed Pert,
South Coast Regional Manager
Department of Fish and Wildlife

DocuSigned by:
Mark Gold
FD2EDAE25D2D42D...
Mark Gold, D. Env.
Executive Director
Ocean Protection Council

ec: Becky Ota, Program Manager
Department of Fish and Wildlife
Becky.Ota@wildlife.ca.gov

Eric Wilkins, Senior Environmental Scientist
Department of Fish and Wildlife
Eric.Wilkins@wildlife.ca.gov

Steve Gibson, Senior Environmental Scientist
Department of Fish and Wildlife
Steve.Gibson@wildlife.ca.gov

Kelly Schmoker, Senior Environmental Scientist
Department of Fish and Wildlife
Kelly.Schmoker@wildlife.ca.gov

Christopher Potter, Senior Environmental Scientist
Department of Fish and Wildlife
Christopher.Potter@Wildlife.ca.gov

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UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
West Coast Region
1201 NE Lloyd Boulevard, Suite 1100
PORTLAND, OREGON 97232

September 10, 2021

Via Electronic Mail

Shahed Meshkati
Supervising Mineral Resources Engineer
California State Lands Commission
100 Howe Avenue, #100S
Sacramento, CA 95825
Shahed.Meshkati@slc.ca.gov

Re: NOAA Fisheries West Coast Region's response to the State Lands Commission's Preliminary Environmental Assessment for the proposed Vandenberg Offshore Wind Projects (CADEMO and IDEOL), in Santa Barbara County, California.

Dear Shahed Meshkati:

The National Oceanic and Atmospheric Administration's National marine Fisheries Service (NOAA Fisheries) West Coast Region has reviewed the State Lands Commission's (SLC) Preliminary Environmental Assessment (PEA) for the proposed Vandenberg Offshore Wind (OSW) Projects, Cierco Projects Corporation's CADEMO and Ideol USA, Incorporated's IDEOL (collectively, Applicants for Projects).

We appreciate how the PEA has captured our comments as stated in our previous comment letter on the Projects, dated January 25, 2021 (NMFS 2021). Although the PEA has done well to reiterate the comments from all interested parties and present them in one comprehensive document, we note that at this early stage of the SLC's process there is little in-depth analysis. However, such analysis would rightly take place in the draft and final Environmental Impact Statement (EIS). Therefore, we are incorporating by reference our ongoing comments as previously stated in NMFS (2021).

Finally, NOAA Fisheries West Coast Region's Protected Resources Division (PRD) provides some additional updated comments and concerns regarding the PEA for the Vandenberg OSW Projects in Enclosure A.

We look forward to reviewing and commenting on the SLC's remaining draft and final EIS. If you have questions regarding NMFS' response, please contact Mr. William Foster at (916) 930-3617 or *William.Foster@noaa.gov*

Sincerely,

Scott M. Rumsey, Ph.D.
Deputy Regional Administrator

ENCLOSURE A

NOAA Fisheries West Coast Region Protected Resources Division's Comments on the State Lands Commission's Preliminary Environmental Assessment (PEA) for the Proposed Vandenberg Offshore Wind Projects.

Endangered Species Act (ESA) Listed Species
Critical Habitat

We suggest that BOEM also address the newly designated critical habitat for the endangered Central America (CAM) Distinct Population Segment (DPS) of humpback whales (*Megaptera novaeangliae*), and the threatened Mexico (MEX) DPS of humpback whales, pursuant to Section 4 of the (ESA) (86 FR 21082; April 21, 2021). Critical habitat was referred to in Tables 2-2 and 4-3 of the PEA, yet it needs to be clearly defined and cited.

The critical habitat designated for the CAM DPS includes approximately 48,521 nautical miles (nmi^2) of marine habitat in the North Pacific Ocean along the Washington, Oregon, and the California coasts and within the California Current Ecosystem. This area extends from the U.S.-Canada border south to Port Hueneme, Ventura County (California), and encompasses all the Northern Channel Islands. Critical habitat for the MEX DPS includes approximately 116,098 nmi^2 of marine habitat in the North Pacific Ocean, including areas within portions of the eastern Bering Sea, Gulf of Alaska, and California Current Ecosystem. The Humboldt Wind Energy Area appears to be within the critical habitat for both the CAM and MEX DPSs.

Additionally, important feeding areas for both DPSs of humpback whales – where they forage for krill and schooling fishes – have been identified that overlap the project areas (https://www.aquaticmammalsjournal.org/index.php?option=com_content&view=article&id=721:biologically-important-areas-for-cetaceans-within-u-s-waters-a-special-issue&catid=58&Itemid=157). We suggest that the Becker et al. (2020) reference and associated data sets also be included as the best available science in the upcoming analyses, as well updated densities likely to occur within the project areas for these two DPSs of humpback whales and other ESA-listed large whale species (Calambokidis et al. 2015).

ESA-Listed Species Presence

Green sea turtle (*Chelonia mydas*) presence in project area was indicated in Table 4-4 of the PEA, which states "not expected," yet NOAA Fisheries believes that they may be present in the nearshore area, and that they are more likely to be present than other turtle species due to their residency in San Diego Bay. In addition, we recently had a sighting at Naval Air Station Point Mugu at the Mugu Lagoon in the general vicinity of Vandenberg Space Force Base.

Olive ridley turtle (*Lepidochelys olivacea*) presence in project areas was indicated in Table 4-4 of the PEA as "not expected," yet NOAA Fisheries believes there is a low likelihood that olive ridley turtles may be present in the project areas.

Risks to ESA-Listed Species

Lighting may be an additional risk to ESA-listed species from navigation safety lights on the Floating Wind Turbines. NMFS suggests that effects to ESA-listed species from the level of brightness from navigational lights also be considered in the analysis.

Entanglement risk to Species Protected under the ESA and MMPA

Both of the projects include risks of entanglement to large whales and sea turtles. Although the risk of primary entanglement to large whales was included, it can be expanded upon and/or quantified; the risk of entanglement to sea turtles exists and should also be included. Marine debris accumulating at wind turbines can also be a source of secondary entanglement for marine mammals and sea turtles species.

References

Becker, Elizabeth A., Karin A. Forney, David L. Miller, Paul C. Fiedler, Jay Barlow, and Jeff E. Moore. 2020. Habitat-based density estimates for cetaceans in the California Current Ecosystem based on 1991-2018 survey data, U.S. Department of Commerce, NOAA Technical Memorandum NMFS-SWFSC-638. https://doi.org/10.25923/3znq-yx13.

Calambokidis, J., Steiger, G. H., Curtice, C., Harrison, J., Ferguson, M., Becker, E., and Van Parijs, S. M. (2015). Biologically Important Areas for selected cetaceans within U.S. waters – West coast region. In S. M. Van Parijs, C. Curtice, & M. C. Ferguson (Eds.), Biologically Important Areas for cetaceans within U.S. waters (pp. 39-53). Aquatic Mammals (Special Issue), 41(1). 128 pp.

Federal Register. (86 FR 21082; April 21, 2021). Endangered and Threatened Wildlife and Plants: Designating Critical Habitat for the Central America, Mexico, and Western North Pacific Distinct Population Segments of Humpback Whales. Final Rule.

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
Office of National Marine Sanctuaries | West Coast Region
99 Pacific Street, Bldg 100, Suite F
Monterey, CA 93940

September 13, 2021

California State Lands Commission
Attention: Eric Gillies
100 Howe Ave., Suite 100-South
Sacramento, CA 95825-8202

Re: NOAA Sanctuaries' West Coast Region Comments on the Draft PEA for CADEMO and IDEOL Wind Projects

Dear Mr. Gillies:

The National Oceanic and Atmospheric Administration's (NOAA) Office of National Marine Sanctuaries (ONMS) appreciates the opportunity to submit comments on the Draft program environmental assessment (PEA) for two applications for floating offshore wind energy demonstration projects in state waters near Vandenberg Space Force Base (VSFB) submitted to California State Lands Commission (SLC).

The following reflects our understanding of both projects from the Draft PEA: CADEMO proposes to install and operate four offshore floating wind turbines (FWT) that would be moored and anchored to the seafloor. CADEMO proposes to examine the performance of two distinct floating foundation platforms (barge and tension-leg) with their FWTs. According to the application, each wind turbine would be capable of producing 12 to 15 megawatts (MW) of renewable electricity and be connected in a series with electrical inter-array cables. IDEOL proposes to install, operate, and ultimately decommission a floating offshore wind electrical generation demonstration project. This proposed project would consist of up to four floating barge foundations moored to the seabed via six to eight anchors and cables and housing wind turbine generators capable of producing up to 10 MW each. As proposed, the lease area for CADEMO would be approximately 6.2 square miles, and IDEOL would encompass approximately 5.2 square miles. IDEOL is investigating two anchoring options for the proposed project, including suction piles and drag embedment anchors. Medium-voltage electrical inter-array cables would connect the FWTs to one another. Both projects would have separate subsea static cables buried under the seafloor at a depth of approximately 5 feet from the southernmost wind turbine to an onshore cable landing site connecting to proposed new electrical substations located south of Point Arguello within VSFB near the Vandenberg Dock. Each project would have its own cable to shore and new substation. CADEMO proposes to construct a new onshore overhead transmission line for approximately 11 miles from the proposed new substation to the existing Surf Substation for connection to the California Independent System Operator (CAISO) power grid. IDEOL proposes constructing approximately 4.2 miles of new overhead transmission line connecting the proposed new substation to Substation N for electricity distribution to VSFB.

General Comments

While the proposed project areas are located outside the boundary of any existing national marine sanctuary, the area does fall within marine waters that NOAA is in the process of considering for a future sanctuary. The Northern Chumash Tribal Council (NCTC) submitted the nomination for Chumash Heritage National Marine Sanctuary (CHNMS) in July 2015, and NOAA is considering initiating a sanctuary designation to protect the region's important marine ecosystem, maritime heritage resources, and cultural values of Indigenous communities. The nominated area stretches along 140 miles of coastline, encompassing approximately 7,670-square miles from Santa Rosa Creek near the town of Cambria, San Luis Obispo County, south to Gaviota Creek in Santa Barbara County, and extends offshore to include the geologic features Santa Lucia Bank, Rodriguez Seamount, and Arguello Canyon offshore of central California.

The National Marine Sanctuaries Act (NMSA) charges NOAA with the conservation and protection of marine resources within national marine sanctuaries. Given the proposed projects' locations within the area nominated for CHNMS, we are committed to coordinating and collaborating with the SLC on its review of these applications including necessary environmental review. Reciprocally, we ask that SLC consider how the proposed projects could adversely affect the proposed national marine sanctuary and take into consideration that potential, future designation in environmental and project review. We believe it is prudent for the SLC, in its compliance with the California Environmental Quality Act, to consider a potential CHNMS designation as part of the cumulative impacts analysis since it is a reasonably foreseeable project. In turn, NOAA anticipates including these two wind farm projects as part of any cumulative impact analysis NOAA will conduct related to any CHNMS designation, should it commence.

In advance of any potential designation process for CHNMS, be advised the four national marine sanctuaries in California prohibit disturbance of the seafloor, which is likely to occur with FWT infrastructure (anchors, cables). In addition, sanctuaries have discharge prohibitions and regulations that address harm to sanctuary resources (e.g. marine mammals, seabirds, etc..).

The California Energy Commission has been the State of California's lead in planning for offshore wind development conceived of by the federal Bureau of Ocean Energy Management. NOAA ONMS has been intimately involved with the planning effort for wind development in federal waters offshore central California for more than three years. A major issue for offshore wind development in federal waters has been the need, as expressed by the state, to locate development far offshore – ideally beyond 20 miles from shore – primarily to reduce visual impacts, as well as adverse effects on birds and bats. Obviously, these projects in state waters seem inconsistent with that objective and the Draft PEA will need to provide information about the different approaches.

Please clearly evaluate the impacts of removal of the project components upon completion of the demonstration project. Moreover, please be more clear about how long the project will be in place and what factors and milestones are necessary to determine when the demonstration project is complete. Total energy production from these two projects could reach 100 MW; how will SLCs temporary permit/lease resist pressure to keep this renewable power online?

From an alternatives perspective, please analyze why these projects need to be conducted in this area in particular. It is a fairly remote portion of coast and the existing industrial development –

the offshore oil and gas facilities – are slated for abandonment and removal, returning the coast to an even more "natural" state. It could well become a national marine sanctuary. All of these raise questions about why develop here, and what other alternative locations could be used instead for such demonstration projects.

Does SLC have any ability to compel consolidation of facilities, specifically the transmission cable to shore and the onshore substation? It is unclear why there needs to be independent cables and substations, especially for temporary projects.

Specific Comments

We recommend that further environmental review detail how impacts will be avoided and/or mitigated, as well as specific mitigation measures. Areas that need this level of additional analysis and detail include the following:

Special Areas and Species

The proposed project area includes parts of the coast and nearshore waters listed on the SLC's "Significant Lands Inventory", specifically a 1-mile strip of tidelands and submerged land immediately offshore of VSFB possessing significant environmental values. These lands are within the range of California brown pelican and California least tern, and the area is known to have large numbers of shorebirds. Nearly all of the parcel identified in the Inventory is within the VSMR (a 32-square mile State marine protected area within Santa Barbara County). The proposed project areas are between the west boundary of the VSMR and the 3 nm State/Federal offshore boundary. The offshore project areas are part of an oceanographically complex and dynamic region, with strong seasonal upwelling and high primary production. These conditions support abundant and diverse habitats, including rocky cliffs (critical nesting areas for seabirds), offshore reefs, hard and sandy bottoms, kelp beds, and tidal flats. A wide range of interactions among fish, invertebrates, seabirds, and marine mammals has been documented in the region, demonstrating the importance of this reserve as a component of the California network of MPAs. Project areas for both projects resides in relatively shallow waters of approximately 262 to 328 feet. Several species of concern inhabit California's intertidal, subtidal and offshore biological communities including species protected under the Federal and State Endangered Species Acts (ESAs); the Marine Mammal Protection Act (MMPA); Migratory Bird Treaty Act; Magnuson-Stevens Fishery Conservation and Management Act; the California Department of Fish and Wildlife (CDFW) Fish and Game Codes; the National Oceanic and Atmospheric Administration (NOAA) species of concern lists; the U.S. Fish and Wildlife Service (USFWS) regulations; and the California Coastal Commission (CCC) that designate species as having a scientific, recreational, ecological, or commercial importance under the Coastal Act.

Water Quality and Introduced Species

Water quality may be affected during the construction phase and cable laying, as well as from maintenance activities and normal operations. The proposed projects also have the potential to facilitate the introduction and establishment of marine introduced species in multiple ways. During the construction phase, an increase in vessels traffic will provide opportunities for nonindigenous species to be moved from one location to another, both through biofouling and

potentially ballast water. Ports (e.g., Port Hueneme) are considered hot spots for already established non-native species; vessels moving from these ports to adjacent areas will likely facilitate the movement of some non-native species into new areas and expand their range.

Noise Effects.

The project would have short-term, more intensive impacts during the construction phase, and long-term increased occasional impacts from maintenance activities primarily from ship traffic. Increased noise signatures can disrupt marine mammal navigation, foraging, and other important behaviors.

Seafloor Disturbance

Sensitive habitats in the proposed project areas and surroundings include soft and hard substrates and kelp beds. Construction would require trenching and burial of cables which would disturb these sensitive benthic habitats. Benthic communities are an integral part of the food web.

Disturbance of the benthic invertebrate communities could include direct displacement or damage to the organisms, or indirect effects due to the dispersal and re-deposition of sediments in nearby areas (which could include sensitive habitats in the VSMR). Recovery time for benthic communities could take years, especially in hard substrates which could have long-term impacts on ecosystem functions, adversely affecting fish populations and other animals that depend on benthic organisms as a source of food.

ONMS has been involved in many cable laying projects within and just outside of national marine sanctuaries. Our experience is that applicants make predictions about cable burial depth that are rarely achieved during construction. The plan to bury this cable to a depth of 5 feet is well beyond (deeper than) many other proposed burial depths, that again, rarely are achieved. Please evaluate the likelihood of achieving this burial depth and the impacts from such a deep burial. In addition to impacts to the seabed and organisms that depend on it, impact analysis should include release of stored carbon in the seabed and its effect on climate change, and disruption of commercial and recreational fishing. Also, please analyze why this level of seabed impact is even necessary for temporary demonstration projects; why not lay the cable on the seabed and remove it with less impact upon completion of the demonstration project?

Vessel Traffic, Collision and Entanglement Risk

Vessels would be moving from Port Hueneme, or other potential staging ports, to construct and later maintain the floating platforms creating new routes that are not commonly transited by vessels. Local marine mammals including baleen, toothed whales, and sea turtles, may be at an increased risk of getting hit by vessels during the construction. The probability of vessel collision with whales increases with ship traffic and speed. The Draft PEA must analyze the impacts from transportation of FWTs, anchors, cables and other ancillary development to the construction sites. We further suggest impacts beyond marine wildlife, include impacts to commercial and recreational fishing, general marine transportation, noise, and air quality from vessels transiting from staging ports to the construction areas.

Indigenous Community Values

Indigenous communities like the Chumash people consider marine life, notably seabirds, fish, and migrating whales, as sacred and that stewardship of these organisms is a duty of their culture. Offshore components of the projects could impact marine life and disrupt marine mammal migration or lead to entanglement, which would negatively impact the area's indigenous values, which are based on a balanced, complete, and connected understanding of nurturing ocean health in a 'complete ecosystem". A goal expressed in the CHNMS nomination is to advance study and protection of paleo shorelines, which may contain submerged, pre-historic villages, and it is unclear whether or not anchors and cable laying would have an impact on paleo shorelines. Offshore development of these two projects in the area must address potential impacts to these Indigenous values.

Maritime Heritage

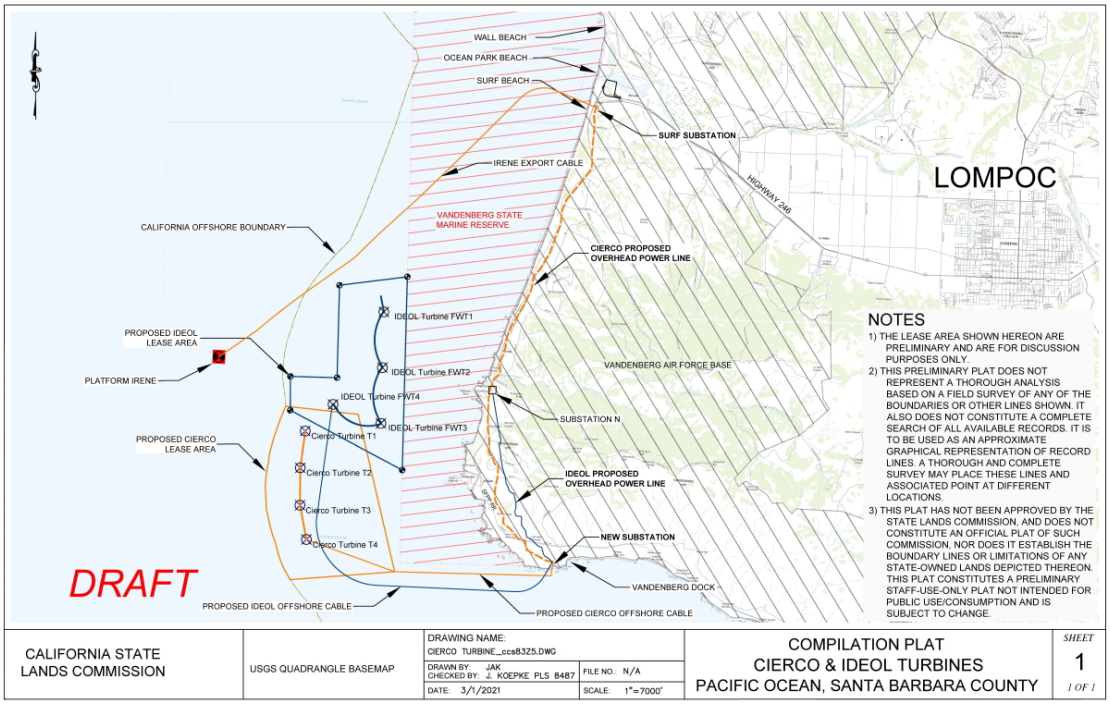
Project area surveys should include side-scan sonar images for shipwrecks not previously recorded. The projects should include offshore surveys over the proposed cable routes and turbine locations prior to installation to inform anchor laying and the final cable route. Side-scan sonar surveys should also profile the ocean bottom and use acoustic signatures to identify any assets buried in the sediment.

We appreciate the opportunity to comment on the Draft PEA. For more information or questions about ONMS and the designation process for CHNMS, please contact me at paul.michel@noaa.gov.

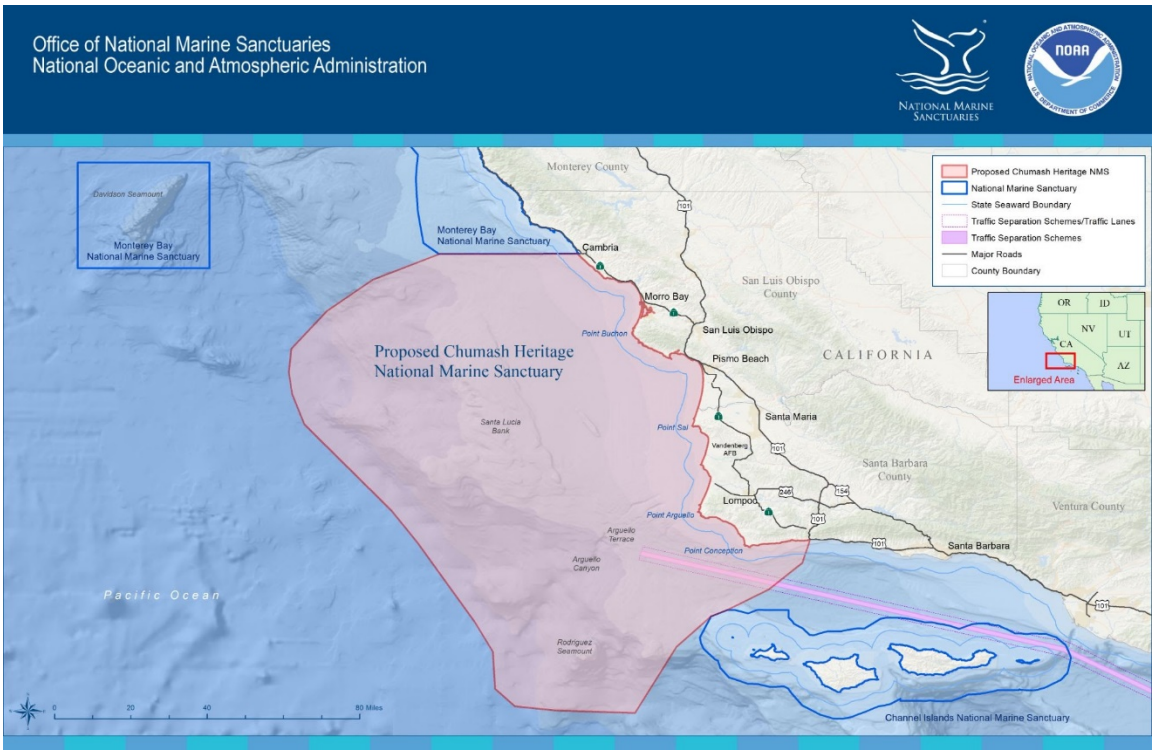
Sincerely,

Paul Michel
Regional Policy Coordinator

Map of proposed CADEMO and IDEOL projects.



Area Nominated for Chumash Heritage National Marine Sanctuary.



Forms (https://www.office.com/launch/forms?auth=2) Offshore Wind PEA Survey and Feed - Saved ? MM

Respondent

2 Anonymous

07:38
Time to complete

About

Tell us about yourself and how you heard about the PEA.

1. First Name

Amanda

2. Last Name

Cousart

3. Email Address

amanda.cousart@coastal.ca.gov

4. Organization/Entity

CA Coastal Commission

5. What is your interest in offshore wind development and how did you become interested in it?

Government Agency

6. How did you hear about the PEA?

- [ ] I found out about the PEA via a State Lands Commission meeting
- [x] I found out about the PEA through a colleague of mine
- [x] I've been following offshore wind activities in CA for a long time
- [ ] I am subscribed to State Lands Commission updates on offshore wind and received the PEA via email
- [ ] I sought out the PEA on the State Lands Commission website
- [ ] Other

Overall Impressions of Offshore Wind

This section aims to gauge overall impressions of floating offshore wind in California, and of its impacts on the environment and ocean users.

7. What was your overall impression of floating offshore wind development in California state waters?

Rate your impression before reading the PEA versus after reading the PEA.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Before reading the PEA	○	○	◉	○	○
After reading the PEA	○	○	◉	○	○

8. As California advances floating offshore wind development, I would rather see development in...

- ○ State waters (0-3 nautical miles offshore)
- ○ Federal waters (3-200 nautical miles offshore)
- ◉ Both
- ○ Neither

9. Please indicate your overall support or opposition to these floating offshore wind state applications.

- ○ I would like to see the Commission proceed with the EIR
- ○ I would like to see the Commission terminate the applications
- ◉ Undecided

10. Explain your response to the question above.

Optional.

I think that there is a lot of good things shown in the document about technology and feasibility, and a lot of good initial environmental information, however, I think a broader siting analysis might show areas other that this within state waters that have less potential conflict.

11. What potential environmental impacts do you have concerns about as they pertain to floating offshore wind development in state waters?

The following impacts are listed and described in Section 4 of the PEA. Check all that apply.

- [ ] Aesthetics
- [ ] Air Quality & Greenhouse Gas Emissions
- [x] Biological Resources (Marine)
- [ ] Biological Resources (Terrestrial)
- [ ] Cultural Resources
- [ ] Energy, Utilities, & Service Systems
- [ ] Geology, Soils, & Paleontological Resources
- [ ] Hazards & Hazardous Materials
- [x] Hydrology, Water Quality, & Coastal Processes
- [ ] Land Use and Planning
- [ ] Noise
- [ ] Population & Housing
- [x] Recreation
- [ ] Transportation
- [ ] I have no concerns

12. Many of the aforementioned impacts can coalesce to create additional impacts that involve multiple key communities and ocean users. In addition to the impacts above, do you have concerns about any of the following as they pertain to floating offshore wind development in state waters?

Check all that apply.

- [x] Commercial & Recreational Fishing
- [ ] Tribal Cultural Resources
- [ ] Environmental Justice
- [ ] I have no concerns related to these areas

General PEA Feedback

This section aims to understand how useful the PEA was in helping the public understand various aspects of floating offshore wind technology, benefits and impacts, and approval/leasing processes.

13. The PEA helped me better understand...

	Disagree	Agree	No Opinion
Floating offshore wind technology	○	◉	○
Potential benefits of floating offshore wind	○	◉	○
Potential impacts of floating offshore wind	○	◉	○

The public perception of floating offshore wind (from the stakeholder comments)	○	◉	○
The approval and leasing process for development in CA state waters	○	◉	○
The approval and leasing process for development in federal waters	○	○	◉

Specific PEA Feedback

The following questions allow you to provide comments and feedback pertaining to specific PEA sections. All of the questions below are optional - you can leave some or all of them blank.

If you have no specific comments about the PEA, you can skip to the end of the form to submit.

14. Section 1: Purpose of Report

Please enter any comments you have on Section 1 of the PEA.

15. Section 2: Introduction

Please enter any comments you have on Section 2 of the PEA.

16. Section 3: Description of the Two Proposed Projects

Please enter any comments you have on Section 3 of the PEA.

17. Section 4: Assessment of Potential Environmental Impacts

Please enter any comments you have on Section 4 of the PEA.

18. Section 5: Commercial and Recreational Fishing, Tribal Consultation, and Environmental Justice

Please enter any comments you have on Section 5 of the PEA.

19. PROJECT ALTERNATIVES: In addition to the alternatives for the proposed projects described in Section 3 of the PEA, what other alternatives to the proposed projects would you recommend?

Comment Letter Submission Instructions

Thank you for completing this form! Your feedback is valuable and will help Commission staff with the evaluation of these projects.

If you would like to provide more detailed comments than is available on this form, you can email a comment letter to stateapplications.OSW@slc.ca.gov (mailto:stateapplications.OSW@slc.ca.gov) or mail to:

California State Lands Commission
Attention: Eric Gillies
100 Howe Ave., Suite 100-South
Sacramento, CA 95825-8202

The subject line (if submitting via email) should be titled "Vandenberg OSW Projects PEA Comments." When referencing the PEA in your comment letter, please include relevant PEA sections and page numbers. This will assist us in synthesizing all the feedback we receive.

Forms (https://www.office.com/launch/forms?auth=2) Offshore Wind PEA Survey and Feed - Saved MM

Respondent

8 Anonymous

11:14
Time to complete

About

Tell us about yourself and how you heard about the PEA.

1. First Name

Nicole

2. Last Name

Collazo

3. Email Address

nicole@vcapcd.org

4. Organization/Entity

VCAPCD

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- ◉ Other

10. Explain your response to the question above.

Optional.

11. What potential environmental impacts do you have concerns about as they pertain to floating offshore wind development in state waters?

The following impacts are listed and described in Section 4 of the PEA. Check all that apply.

- [ ] Aesthetics
- [x] Air Quality & Greenhouse Gas Emissions
- [ ] Biological Resources (Marine)
- [ ] Biological Resources (Terrestrial)
- [ ] Cultural Resources
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- [ ] Land Use and Planning
- [ ] Noise
- [ ] Population & Housing
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- [ ] Transportation
- [ ] I have no concerns

12. Many of the aforementioned impacts can coalesce to create additional impacts that involve multiple key communities and ocean users. In addition to the impacts above, do you have concerns about any of the following as they pertain to floating offshore wind development in state waters?

Check all that apply.

- [ ] Commercial & Recreational Fishing
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16. Section 3: Description of the Two Proposed Projects

Please enter any comments you have on Section 3 of the PEA.

17. Section 4: Assessment of Potential Environmental Impacts

Please enter any comments you have on Section 4 of the PEA.

VCAPCD participates in the Vessel Speed Reduction Program (VSR) or Protecting Blue Whales and Blues Skies. VSR is a partnership which provides monetary and public relations incentives to the operators of certain ocean-going vessels (OGV), cargo container ships and roll-on/roll-off (Ro-Ro) vessels, to reduce speeds in specified areas off the California coast. Reducing ship speeds cuts emissions of nitrogen oxides (NOx), toxic diesel particulate matter (DPM), sulfur compounds, and greenhouse gases (GHGs); reduces the risk of fatal ship strikes on whales; and reduces underwater acoustic impacts. The 2020 voluntary incentive program, where companies were asked to reduce speeds to 10 knots or less in both the Southern California Region and in the San Francisco Bay Area, started on May 15, 2020 and ended on November 15, 2020. For the 2020 season, the VSR zones were greatly expanded by including more navigable waters in Southern California and adding the "precautionary area" (semi-circular area designated by the US Coast Guard) just outside the entrance to the San Francisco Bay. Please consider the VSR program in the project.

18. Section 5: Commercial and Recreational Fishing, Tribal Consultation, and Environmental Justice

Please enter any comments you have on Section 5 of the PEA.

19. PROJECT ALTERNATIVES: In addition to the alternatives for the proposed projects described in Section 3 of the PEA, what other alternatives to the proposed projects would you recommend?

Comment Letter Submission Instructions

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APPENDIX G-3 – ENGO Comments

September 13, 2021

California State Lands Commission
Attn: Eric Gillies
100 Howe Avenue, Suite 100-South
Sacramento, CA 95825-8202

Via Email: stateapplications.OSW@slc.ca.gov

RE: <u>Comments on Draft Preliminary Environmental Assessment for Vandenberg Offshore Wind Energy Projects</u>

Dear Mr. Gillies,

The following comments are submitted on behalf of Environmental Defense Center, Sierra Club California, Ocean Conservation Research, Defenders of Wildlife, American Bird Conservancy, National Audubon Society, Center for Biological Diversity, Natural Resources Defense Council, Surfrider Foundation, Monterey Bay Aquarium, Santa Barbara Audubon Society, Ventura Audubon Society, and Gaviota Coast Conservancy in response to the California State Lands Commission's (CSLC) Draft Preliminary Environmental Assessment (DPEA) for the two Vandenberg Offshore Wind Energy Projects (Vandenberg Projects or Projects) proposed in state waters along the Santa Barbara County coastline.

As you know from a letter that several of our organizations submitted on March 31, 2021 (see Attachment A) in response to the CSLC's request for input in advance of the DPEA, we oppose the locations of these Projects; review of the DPEA has only reinforced our concerns. Moving forward with these Project applications is not in the best interest of the State of California or the offshore wind energy industry. Our organizations remain united in support of responsibly sited, constructed, and operated floating offshore wind power. We do not take a

position to oppose these projects lightly, but we feel that it is necessary for the protection of wildlife and the furtherance of responsibly sited, successful offshore wind projects in California.

On behalf of our organizations and our millions of members, we reiterate previous requests regarding our vision for the state's offshore wind strategy:

1. Avoid sensitive marine habitats and protected areas.
2. Ensure a robust stakeholder planning process.
3. Devote time and resources to utilizing the California Offshore Wind Data Basin Gateway.
4. Include a structure and plan to incorporate future scientific studies and data into project siting.

After review of the DPEA, we remain concerned with the Projects' proposed locations, as we believe they do not avoid sensitive marine habitats and protected areas as required by state law and the public trust obligations of the CSLC. To build upon this concern and the additional requests listed above, in this letter we further describe:

1. The potential for offshore wind power to play a critical role in meeting California's renewable energy goals.
2. Concern that the Projects do not avoid sensitive marine and terrestrial habitats and species, which should be a top priority for offshore wind proposals.
3. Remaining questions that exist after review of the DPEA.

Together, our organizations have long advocated for policies and actions to bring renewable energy, including offshore wind projects, to scale in an environmentally protective manner. We understand that developing renewable energy is pivotal for California to avoid the worst consequences of climate change, achieve a zero-carbon energy future, and maintain our thriving economy, healthy communities, and national role as an environmental leader.[1] Careful consideration of *how* we achieve this zero-carbon future is vital for protecting California's internationally treasured wildlife, landscapes, marine ecosystems, cultural resources, productive farmlands, and diverse habitats.

As it explores prospective offshore wind development, California has an opportunity and responsibility to become a visionary leader in offshore wind energy and create a planning process that sets a high environmental standard for this new technology and ocean use. In an October 21, 2019, letter that several of our organizations submitted to the California Energy Commission (CEC), we recommended that offshore wind energy must be developed responsibly, in a way that incorporates a range of stakeholder considerations and minimizes project specific and cumulative environmental impacts (see Attachment B). We again reiterated this in our

[1] For example, Audubon's scientists found that climate change may drive 389 species of North American birds to extinction if we cannot limit warming below 3 degrees Celsius. Chad B. Wilsey et al., *Survival by Degrees: 389 Bird Species on the Brink*, AUDUBON (2019), *available at* https://www.audubon.org/climate/survivalbydegrees. Also see: Trainer, V.L., Kudela, R.M., Hunter, M.V., Adams, N.G. and McCabe, R.M., 2020. Climate extreme seeds a new domoic acid hotspot on the US west coast. *Frontiers in Climate*, *2*, p.23.

March 31, 2021, letter to CSLC. We believe such an approach would also benefit the industry, as siting and permitting will advance more expeditiously if use conflicts and environmental concerns are addressed ahead of the permitting process. That the Vandenberg Projects are called "demonstration" projects does not change the fact that inclusive and science-driven planning should precede any site specific project analysis. The Projects are not appropriately sited and have the potential to result in significant impacts to wildlife as a result of their locations. In addition, the Projects would do little to inform projects at scale in federal waters as they are not commensurate with projects under consideration in federal waters offshore California.

Our recommended approach, to utilize a seascape level planning process to progress offshore wind more efficiently and effectively, is supported by the 2021 SB 100 Joint Agency Report, which states:

> *"The benefits of using landscape-level approaches for renewable energy and transmission planning include early identification and resolution of large issues or barriers to development, coordinated agency permitting processes, increased transparency in decision making, increased collaboration, avoidance of impacts, and more rapid development of environmentally responsible renewable energy projects."*[2]

California and the wind industry are far better served by advancing projects in areas with strong support, and by ensuring that necessary safeguards exist for wildlife. Identifying environmentally responsible locations first will help ensure that offshore wind projects, and the industry, advance smoothly, without significant delay because of siting conflicts.

I. To Ensure the Success of Offshore Wind as Part of California's Renewable Energy Future, Projects Must Be Appropriately Sited, Designed, and Operated.

California's policy "to provide 100 percent of electricity retail sales and state loads from renewable and zero-carbon resources in California by 2045" will require aggressive development of renewable energy.[3] The 2021 SB 100 Joint Agency report identifies out-of-state and offshore wind as an opportunity to reduce battery storage requirements. The report includes 10 GW of offshore wind in its core scenario, which is about 8% of current power producing capacity in the state.[4] It will require careful planning to advance this important climate goal while ensuring minimal impacts to California's coastal marine resources and ocean users. We encourage California to focus its staff resources on first prioritizing projects in federal waters as an alternative approach to achieving California's renewable energy goals, as such locations may have a higher potential to avoid impacts to marine and coastal resources.

The DPEA describes some of the benefits of bringing California offshore wind projects online, including providing an opportunity for scientific and environmental analysis of the

[2] https://efiling.energy.ca.gov/GetDocument.aspx?tn=237167&DocumentContentId=70349 at pg. 112
[3] https://www.energy.ca.gov/publications/2021/2021-sb-100-joint-agency-report-achieving-100-percent-clean-electricity
[4] SB 100 Joint Agency Report. March 15, 2021. https://www.energy.ca.gov/publications/2021/2021-sb-100-joint-agency-report-achieving-100-percent-clean-electricity

technology; employment to support the transition away from fossil fuels; and the ability to source renewable energy at times when solar is not active (dealing with the "duck curve" in the evening hours); among others. While we agree that offshore wind can benefit California as we work to achieve the state's renewable energy goals, smart siting and appropriate safeguards must be in place to protect the environment from unnecessary impacts.

Given the importance of transitioning the state to renewable energy, it is key to build a foundation of trust in the offshore wind industry. This is done not only by fully engaging all stakeholders at the start and throughout the leasing and permitting process, but also by selection of sites with the greatest chances of success. The selection of sites in areas of environmental importance increases the potential for wildlife and habitat impacts, which is far from an ideal base to build trust in an emerging industry. Other areas along the California Coast that are farther from shore and have fewer conflicts with important habitat may have higher potential to avoid impacts to sensitive marine life than the Project area, which is adjacent to a state marine reserve and within an area layered with environmentally important designations, such as critical habitat, biologically important areas (BIAs), and others, as described within the DPEA and further discussed in this letter.

We remain committed to ensuring that all projects are sited, constructed, and operated in a manner that avoids impacts to marine and terrestrial species and habitats. Responsible siting and operation of offshore wind energy (i) avoids, minimizes, monitors, and mitigates adverse impacts on marine and coastal habitats and the wildlife that rely on them, (ii) reduces negative impacts on other ocean uses, (iii) includes robust consultation with Native American tribes and communities, (iv) meaningfully engages state and local governments and stakeholders from the outset, (v) includes comprehensive efforts to avoid impacts to environmental justice communities, and (vi) uses the best available scientific and technological data to ensure science-based and stakeholder-informed decision making. While there is urgency in tackling the climate crisis, California should not skip the important planning phase to rush through the permitting process for projects in problematic locations that will result in negative impacts to the environment. A well conducted planning process helps advance leases that will result in operational projects not mired in controversy.

II. The Proposed Siting of these Projects Threatens Sensitive Marine and Terrestrial Species and Habitats.

For decades, our organizations have worked with state and federal agencies to secure precedent-setting protections for the ocean and coast. Maintaining the health of ocean ecosystems is essential to California's robust economy, the livelihoods of many California residents, and securing the sustainability of marine life in the region. Moreover, Californians—and many other residents of the U.S.—have made a strong public commitment to preserving California's coast and ocean and the marine wildlife that depend upon them. Protecting California's marine environment is ecologically, socially, and economically beneficial to the state and nation.

The Intergovernmental Panel on Climate Change (IPCC) *Special Report on Oceans and Cryosphere in a Changing Climate*,[5] released on September 24, 2019, underscores the imperative of conserving biodiversity to maintain human life. Preserving intact marine habitat is essential to protecting biodiversity. The IPCC report found that coastal land and sea use change has had the second largest impact on marine biodiversity over the past fifty years. Scientists recommend highly protecting at least 30 percent of the marine environment by 2030 to preserve ecosystem function and enhance climate resilience.[6] Offshore wind development would constitute a new industrial use of the ocean. As state and federal agencies consider offshore wind, preserving the ecological integrity of known biological hotspots—including the Projects' areas—is critical. In fact, the National Oceanic and Atmospheric Administration (NOAA) has described this location as an ecological hotspot: "Ecological hotspots occur in continental shelf and nearshore waters from Point Conception through the northern Channel Islands, where spatial patterns of bird, fish, invertebrate, and mammal habitat overlap."[7] Image 1 shows that this hotspot includes the Project area, even though it is just northwest of Point Conception.

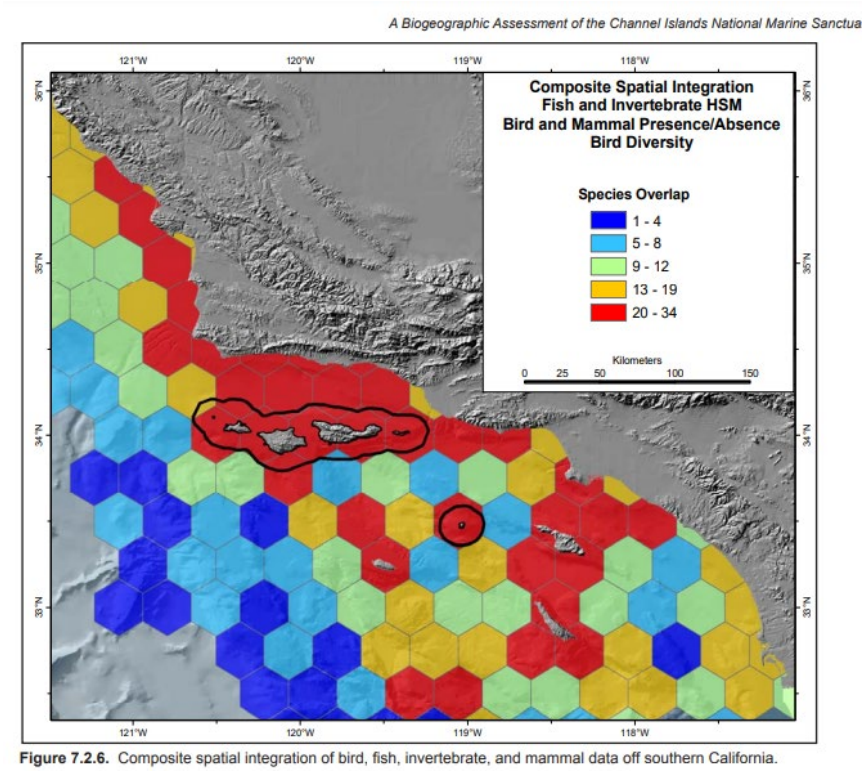

Figure 7.2.6. Composite spatial integration of bird, fish, invertebrate, and mammal data off southern California.

Image 1: Species overlap in the Project area.[8]

[5] https://www.ipcc.ch/srocc/
[6] Dinerstein et al. 2019. A global deal for nature: guiding principles, milestones, and targets. Science Advances. 19Apr2019. Volume 5, Issue 4. Available at: https://www.science.org/doi/10.1126/sciadv.aaw2869
[7] NOAA National Centers for Coastal Ocean Science (NCCOS). 2005. A Biogeographic Assessment of the Channel Islands National Marine Sanctuary: A Review of Boundary Expansion Concepts for NOAA's National Marine Sanctuary Program. Prepared by NCCOS's Biogeography Team in cooperation with the National Marine Sanctuary Program. Silver Spring, MD. NOAA Technical Memorandum NOS NCCOS 21. 215 pp.
[8] *Id.*

California coastal communities have already begun to feel the impacts of climate change in the form of sea level rise, extreme temperature events, fires, mudslides, droughts, and more. The communities and environment near the Vandenberg Projects have also born a heavy burden from the extraction of fossil fuels, most notably during the 1969 Santa Barbara Oil Spill, 1997 Torch Pipeline Oil Spill, and 2015 Refugio Oil Spill. These communities deserve the opportunity to benefit from renewable energy projects that do not further harm the ocean and coast. As noted below, numerous important species found in the area's waters have "nearshore affinity;"[9] thus, offshore wind development in state waters would likely have an even greater impact on these biological resources than alternative sites farther offshore.

California should use environmental and social spatial data to select appropriate sites that have optimum offshore wind energy potential with the least degree of environmental and social impacts. This involves identification and mapping of any persistent hotspots of species abundance and/or areas of rare environmental significance while reviewing potential development areas. Significant areas include, but are not limited to, state Marine Protected Areas (MPAs), critical breeding and feeding habitats for wildlife (such as Audubon Marine Important Bird Areas (IBAs)), Cetacean Density and Distribution Mapping BIAs, critical habitat for Endangered Species Act-listed species, Habitat Areas of Particular Concern, and regionally relevant areas. Federal leasing is prohibited within the boundaries of the National Marine Sanctuary (NMS) System. 30 C.F.R. § 585.204. As per the "mitigation hierarchy," which seeks to first avoid, then minimize, and mitigate potential environmental impacts from all stages of offshore wind development,[10] and as required by the California Environmental Quality Act (CEQA),[11] avoidance of sensitive habitat should be the priority. The Projects proposed in the DPEA fail to avoid several known areas of significance.

The location of the Projects is adjacent to six onshore Audubon IBAs that are included in an international program to identify high conservation areas for birds. Those IBAs include Point Conception 120W34N, Point Conception 121W34N, Vandenberg Air Force Base, and Santa Ynez Sanctuary IBA, which together provide key habitat for over 20 species of seabirds. Long-term data sets show the importance of the Vandenberg State Marine Reserve (VSMR) for Brandt's and pelagic cormorants, rhinoceros auklets, pigeon guillemots, and California brown pelicans—all of which are vulnerable to collision and habitat displacement in state waters squarely within the foraging areas of these breeding and roosting colonies.[12] The largest seabird breeding colonies off Point Conception are concentrated along coastal bluffs immediately parallel to proposed turbine locations, including hundreds of cormorants, western gulls, and

[9] https://www.ipcc.ch/srocc/

[10] IUCN and The Biodiversity Consultancy. "Mitigating biodiversity impacts associated with solar and wind energy development: guidelines for project developers" (2021). Available at: https://portals.iucn.org/library/node/49283. Please note that the IUCN document provides general guidelines on how the mitigation hierarchy could be and has been applied, but its application in each case will be context and site-specific, and based on best available scientific information and technologies available at the time.

[11] Public Resources Code § 21002 ("[I]t is the policy of the state that public agencies should not approve projects as proposed if there are feasible alternatives or feasible mitigation measures available which would substantially lessen the significant environmental effects of such projects".).

[12] https://databasin.org/maps/new/#datasets=e6dba80c73f546058e4dbab23abdcab0 California Seabird Colony – Summary Bird Abundance.

pigeon guillemot; with close proximity to feeding grounds, breeding seabird and wind turbine interactions are inevitable. However, perhaps at even greater risk, the proposed Project locations are within the immediate migratory pathway of hundreds of thousands, if not millions, of seabirds navigating upwelling resources along the California Current, with Point Conception experiencing particularly high concentrations. More detailed concern for potential interactions with birds is described below is Section IIIB. The Projects also overlap with important habitat for several marine mammal and sea turtle species. (See Section IIIA and Attachment A for more details on these concerns.) The image below shows predicted summer seabird abundance along this stretch of the California Coast (black polygon is the approximate proposed location of the Projects), indicating the Projects would be within an area of highest predicted abundance.[13]

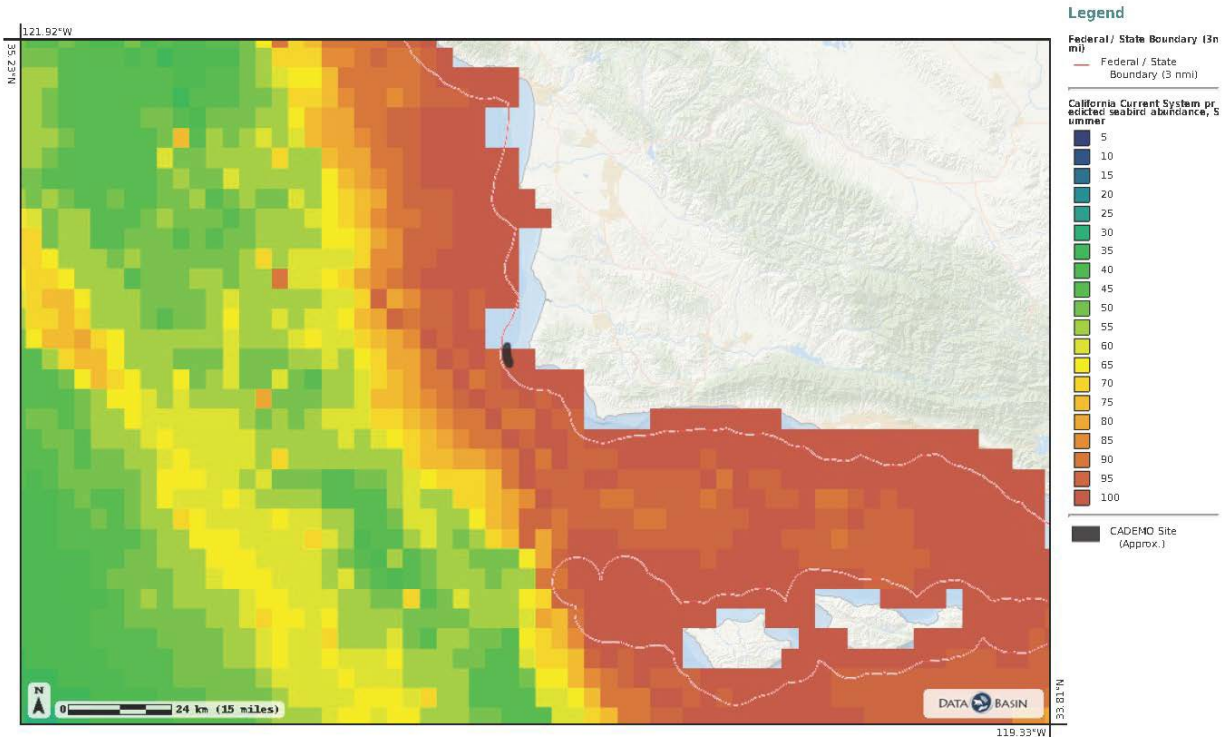

Image 2. Seabird Abundance in and near the Project area.[14]

In describing the locations of the Vandenberg Projects, the DPEA itself paints a picture of an area along the California Coast that is vital to regional marine productivity. For example, the DPEA notes the Project areas are:

1. Near a part of the coast and nearshore waters included in the CSLC's Significant Lands Inventory (which is described as "a 1-mile strip of tidelands and submerged land in the Pacific Ocean immediately offshore of VSFB"). This area was included in the Inventory in part because of the presence of California brown pelican, California least tern, and

[13] DataBasin. Potential CADEMO offshore wind farm site. https://databasin.org/maps/f1d3a4ae02f44b6f99ae2cd591370807/
[14] *Id.*

large numbers of shorebirds. These birds extend beyond that 1-mile mark offshore into the Project area. (DPEA at 4-11)
2. Within an area of strong seasonal upwelling and high primary production—conditions that support "abundant and diverse habitats." (DPEA at 4-11)
3. Directly adjacent to the VSMR (DPEA at 4-12), which has the highest level of protection in California's MPA network.
4. Home to multiple species of concern and those protected under both Federal and State regulations, including: "Federal and State Endangered Species Acts (ESAs); the Marine Mammal Protection Act (MMPA); Migratory Birds Act; Magnuson-Stevens Fishery Conservation and Management Act; the California Department of Fish and Wildlife (CDFW) Fish and Game Codes; the National Oceanic and Atmospheric Administration (NOAA) species of concern lists; the U.S. Fish and Wildlife Service (USFWS) regulations; and the California Coastal Commission (CCC) that designate species as having a scientific, recreational, ecological, or commercial importance under the Coastal Act." (DPEA at 4-13; Migratory Bird Treaty Act misnamed as "Migratory Bird Act")
5. Supporting approximately 40 species of marine mammals (DPEA at 4-13); at least five species of sea turtles (DPEA at 4-17); endangered black and white abalone (DPEA at 4-17); many commercially, recreationally, and ecologically important species of fishes (DPEA at 4-17), including special status fish species (DPEA at 4-19); numerous species of marine birds (at least 54) and bats (DPEA at 4-21), some of special status with potential occurrence in the project areas. (DPEA at 4-22)
6. Along the Pacific Flyway migration route. (DPEA at 4-21)
7. Largely undeveloped open space with intact Central Coast scrub, maritime scrub, coastal bluff, dune scrub, floodplains, wetlands, riparian, and littoral habitats (DPEA at 4-30) that support myriad species, including special status invertebrates, fish, amphibians, reptiles, and birds. (DPEA Table 4-1)

The descriptions of how the Projects would be sited to avoid environmental impacts are grossly inadequate. We strongly disagree that these Projects, as sited, would avoid sensitive biological resources to the extent practicable. In Section 2.2.2 on site selection, there is little mention of how these sites were selected to avoid impacts to the incredibly diverse marine environment, as described in the DPEA and summarized above. The Ideol project description states the siting considered "[o]ther possible environmental considerations." (DPEA at 2-8) The CADEMO project description merely states that the site has "[f]ew environmental constraints (avoids activities within the Vandenberg State Marine Reserve." (DPEA at 2-8) However, any industrial development adjacent to an MPA – designated for the benefit of conservation – could have impacts on that MPA's marine resources and the ability of that site to achieve its full conservation potential. Protected areas have defined boundaries that reflect administrative compromises and do not represent the definite presence/absence of species. Areas near the edges of protection zones should be considered important for the species and habitats protected by the designations (e.g., MPA, critical habitat, etc.). As such, the border of the VSMR should not be the first place we consider for the development of a new technology, such as floating offshore wind.

Notably, this area is also near the Pt. Conception Marine Reserve, another vital part of California's MPA network.[15] In addition, it is within the proposed Chumash Heritage National Marine Sanctuary (CHNMS), which was nominated in 2015 for its rich ecological resources and cultural significance, including Chumash Sacred Sites.[16,17] NOAA's Office of National Marine Sanctuaries renewed the nomination in 2020,[18] indicating support from NOAA to protect this area. The 2020 review identified that this is an "area of national significance" and that there is "broad community support for the nomination."[19]

In addition to being on the boundary of VSMR, the effectiveness of California's MPA network relies not only on the protections individual MPAs afford but on the connectivity of the entire MPA network.[20] The Project areas are also within the proposed CHNMS, and overlap or border several other protection zones, such as critical habitat for many species, as noted in the DPEA. (Tables 4-3, 4-4, 4-5, 4-7, and 4-8) Since the March 31, 2021, letter (Attachment A), the critical habitat update for humpback whales was finalized. (A supplemental letter was sent on April 21, 2021, with this information.) We are pleased to see this update included in Table 4-3, as it overlaps with the Project areas. Lacking in the DPEA, however, are BIAs for gray and blue whales, as we mentioned in our previous letter and again focus on in this letter. We also reiterate our reference to a 2005 biogeographic assessment by the NMS Program, which has more detail about the area around Point Conception, near the Project areas.[21]

(See Image 3 on next page)

[15] https://wildlife.ca.gov/Conservation/Marine/MPAs/Network#29097816-marine-life-protection-act
[16] https://chumashsanctuary.com/
[17] https://chumashsanctuary.com/about/sacred-sites/
[18] Review of Nomination for the Chumash Heritage National Marine Sanctuary. 85 Fed. Reg. 61935 (October 1, 2020)
[19] *Id.*
[20] Saarman E., Gleason M., Ugoretz J., Airamé S., Carr M., Fox E., Frimodig A., Mason T., Vasques J. (2013) "The role of science in supporting marine protected area network planning and design in California," Ocean and Coastal Management.
[21] NOAA National Centers for Coastal Ocean Science (NCCOS). 2005. A Biogeographic Assessment of the Channel Islands National Marine Sanctuary: A Review of Boundary Expansion Concepts for NOAA's National Marine Sanctuary Program. Prepared by NCCOS's Biogeography Team in cooperation with the National Marine Sanctuary Program. Silver Spring, MD. NOAA Technical Memorandum NOS NCCOS 21. 215 pp.

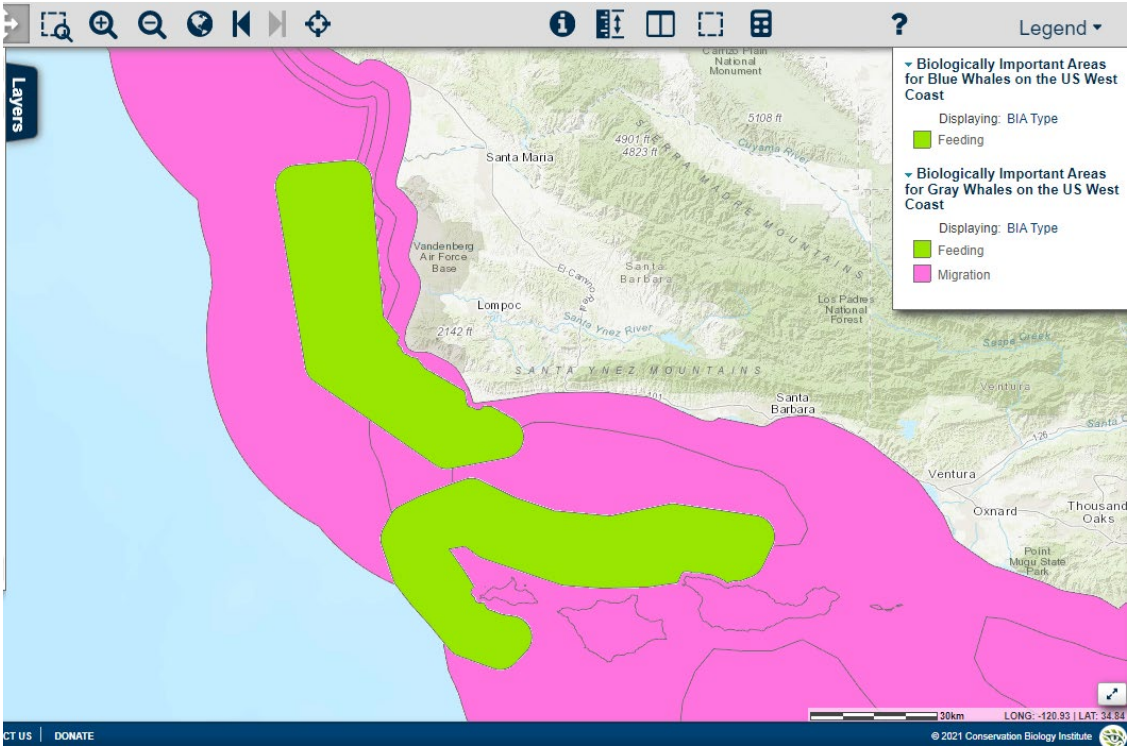

Image 3: Biologically Important Areas for blue (migration) and gray (feeding) whales in the Project area. Gray whales only have the migration layer (not feeding) represented in this spatial extent; the green polygons are blue whale feeding BIAs.[22]

Further, not all ecologically important marine areas are protected, and continued public input will be vital to ensure such places are identified and analyzed before siting decisions for offshore wind project developments are made. For example, detailed analysis exists for only a small number of marine mammals occurring in the areas of interest for offshore wind. For many of the species with known distributions, the data are not fine enough to make localized decisions. Near- and long-term research is needed on killer whales, beaked whales, fin whales, and minke whales, and there is a need to delineate BIAs for those species. Because of examples like this, we need to adopt a precautionary approach in siting and invest in data collection to inform future marine planning decisions. In addition, an analysis of climate-induced shifts and how those may impact marine mammal distribution will be complex, yet such an analysis will greatly benefit the planning process.

BOEM recently completed a study on seabird and marine mammal abundances along the Central Coast, the *Pacific Marine Assessment Partnership for Protected Species* (PacMAPPS) [23] study, and is still in process on the *Seabird and Marine Mammal Surveys Near Potential Renewable Energy Sites Offshore Central California*,[24] Data Synthesis and High-resolution Predictive Modeling of Marine Bird Spatial Distributions on the Pacific OCS,[25] Over Water

[22] Databasin.org
[23] https://www.boem.gov/sites/default/files/documents/environment/PC-17-04_0.pdf
[24] https://www.boem.gov/sites/default/files/documents/environment/PC-17-01_0.pdf
[25] https://www.boem.gov/sites/default/files/documents/environment/PC-15-01_0.pdf

Migration Movements of Black Brant,[26] and ADRIFT: Spatial and Temporal Distribution of Cetaceans in the California Current Ecosystem Using Drifting Archival Passive Acoustic Monitoring[27] studies. These studies have the potential to fill some critically important data gaps and should influence siting decisions. The PacMAPPS study has the potential to include at least three years of monthly ship and aerial pre-development baseline data on the presence and abundance of key species, including marine mammals and seabirds. This would dramatically bolster the statistical integrity of the data sets and set a high environmental bar.

In addition to the conflicts offshore, the Projects would also impact terrestrial resources in a largely undeveloped, contiguous block of relatively pristine native vegetation. As the DPEA describes, this area includes "a wealth of ecological resources" (DPEA at 4-30) that include special status species (DPEA at 4-33, 4-34). Proposed onshore substation development within critical habitat designations of the western snowy plover, one of the largest breeding colonies in California, and potential impacts to foraging birds from adjacent endangered California least tern nesting colonies at the Santa Ynez Estuary are of heightened concern. Overhead transmission lines paralleling the coast pose risks to migrating land and seabirds in the area, in addition to amplifying fire danger. The Projects pose real and significant risks to important seabird breeding colonies, coastal migrants, threatened and endangered birds and mammals, and increased fragmentation of one of the most undeveloped regions of the California coast. When siting offshore wind projects, it would be preferable to choose a location that has existing transmission capacity to reduce impacts to terrestrial resources.

The CEC, as part of its work on implementing SB 100, has developed a methodology for identifying least conflict areas that are appropriate for renewable energy development and transmission investments.[28] While this work is currently focused on terrestrial renewable energy development, the methodology in conjunction with data from the California Offshore Wind Gateway[29] and incoming data can be rapidly applied to help inform the responsible development of offshore wind. Identification of least conflict areas for offshore wind development would increase project viability and certainty and could allow for an expedited process in permitting offshore wind projects in the future.

Given the importance of protecting California's natural capital, which drives the state's ocean economy, we would like to work with you to ensure siting decisions reflect an unwavering commitment to protecting the marine environment. Implementing a deliberative planning process that prioritizes environmental protection and considers stakeholders' interests will demonstrate environmental leadership that will benefit this burgeoning industry while protecting California's rich natural resources.

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[26] https://www.boem.gov/sites/default/files/documents/regions/pacific-ocs-region/environmental-analysis/PC-20-01-profile_0.pdf
[27] https://www.boem.gov/sites/default/files/documents/regions/pacific-ocs-region/environmental-analysis/PC-20-04.pdf
[28] https://www.energy.ca.gov/event/workshop/2021-08/joint-agency-workshop-next-steps-plan-senate-bill-100-resource-build
[29] https://caoffshorewind.databasin.org/

III. The DPEA Fails to Adequately Address Several Issues Regarding Impacts and Alternative Sites.

Additional information is necessary to fully address the potential impacts of the proposed Projects on the marine environment. The proposed Projects will result in many impacts, including cumulative impacts, that are not addressed in the DPEA. Due to these unavoidable impacts and conflicts because of the Projects' locations, the state must consider alternative sites for offshore wind development.

A. The DPEA Omits Important Fish and Deep-Sea Coral Species.

The DPEA should include two rockfish species, yelloweye and cowcod, which are protected in state waters ("no-take"); yelloweye is considered overfished.[30,31] The preferred habitat for these species is rocky areas greater than 40 fathoms, which may be impacted by anchors and cables.[32]

Great white shark is another species omitted in the DPEA that should be included. Great white sharks have experienced regional population growth[33] and may be in the vicinity of the Projects. The DPEA should address the potential for interaction between the Projects and great white sharks, including potential attraction or displacement due to structures in the water, noise, and vibration, in addition to secondary entanglement risk.

The DPEA also omits discussion of deep-sea corals. Corals in both hard bottom and soft sediment could be impacted by the Projects due to the physical disturbance of the seafloor during construction and operation. This may include an increased sediment load that could choke corals and other species.[34]

B. The Discussion Regarding Marine Mammals and Sea Turtles Lacks Important Information.

The DPEA mentions leatherback sea turtle and other turtle species of special status (at 4-17, Table 4-4), but fails to mention that the Project areas overlap with leatherback sea turtle critical habitat. The southern extent of leatherback sea turtle critical habitat is Point Arguello.[35]

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[30] https://wildlife.ca.gov/Conservation/Marine/Groundfish/Tracking#:~:text=Yelloweye%20rockfish%20is%20a%20federally,monthly%20catch%20estimates%20by%20area.

[31] https://wildlife.ca.gov/Conservation/Marine/Cowcod

[32] https://www.fisheries.noaa.gov/west-coast/sustainable-fisheries/west-coast-groundfish-closed-areas

[33] Kanvine et al. 2021. Estimates of regional annual abundance and population growth rates of white sharks off central California. Biol. Cons. Vol. 257, 109104. Available at: https://www.sciencedirect.com/science/article/pii/S0006320721001567

[34] Jones R, Fisher R, Bessell-Browne P (2019) Sediment deposition and coral smothering. PLOS ONE 14(6): e0216248. https://doi.org/10.1371/journal.pone.0216248

[35] 77 FR 4169 February 27, 2021. https://www.ecfr.gov/cgi-bin/text-idx?SID=79c870d9a02a7e22b18473ef2efb7556&mc=true&node=se50.10.226_1207&rgn=div8

The DPEA mentions that the Project locations are at the northern or southern extent of range for some species of marine mammals, though it does not specify which. (DPEA at 4-13)

In addition, the data on gray whale distance from shore should be updated, especially in consideration of the stress the species has had in recent years from unconfirmed causes, including unusual mortality events in recent years.[36,37]

The DPEA relies on outdated information for the southern sea otter and misrepresents sea otter residence in the coastal zone of the Project area (DPEA at 4-13). Estes and Jameson (1983) references a small sample size, and the population density and demographics have changed in the last 38 years. Sea otters do not have a defined breeding season and they no longer migrate away from the region; thus, the Bonnell et al. (1983) and Estes and Jameson (1983) citations are dated and should be clarified or, preferably, struck. The most current range information can be found in Hatfield et al. (2019),[38] which should be used for a reference to make any statements about population size or range as it is the most current census.

The DPEA is silent on the use of high resolution geophysical (HRG) surveys for site assessment and characterization activities necessary prior to construction. Equipment used for HRG surveys can produce noise at source levels and frequencies that are potentially harmful to marine mammals. As such, this activity should be evaluated in the DPEA.

Finally, as we discussed in our March 31, 2021, letter and as noted in the DPEA (DPEA at 2-12), vessels used during construction and operation may impact whales through direct ship strikes. This issue is not adequately addressed in the DPEA. The DPEA also does not address how vessels may impact southern sea otters during construction and operation. The siting, construction, and maintenance of transmission lines to onshore substations can be expected to have adverse impacts on sea otters residing along this coastal region and potentially on the seal rookeries at Vandenberg.

C. The DPEA Fails to Adequately Disclose Potential Harm to Birds.

The DPEA is inadequate in the following sections and topics in its preliminary assessment of the potential impacts of the proposed Projects on marine birds:

1. 2.3.4. Table 2-1. Summary of Comments from Agencies and Ports

The DPEA omits specific statutes and conservation obligations that protect birds, including:

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[36] Christiansen F, Rodríguez-González F, Martínez-Aguilar S, Urbán J and others. 2021. Poor body condition associated with an unusual mortality event in gray whales. Mar Ecol Prog Ser 658:237-252. https://doi.org/10.3354/meps13585

[37] https://www.livescience.com/four-dead-gray-whales-in-san-francisco.html

[38] Hatfield, B. B., J. L. Yee, M. C. Kenner, and J. A. Tomoleoni. 2019. California sea otter (*Enhydra lutris nereis*) census results, spring 2019. U.S. Geological Survey Data Series 1118, Reston, Virginia, USA. https://doi.org/10.3133/ds1118.

- Migratory Bird Treaty Act
- California Fish & Game Code section 3513 – Take under Migratory Bird Treaty Act
- Fish & Wildlife Conservation Act as amended in 1988
- Executive Order (EO) 13186 "Responsibilities of Federal Agencies to Protect Migratory Birds," and
- North American Waterbird Conservation Plan.

2. Errata: p. 4-13 error: Migratory Bird Treaty Act.

3. Table 2.2. Summary of Comments from ENGOs

The DPEA mis-characterizes our concerns for the impacts of the proposed Projects on birds as only collision with turbines with a special concern for California brown pelican. We have stated repeatedly that there are three potential impacts of the proposed projects on many species of birds, which are also well-defined in the BOEM/U.S. Geological Survey (USGS) study titled Collision and Displacement Vulnerability among Marine Birds of the California Current System Associated with Offshore Wind Energy Infrastructure (OCS Study, BOEM 2016-043):

- collision with turbines,
- displacement and barrier effect, and
- population level impact on vulnerable populations of seabirds.

California brown pelican was highlighted in previous comment letters as an example of an important species to consider because:

- The species was formerly listed under the ESA and is currently state listed;
- The BOEM/USGS document ranks California brown pelican as the highest in population collision vulnerability with turbines of all the species of birds in the California Current System (CCS);[39] and
- The only breeding colonies of California brown pelicans in the western United States are within Channel Islands National Park on West Anacapa and Santa Barbara Islands. These colonies are not far from the Projects, and the birds forage in the Project area. [40]

We ask that the PEA correct this mischaracterization and include our concerns for all the impacts of the Projects on the 81 species of seabirds that are found in the CCS as stated and ranked in the publication cited below:

> *For 81 marine bird species present in the CCS, we created three vulnerability indices: Population Vulnerability, Collision Vulnerability, and Displacement Vulnerability. Population Vulnerability was used as a scaling factor to generate two comprehensive indicies: Population Collision Vulnerability (PCV) and Population Displacement Vulnerability (PDV). Within the CCS, pelicans, terns (Forster's [Sterna forsteri],*

[39] Adams, J., Kelsey, E.C., Felis, J.J., and Pereksta, D.M., 2017, Collision and displacement vulnerability among marine birds of the California Current System associated with offshore wind energy infrastructure (ver. 1.1, July 2017): U.S. Geological Survey Open-File Report 2016-1154, 116 p., https://doi.org/10.3133/ofr20161154
[40] https://www.nps.gov/chis/learn/nature/brown-pelican.htm

> *Caspian [Hydroprogne caspia], Elegant [Thalasseus elegans], and Least Tern [Sternula antillarum]), gulls (Western [Larus occidentalis] and Bonaparte's Gull [Chroicocephalus philadelphia]), South Polar Skua (Stercorarius maccormicki), and Brandt's Cormorant (Phalacrocorax penicillatus) had the greatest PCV scores. Brown Pelican (Pelicanus occidentalis) had the greatest overall PCV score. Some alcids (Scripps's Murrelet [Synthliboramphus scrippsi], Marbled Murrelet [Brachyramphus marmoratus], and Tufted Puffin [Fratercula cirrhata]), terns (Elegant and Least Lern), and loons (Yellow-billed [Gavia adamsii] and Common Loon [G. immer]) had the greatest PDV scores. Ashy Storm-Petrel (Oceanodroma homochroa) had the greatest overall PDV score. To help inform decisions that will impact seabird conservation, vulnerability assessment results can now be combined with recent marine bird at-sea distribution and abundance data for the CCS to evaluate vulnerability areas where OWEI [offshore wind energy infrastructure] development is being considered. Lastly, it is important to note that as new information about seabird behavior and populations in the CCS becomes available, this database can be easily updated and modified.*[41] (Emphasis added).

We also ask that the PEA use the vulnerability assessment combined with recent marine bird at sea distribution and abundance data in the Project area.

New data will be released by BOEM on distribution and abundance of birds in the CCS and the PEA should perform the synthesis recommended by BOEM above.

4. 4.2.3 Biological Resources

The DPEA attempts to analyze the impacts on Biological Resources – Marine in this section. However, the document begins with a statement of "significant environmental values" of a one-mile strip of Unconveyed State School Lands and Tide and Submerged Lands Possessing Significant Environmental Values (CSLC 1975). The "assessment" states "[s]pecifically, these lands are within the range of California brown pelican and California least tern, and the area is known to have large numbers of shorebirds." This statement from a 45-year old document is misleading and suggests that California brown pelican and California least tern and shorebirds are the only species in this area. There are seabirds, migratory birds, and waterbirds as well.

5. The cited statements in the DPEA are not relevant to the Proposed Projects

The analysis of birds relies heavily on one source: "At-sea Distribution and Abundance of Seabirds off Southern California: A 20-year Comparison"[42] and selects citations from this

[41] Adams, J., Kelsey, E.C., Felis, J.J., and Pereksta, D.M., 2017, Collision and displacement vulnerability among marine birds of the California Current System associated with offshore wind energy infrastructure (ver. 1.1, July 2017): U.S. Geological Survey Open-File Report 2016-1154, 116 p., https://doi.org/10.3133/ofr20161154.

[42] Mason et al. 2007. At-sea distribution and abundance of seabirds off Southern California: a 20-year comparison. Published in Studies in Avian Biology, No. 33, Cooper Ornithological Society.

aggregation of aerial surveys conducted in May through January 2002 from Cambria to the Mexican border.

The DPEA states "Mason et al. (2007) identified 54 species off southern California during coastal and at-sea surveys (from Cambria to the Mexican border), representing 12 different families. Nearshore seabirds tend to occur close to shore in relatively shallow waters."

Our limited review of the publication found, however, that the surveys for this data were only conducted on transects that were less than a mile from shore as reported in the publication.

> *Surveys were conducted from a high-winged, twin-engine Partenavia PN 68 Observer aircraft following methods developed for seabird observation by Briggs et al. (1985a, b; 1987). We flew surveys at 60 m above sea level at 160 km/hr ground speed and flew coastline (mainland and island) transects 300 m from shore.*[43]

The cited distance, 300 meters, is less than one mile from the coast. The proposed projects are between two to three miles from the coast. General statements in the DPEA such as "Pelagic seabirds occur in deeper waters, typically farther from shore than the nearshore species described above" (no citation, DPEA at 4-20) are misleading without more exact measurements. "Farther" includes the proposed Project area.

Therefore, we recommend: 1) CSLC should rely on the 2017 BOEM/USGS report and more recent data to determine vulnerability and increase the number of species of seabirds which could be vulnerable to the impacts of the projects; and 2) CSLC should rely on Moore et al. only for nearshore species of seabirds and waterbirds and not for the Project area, and look at other sources for initial data on seabirds and waterbirds in the area of the proposed project, including Briggs et al., Bird Communities a Sea Off California: 1975-1983, Studies in Avian Biology No. 11, 1987, and the upcoming BOEM/USGS transect surveys off Central California.

6. <u>DPEA is deficient on data on migratory birds and bats</u>

has provided comments to CSLC on the DPEA on the high risk to migratory birds and bats that fly through the rotor-swept zone of the proposed project areas. To accurately detect the magnitude, timing, and altitude of birds and bats flying through the proposed Project area, considering the best available science for the DPEA and the possible environmental analysis, the CSLC should consider requiring the Project proponents to determine the usage of the Project areas in several migratory seasons using marine radar during day and night.

For a proposed offshore wind project in the Great Lakes, six miles from the coast in Lake Erie, the Ohio Power Siting Board and Ohio Department of Natural Resources permit includes a condition that requires the developer to provide data using vertical radar on the site for at least one year and possibly two migratory seasons on birds crossing the Lake at night and day above and through the rotor-swept zone to determine risk before the project can begin to move forward.

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[43] *Id.*

Additionally, the data must be approved by the Ohio Department of Natural Resources.[44] The project proponent in the Great Lakes has elected to use a floating platform on which to secure the radar unit and the Ohio Department of Natural Resources requires that 70% of the data must be useable. Other on-site studies have been done with a secure platform. These studies are critical for understanding the risk to migratory birds for any environmental analysis and should be conducted before any nearshore project can move forward, since it is so close to the coast on the Pacific Flyway, as CDFW has commented.

Additionally, standard practice for permitting agencies at the county level is to require on-site protocol level bird-use surveys over one or two years for preparation of an environmental review of a project. CSLC should at minimum require two years of these surveys and data collection including on-site marine radar before beginning environmental review.[45]

7. Table 4-8. Special Status Marine Bird Species with Potential Occurrence in Project Areas

This table is inadequate as it does not seem to include onshore cable landing or infrastructure as "Project area" and does not include the following listed and special status species:

- Short-tailed albatross, a federally endangered species under the ESA.[46] A history of sightings off California[47] and eBird data and range map[48] for the species show its continued and growing presence in California waters, including in the Project area.
- California least tern,[49] listed as endangered under both federal and state ESAs (and a fully protected species under California law[50]), which nests on beaches but forages in the Project area, as the Project area includes onshore cable landings and infrastructure.
- Western snowy plover[51] nests on the California Coast and is listed as threatened under the ESA.

The USFWS has released Birds of Conservation Concern 2021.[52] These birds are considered special status species. Birds on the list that may migrate through the areas or seabirds that appear in the BOEM/USGS document on vulnerability of 81 species should be included as special status Species in the Project area whether they forage, fly through, or migrate through the Project area. Additionally, CDFW has prepared a list of California Bird Species of Special Concern.[53] Any species that occurs in the Project area, including during migration, should be considered as special status species in the CSLC's review.

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[44] http://dis.puc.state.oh.us/TiffToPDf/A1001001A20E21B35239G02930.pdf
[45] See Alta East wind project DEIR https://psbweb.co.kern.ca.us/planning/pdfs/eirs/AltaEast/Index.htm
[46] https://www.fws.gov/oregonfwo/articles.cfm?id=149489452
[47] http://creagrus.home.montereybay.com/CA_STAL.html
[48] https://ebird.org/species/shtalb
[49] https://www.fws.gov/sacramento/es_species/Accounts/Birds/ca_least_tern/
[50] Cal. Fish and Game Code § 3511(b)(6).
[51] https://www.fws.gov/arcata/es/birds/wsp/plover.html
[52] https://www.fws.gov/migratorybirds/pdf/management/birds-of-conservation-concern-2021.pdf
[53] https://wildlife.ca.gov/Conservation/SSC/Birds

8. Table 4-8. Potential Magnitude of Environmental Effect

Habitat Alterations should be changed to potentially Significant, as the turbines may displace marine life which may have to avoid the turbines during migration or foraging activities. This displacement has been demonstrated to be a significant impact in the EU and United Kingdom.[54]

In conclusion, the DPEA should rely on the framework of research and practices that includes: 1) seabird density and abundance data forthcoming from BOEM and other scientists, which will show that seabird density is much greater closer to the coast within three miles than it is twenty miles or more out at sea, for instance; 2) a note of precaution that other states that have considered offshore wind demonstration and commercial projects, even of only one turbine, have only considered projects six miles (Great Lakes), eight miles (Rhode Island), or 12 miles (Maine) from the mainland coast, and not closer than that. Rhode Island and Maine conducted extensive stakeholder planning processes before locating a demonstration project off the states' coasts.[55] Virginia's demonstration project is located 27 miles from the coast.[56] In fact, New Jersey declined to permit a project off its coast within five miles, in part because a pilot scale project would not produce a net economic benefit,[57] and because of testimony from National Wildlife Federation and New Jersey Audubon on the potential impacts on birds (public testimony available on request); and 3) the mitigation hierarchy of addressing impacts,[58] which is also used to address impacts in environmental review, is to first avoid potentially significant impacts through a robust alternatives analysis, and to minimize and mitigate impacts for which avoidance is not possible, where mitigation may include offsets for the impacts with compensatory mitigation where such offsets can be shown to be effective. We suggest that the cumulative, direct, and indirect impacts on birds are so potentially numerous from these Projects that these significant impacts should be completely avoided by not moving forward with these proposals.

D. The DPEA Omits Consideration of Cumulative Impacts.

The DPEA does not consider cumulative impacts, which are of utmost importance when evaluating offshore wind siting and development. The siting of wind turbines can have cumulative impacts on migrating bird populations, bats, fisheries, marine mammals, and even changes to upwelling, to name a few issues. It is not feasible to analyze cumulative impacts if the state is considering multiple individual permits and not analyzing them as a network with shared, cumulative impacts. Considering the importance and high public value of California's marine resources, we recommend that CSLC analyze and model the potential synergistic and cumulative impacts of projects under present and future ocean conditions before considering any leases.

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[54] https://www.researchgate.net/publication/304563260_Displacement_of_seabirds_by_an_offshore_wind_farm_in_the_North_Sea

[55] https://seagrant.gso.uri.edu/oceansamp/; https://www.maineoffshorewind.org/

[56] https://www.dominionenergy.com/projects-and-facilities/wind-power-facilities-and-projects/coastal-virginia-offshore-wind

[57] https://www.njspotlight.com/2018/12/18-12-18-state-rejects-atlantic-city-offshore-wind-project-for-third-time-too-pricey/

[58] https://academic.oup.com/bioscience/article/68/5/336/4966810

E. Alternative Sites must be Identified and Considered, as well as Alternative Renewable Energy Sources.

The multitude of concerns about the proposed sites for these Projects elevates the need for the state to consider alternative locations for offshore wind development. What alternative sites were considered? We respectfully request a full analysis of alternative sites in state and federal waters to build confidence in siting decisions. As we have repeatedly stated, we feel there are more appropriate sites for floating offshore wind farther offshore. Alternative sources of renewable energy that would provide the identified objectives for local energy resiliency should also be considered, such as distributed solar and storage alternatives.

IV. Conclusion

While we support responsibly sited and operated floating offshore wind power, the proposed Projects raise many environmental and permitting-process concerns for the reasons described within this letter and Attachment A. The Projects are irresponsibly sited in a location with an incredible richness of biodiversity and should not be considered further. These Projects are not in the best interest of the state. The state would be far better served to initiate a planning process to identify appropriate locations for facilities that could be broadly supported by the environmental community and other stakeholders.

California's first offshore wind projects must reflect leasing, siting, and permitting decisions that are guided by planning and comprehensive scientific research on the potential impacts to sensitive marine areas and species and coastal resources, including cumulative impacts. Proper planning must occur before the CSLC considers specific lease applications. Further, developments should reflect recommendations from a robust stakeholder planning process, which will be essential for developing an offshore wind industry that will help power California's clean energy future.

Thank you for your consideration of these comments.

Sincerely,

Kristen Hislop, Marine Conservation Program Director
Environmental Defense Center

Lauren Cullum, Policy Advocate
Sierra Club California

Michael Stocker, Director
Ocean Conservation Research

Pamela Flick, California Program Director
Defenders of Wildlife
(cont'd)

Joel Merriman, Director, Bird-Smart Wind Energy Campaign
American Bird Conservancy

Garry George, Director, Clean Energy Initiative
National Audubon Society

Lisa Belenky, Senior Attorney
Center for Biological Diversity

Sandy Aylesworth, Senior Advocate
Natural Resources Defense Council

Delia Bense-Kang, Northern and Southern CA Regional Coordinator
Surfrider Foundation

Amy Wolfrum, California Ocean Conservation Manager
Monterey Bay Aquarium

Katherine Emery, Executive Director
Santa Barbara Audubon Society

Bruce Schoppe, Conservation Chair
Ventura Audubon Society

Doug Kern, Executive Director
Gaviota Coast Conservancy

Attachment A: March 31, 2021, Letter to Jennifer Lucchesi and Jennifer Mattox, California State Lands Commission
Attachment B: October 21, 2019, Letter to Karen Douglas, California Energy Commission

Cc:
Wade Crowfoot, California's Natural Resources Secretary
Jennifer Lucchesi, California State Lands Commission
Jennifer Mattox, California State Lands Commission
Karen Douglas, California Energy Commission
Mark Gold, California Ocean Protection Council
John Ainsworth, California Coastal Commission
Kate Huckelbridge, California Coastal Commission
Chris Potter, California Department of Fish and Wildlife

March 31, 2021

Jennifer Lucchesi, Executive Officer
Jennifer Mattox, Senior Policy Advisor and Tribal Liaison
California State Lands Commission
100 Howe Avenue, Suite 100 South
Sacramento, CA 95825

Via Email: Jennifer.Lucchesi@slc.ca.gov
Jennifer.Mattox@slc.ca.gov

RE: Comments on input in advance of California State Lands Commission Draft Preliminary Environmental Assessment on two permit applications from CIERCO and IDEOL for offshore wind projects

Dear Ms. Lucchesi and Ms. Mattox,

American Bird Conservancy, Center for Biological Diversity, Defenders of Wildlife, Environmental Defense Center (EDC), National Audubon Society, Natural Resources Defense Council (NRDC), Sierra Club, and Surfrider Foundation appreciate the California State Lands Commission (CSLC) March 9, 2021, status update to the environmental community on the two offshore wind applications from CIERCO and IDEOL in state waters along the Santa Barbara County coastline.[1] Thank you for the opportunity to ask questions about CSLC's permitting process and provide comments on data that should be included in your Preliminary Environmental Assessment (PEA) on the applications.

On behalf of our organizations and our millions of members, we offer both:

- General recommendations for the development of future commercial-scale offshore wind energy projects. We want to ensure that development occurs after robust planning has been undertaken

[1] https://www.slc.ca.gov/renewable-energy/offshore-wind-applications/

that includes incorporation of effective monitoring, mitigation, and adaptive management strategies during all phases of development.

- Specific comments on the currently proposed projects in state waters ahead of your preparation of the PEA, which we understand is not part of a formal environmental review process. As explained below, we believe that the proposed projects are not in the best interests of the state.

Our organizations are united in support of responsibly sited and operated floating offshore wind power as a critically needed climate change solution, and we have long advocated for policies and actions to bring offshore wind projects to scale in an environmentally protective manner. We understand that developing renewable energy is pivotal for California to avoid the worst consequences of climate change, achieve a zero-carbon energy future, and maintain our thriving economy, healthy communities, and national role as an environmental leader.[2] Careful consideration of *how* we achieve this zero-carbon future is vital for protecting California's internationally treasured wildlife, landscapes, marine ecosystems, cultural resources, productive farmlands, and diverse habitats.

As it explores prospective offshore wind development, the state of California has an opportunity and responsibility to become a visionary leader in offshore wind energy and create a planning process that sets a high environmental standard for this new technology and ocean use. In the October 21, 2019 letter some of our organizations submitted to the California Energy Commission (CEC), we recommended that offshore wind energy must be developed responsibly, in a way that incorporates a range of stakeholder considerations and minimizes local and cumulative environmental impacts (see Attachment A). We believe such an approach will also benefit the industry, as siting and permitting will advance expeditiously if use conflicts are addressed ahead of the permitting process.

Indeed, the 2021 SB 100 Joint Agency Report states:

> *"The benefits of using landscape-level approaches for renewable energy and transmission planning include early identification and resolution of large issues or barriers to development, coordinated agency permitting processes, increased transparency in decision making, increased collaboration, avoidance of impacts, and more rapid development of environmentally responsible renewable energy projects."*[3]

Our organizations believe that the two proposed projects, CIERCO and IDEOL, that have been submitted to the CSLC are not appropriately sited and will have significant impacts, and are therefore not in the best interests of the state. As explained below, the fact that these are called "demonstration" projects does not change the fact that planning should precede any site specific project analysis. California needs an inclusive and transparent planning process to accomplish industry and environmental goals. We respectfully request that the CSLC consider our following input on the process for evaluating and siting offshore wind projects.

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[2] Audubon's science found that climate change may drive 389 species of North American birds to extinction if we cannot limit warming below 3 degrees Celsius.

[3] https://efiling.energy.ca.gov/GetDocument.aspx?tn=237167&DocumentContentId=70349 at pg. 112

I. A ROBUST STAKEHOLDER PLANNING PROCESS IS NEEDED

A robust stakeholder planning process is needed that uses ecological resource data to determine areas where offshore wind can be sited, permitted, constructed, and operated with least impact to the environment. Responsible siting and operation of offshore wind energy (i) avoids, minimizes, monitors, and mitigates adverse impacts on marine and coastal wildlife and their habitats, (ii) reduces negative impacts on traditional ocean uses, (iii) meaningfully engages state and local government, Native American Tribes and communities, and stakeholders from the outset, and (iv) uses the best available scientific and technological data to ensure science-based and stakeholder-informed decision making.

Our organizations have asserted repeatedly that state and/or federal planning processes to identify areas of least conflict must provide for streamlined decision-making that reflects environmental and other concerns, especially the concerns of stakeholders in affected coastal communities. We believe that the state, working in partnership with the U.S. Bureau of Ocean Energy Management (BOEM) or independently, should facilitate an inclusive and transparent planning process with ocean-use and coastal stakeholders to identify least conflict lease areas.[4] Further, having identified viable development sites will enable federal and state agencies to evaluate offshore wind projects efficiently and within the context of the entire waters offshore California, rather than on an ad hoc basis. The San Joaquin Valley Least Conflict Solar Analysis[5] is an example of a collaborative and efficient planning process that designated renewable energy development areas and conservation areas. The six-month process led to efficient and environmentally sound permitting of a large solar development in California.

The offshore wind energy lead staff from California's state agencies are well positioned to support the Integrated Energy Policy Report (IEPR),[6] the SB 100 Planning, Integrated Resources Planning (IRP), and transmission planning to include an offshore wind energy component and a programmatic data-driven stakeholder planning process that will identify least conflict areas, taking into consideration access to transmission, to help inform a sustainable offshore wind energy industry for the future. Such a process would protect our unique California Current ecosystem and sustain an offshore wind energy industry to benefit our climate and energy goals.

There are only three other states with operating or in-process "demonstration" projects: Rhode Island, Virginia, and Maine.

Rhode Island led the way with a multi-year stakeholder process before siting a demonstration project in Outer Continental Shelf (OCS) waters eight miles off Block Island and 12 miles from the Rhode Island coast. The process resulted in the Ocean Special Area Management Plan (SAMP).[7] The SAMP document

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[4] Some fishing communities have expressed support for this approach. In April 2014, the Pacific Fisheries Management Council wrote a letter to BOEM stating the Council's preference for such a process.
[5] San Joaquin Valley Least Conflict Solar Analysis
[6] https://www.energy.ca.gov/data-reports/reports/integrated-energy-policy-report
[7] Rhode Island Ocean Special Area Management Plan (Ocean SAMP), adopted October 19, 2010. https://seagrant.gso.uri.edu/oceansamp/pdf/samp_crmc_revised/RI_Ocean_SAMP.pdf

guided the siting of the Deepwater Block Island demonstration project in state waters 3 miles southeast of Block Island and 12 miles from the Rhode Island coastline.

> *The Ocean SAMP area is a highly used and biologically and economically valuable place, with major uses such as fishing, recreation and tourism, transportation, and military activities. These, along with the area's biology and habitat, must be understood, and highly regarded, and respected as decisions for the incorporation of future activities are determined. [Parties agreed to] base all decisions on the best available science and on ecosystem based management approaches. The Ocean SAMP will require that the necessary studies be performed before a future activity is approved to better understand the impact of this activity on the ecosystem.*[8]

Maine is working to develop its Offshore Wind Roadmap,[9] which includes a goal to minimize potential impacts to the local environment.[10]

> *The Roadmap, as part of the overall Maine Offshore Wind Initiative, will be developed through a collaborative stakeholder and engagement process and this effort will take a holistic approach to advance the offshore wind industry in the state. This work will include developing strategies to realize potential economic benefits in areas such as ports and infrastructure, manufacturing and supply chain, and workforce development. Importantly, the effort will also focus on planning and data-gathering to support siting decisions, with the goal of minimizing potential effects on the environment and fisheries.*[11]

The Commonwealth of Virginia chose to locate its demonstration project 26 miles off Virginia's coast in OCS waters after receiving BOEM support and Department of Energy grant.[12]

Each of these states engaged in a planning process to identify appropriate areas for potential OSW development before entertaining development applications for demonstration projects. The CSLC should also undertake planning to identify appropriate areas before consideration of development proposals.

II. DEVOTE TIME AND RESOURCES TO UTILIZING THE CALIFORNIA OFFSHORE WIND DATA BASIN GATEWAY

We fully support and appreciate the effort to make the California Offshore Wind Energy Gateway[13] an inclusive, collaborative, and transparent federal, state, and stakeholder collaboration. We acknowledge

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[8] *Id.* at 7.
[9] https://www.maine.gov/energy/initiatives/offshorewind/roadmap
[10] https://www.maine.gov/energy/initiatives/offshorewind/researcharray
[11] https://www.maine.gov/energy/initiatives/offshorewind/roadmap
[12] https://www.boem.gov/renewable-energy/state-activities/coastal-virginia-offshore-wind-project-cvow
[13] https://caoffshorewind.databasin.org/

Scott Flint at the CEC and the team at the Conservation Biology Institute (CBI) [14] for their rigorous efforts. The Gateway is incredibly useful as it contains over 600 data sets that provide the ecological lens through which siting decisions in both state and federal waters should be made. As an evolving data collection effort, critical data gaps (e.g., spatial considerations) remain, however. CBI and Point Blue are in the process of analyzing some of these data and identifying critical data gaps, and siting decisions should include the results of their ongoing analysis. As discussed more fully below, we lack important information, including recent data, regarding marine mammal and bird abundance, distribution, and migration. Any data gaps must be documented fully and taken into consideration when making decisions on the siting of offshore wind structures. In addition, we support ongoing funding for resources and staff time to fully harmonize and synthesize the enormous volume of studies the site contains.

The Gateway does an excellent job at providing the means to evaluate existing data sets spatially, and has the opportunity to align with the BOEM-NOAA Marine Cadastre[15] and the West Coast Ocean Data Portal.[16] There is an outstanding need for BOEM/California to be able to analyze multiple layers simultaneously and provide fine-scale detail in certain areas of interest. At present, the low resolution of and gaps inherent in some of the data preclude such careful analysis. Maps that overlay Biologically Important Areas (BIAs), krill hot spots, species-specific seasonality and sensitivity data, boundaries of protected areas, bathymetry, and areas of interest for wind development should be a key outcome of using Data Basin in planning and permitting decisions. Decision-support tools should also be used to interpret multiple data layers. The resulting maps and tools should guide relevant agencies, including the CSLC, in identifying areas of high environmental importance and sensitivity, as well as areas of least conflict that minimize the risks of offshore wind development to the marine environment.

III. INCLUDE A STRUCTURE AND PLAN TO INCORPORATE FUTURE SCIENTIFIC STUDIES INTO PROJECT SITING

It is imperative to have a well-informed understanding of avian and marine mammal distributions throughout the Central Coast prior to making leasing decisions to improve the reliability of identifying areas as potentially *low risk*. We recommend deferring final identification of leasing/permitting areas until an analysis identifying least conflict areas can be included. This approach could allow for an expedited process in permitting offshore wind projects in the future.

BOEM is currently undertaking two studies on seabird and marine mammal abundances along the Central Coast that have the potential to fill some critically important data gaps. Information generated from the *Seabird and Marine Mammal Surveys Near Potential Renewable Energy Sites Offshore Central California* study[17] and the *Pacific Marine Assessment Partnership for Protected Species* (PacMAPPS)

[14] https://consbio.org/products/projects/using-available-data-and-information-to-identify-offshore-wind-energy-areas-off-the-california-coast
[15] https://marinecadastre.gov/
[16] https://portal.westcoastoceans.org/
[17] https://www.boem.gov/sites/default/files/documents/environment/PC-17-01_0.pdf

study[18] should influence siting decisions. The PacMAPPS study has the potential to include at least three years of monthly ship and aerial pre-development baseline data on the presence and abundance of key species, including marine mammals and seabirds. This would dramatically bolster the statistical integrity of the data sets and set a high environmental bar.

There are at least 30 species of marine mammals that live in California coastal waters, though detailed analysis exists for only a small number of those occurring in the areas of interest for offshore wind. For many of the species with known distributions, the data are not fine enough to make localized decisions. Near- and long-term research is needed on killer whales, beaked whales, fin whales, and minke whales, and there is a need to delineate BIAs for those species. For projects not already in process, sufficient resources and time should be allocated to carry out analyses on a fine enough scale to inform marine planning decisions. An analysis of climate-induced shifts and how those may impact marine mammal distribution will be complex, yet such an analysis is crucial to the planning process.

Finally, considering the importance and high public value of California's marine resources, we recommend that CSLC analyze and model the potential synergistic and cumulative impacts of initial projects under present and future ocean conditions before approving any leases.

IV. AVOID SENSITIVE MARINE HABITAT AND PROTECTED AREAS

Our organizations have worked with state and federal agencies to secure precedent-setting protections for state waters, and California has the largest network of national marine sanctuaries (NMS) in the United States. Maintaining the health of ocean ecosystems is essential to California's robust economy, to the livelihoods of many California residents, and to securing the sustainability of marine life in the region. Moreover, Californians—and many U.S. citizens beyond state borders—have made a strong public commitment to preserving California's coast and ocean and the marine wildlife that depend upon them. Protecting California's marine environment is ecologically, socially, and economically beneficial.
As appropriate sites are proposed and considered for offshore wind energy developments, we strongly recommend avoidance of Biologically Important Areas (BIAs) for cetaceans, designated NMSs, marine protected areas (MPAs), Audubon Marine Important Bird Areas, ecologically sensitive areas such as migratory corridors, and other ecologically important habitat—including designated critical habitat. The two proposed projects overlap or border on several of these protection zones, which include, but are not limited to, leatherback sea turtle critical habitat, humpback whale proposed critical habitat, biologically important areas for gray and blue whales, and the Point Conception and Vandenberg State Marine Reserves. In addition, the area around Point Conception was considered as part of an "important ecosystem that supports a diverse array of biological communities" in a 2005 biogeographic assessment

[18] https://www.boem.gov/sites/default/files/documents/environment/PC-17-04_0.pdf

by the NMS Program.[19] This diverse ecosystem includes many species listed as endangered or threatened under the Endangered Species Act.[20]

The Intergovernmental Panel on Climate Change *Special Report on Oceans and Cryosphere in a Changing Climate*,[21] released on September 24, 2019, underscores the imperative of preserving intact marine habitat. Scientists recommend highly protecting at least 30 percent of the marine environment to preserve ecosystem function and enhance climate resilience. As state and federal agencies consider offshore wind, preserving the ecological integrity of known biological hotspots—including those listed above—is critical.

Further, not all ecologically important marine areas are protected, and public input will be vital to ensure such places are identified and analyzed before siting decisions for offshore wind project development are made. Given the importance of protecting California's natural capital, which drives the state's ocean economy, we would like to work with you to ensure siting decisions reflect an unwavering commitment to protecting the marine environment. Implementing a deliberative planning process that prioritizes environmental protection and considers stakeholders' interests will demonstrate environmental leadership that will benefit this burgeoning industry while protecting California's rich natural resources.

While the above listed protected/important areas have defined boundaries, these boundaries reflect administrative compromises and do not represent the definite presence/absence of species. Areas near the edges of protection zones should be considered important for the species and habitats protected by the designations.

V. SPECIFIC CONCERNS FOR THE AREA OF THE PROPOSED PROJECTS

We strongly urge you to determine that the CIERCO and IDEOL applications before the CSLC are not in the best interests of the state for the reasons already presented and due to the following environmental considerations. As mentioned above, the area around Point Conception comprises important habitats for many species. Numerous species of importance have "nearshore affinity";[22] thus, offshore wind development in state waters would likely have more of an impact on biological resources than alternative sites farther offshore. Below, we detail some specific concerns.

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[19] NOAA National Centers for Coastal Ocean Science (NCCOS). 2005. A Biogeographic Assessment of the Channel Islands National Marine Sanctuary: A Review of Boundary Expansion Concepts for NOAA's National Marine Sanctuary Program. Prepared by NCCOS's Biogeography Team in cooperation with the National Marine Sanctuary Program. Silver Spring, MD. NOAA Technical Memorandum NOS NCCOS 21. 215 pp.
[20] https://www.fws.gov/endangered/species/
[21] https://www.ipcc.ch/srocc/
[22] Id.

Birds and Bats

The location of the two proposed floating offshore wind projects is adjacent to six onshore Audubon Important Bird Areas (IBAs) in an international program to identify high conservation areas for birds. Those IBAs include Point Conception 120W34N, Point Conception 121W34N, Vandenberg Air Force Base and Santa Ynez Sanctuary IBA and cover over 20 species of seabirds. For example, the projects are adjacent to a major Audubon marine IBA—the Piedras Blancas, CA IBA—which has high concentrations and congregations of sooty shearwater, which forage in these waters during the California summer months after breeding and nesting on Pacific islands. The IBA is already used extensively by fisheries and aquaculture (30% of the IBA), tourism and recreation (10% of the IBA), urban/industrial transport and ports (30% of the IBA), and the military (30% of the IBA). Additionally, the California offshore wind speed map in the CEC Data Basin California Offshore Wind Portal also shows that wind speeds less than 20 miles from the coast may diminish by more than half.[23]

BOEM has prepared a thorough document that ranks the vulnerability of seabirds to collision, displacement, and population level impacts with offshore wind projects.[24] Seabirds, which are protected by the Migratory Bird Treaty Act and California Fish and Wildlife Code regulations, are abundant in the area proposed by the applicants. One example, the brown pelican, is ranked highest in vulnerability to collision with the turbines as these birds fly in the rotor-swept zone. The most important breeding area for the brown pelican in California is on the nearby Channel Islands. Birds follow forage fish and are documented foraging and roosting in the area of the proposed turbines. Siting of offshore wind turbines in waters close to brown pelican breeding and foraging territories presents a high risk. At the very least, on-site data on the 20 species of birds in order to provide inputs to a collision risk model (CRM) as BOEM requires developers in OCS to collect and BOEM prepares for review, and a collision risk model (Band or Stochastic)[25,26] should be prepared for these species with inputs as directed in the Band model spreadsheet. To gather data for inputs, on-site research and data collection on flight nehaviors is needed to calculate this risk and determine what avoidance measures might be taken to mitigate this risk, such as shutting off the turbines during periods of high pelican activity.

It is important to note that pelicans, like most of the seabirds recorded in the area of the proposed projects, are seldom seen more than 20 miles offshore. Thus, moving projects offshore where abundance of seabirds is diminished would reduce risk. The best avoidance would be to site projects in waters where the impacts on ocean resources are diminished. It is well documented that wind energy structures pose significant threats to bird and bat populations, and offshore wind in the locations proposed by IDEOl and

[23] https://databasin.org/maps/new#datasets=428709f4aafa41b8bfdb27118dcb8359
[24] https://www.boem.gov/sites/default/files/environmental-stewardship/Environmental-Studies/Pacific-Region/Studies/BOEM-2016-043.pdf
[25] Band, W. 2012. Using a collision risk model to assess bird collision risks for offshore wind farms. Report to The Crown Estate Strategic Ornithological Support Services (SOSS), SOSS-02, 62 pp. http://www.bto.org/science/wetland-andmarine/soss/projectsL
[26] McGregor, R., King, S., Donovan, C., Caneco, B., and Webb, A., 2018. A Stochastic Collision Risk Model for Seabirds in Flight. Report by Marine Scotland Science. 61 pp. https://www2.gov.scot/Topics/marine/marineenergy/mre/current/StochasticCRM

CIERCO would invite these impacts to a greater degree than projects in the Outer Continental Shelf waters.

Marine Mammals and Sea Turtles

As noted above, the proposed projects overlap important habitat for several marine mammal and sea turtle species. Floating offshore wind may have multiple impacts on these species. First, the use of ocean space for wind development may lead to area avoidance or displacement and result in changes to migration patterns and feeding behaviors. As mentioned above, the proposed projects are within or near leatherback critical habitat, humpback whale proposed critical habitat, and biologically important areas for gray and blue whales. In addition, the project area is adjacent to the Santa Barbara Channel shipping lanes, which host thousands of cargo ships annually on their way to and from the Ports of Los Angeles and Long Beach. This area already poses significant risks of ship strikes on whales, and efforts have been underway for over a decade to reduce this risk through dynamic management of ship speed.[27] If whales are displaced from coastal areas, they may be pushed into areas with higher vessel traffic, increasing the risk of ship strike. Ship strike risk is also of concern with vessels traveling to and from the project site for development and operations.

Entanglement represents an additional concern for marine mammals, sea turtles, and other wildlife. Entanglement is a major concern for recovering whale species, which can become snarled in fishing gear, such as discarded or lost netting and trap lines. While the State of California is focused on Dungeness crab gear,[28] any traps with lines can be problematic. We are concerned that derelict gear from nearby rock crab and spiny lobster fisheries may become entangled in support cables and create an additional risk, referred to as secondary entanglement.

Noise impacts from development and operations should also be considered in the PEA. Ocean noise is already a concern for marine mammals in these areas because of the intensive shipping traffic in and around the Santa Barbara Channel.

Fishing Pressure

As areas are closed to fishing, fishing pressure may increase in other areas. There are already temporal closures near these proposed projects to protect loggerhead sea turtles (i.e., the conservation area is closed to gillnet fishing June 1 to August 31 or during forecasted or occurring El Niño events)[29] and leatherback sea turtles (i.e., the conservation area is closed to drift gillnet fishing August 15 to November 15).[30] If these wind projects proceed and the area around the turbines closes to fishing, commercial fishers may concentrate their activities in other areas, exacerbating the impacts of their fishing in those areas.

[27] https://www.ourair.org/air-pollution-marine-shipping/
[28] https://www.opc.ca.gov/whale-entanglement-working-group/
[29] 50 CFR 660.713. https://coastwatch.pfeg.noaa.gov/loggerheads/loggerhead_closure.html
[30] https://www.govinfo.gov/content/pkg/CFR-2019-title50-vol13/xml/CFR-2019-title50-vol13-sec660-713.xml

CONCLUSION

While we support responsibly sited and operated floating offshore wind power, the proposed project areas raise many environmental and permitting-process concerns for the reasons described above. These concerns would likely apply for any nearshore project, and we do not believe the proposed projects are in the best interests of the state. The first floating offshore wind project in California waters should reflect leasing, siting, and permitting decisions that are guided by planning and comprehensive scientific research on the potential impacts to sensitive marine areas and species. Further, developments should reflect recommendations from a robust stakeholder planning process, which will be essential for developing an offshore wind industry that will help power California's clean energy future.

Thank you for considering these comments.

Sincerely,

Kristen Hislop, Marine Conservation Program Director
Environmental Defense Center

Garry George, Director, Clean Energy Initiative
National Audubon Society

Sandy Aylesworth, Senior Oceans Advocate
Natural Resources Defense Council

Pamela Flick, California Program Director
Defenders of Wildlife

Lisa Belenky, Senior Attorney
Center for Biological Diversity

Lauren Cullum, Policy Advocate
Sierra Club California

Jennifer Savage, California Policy Manager
Surfrider Foundation

Joel Merriman, Director, Bird-Smart Wind Energy Campaign
American Bird Conservancy

Attachment A: October 21, 2019 Letter to Karen Douglas, California Energy Commission

Cc:
Wade Crowfoot, California's Natural Resources Secretary

Karen Douglas, California Energy Commission
Mark Gold, California Ocean Protection Council
John Ainsworth, California Coastal Commission
Kate Huckelbridge, California Coastal Commission
Chris Potter, California Department of Fish and Wildlife

October 21, 2019
The Honorable Karen Douglas, Commissioner
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814-5512

RE: NGO Offshore Wind Coalition Comments - IEPR Commissioner Workshop on Offshore Wind

Dear Commissioner Douglas,

Our organizations appreciated the multifaceted and thorough Integrated Energy Policy Report (IEPR) workshop on offshore wind that took place on October 3, 2019. We support efforts to develop offshore wind energy resources and share the state's interest in exploring the opportunities for responsible offshore wind energy development to help meet California's clean energy goals. As the California Energy Commission (CEC) continues to explore prospective offshore wind development in California, we wish to reiterate our recommendations for advancing offshore wind energy development responsibly, in a way that incorporates a range of stakeholder considerations and minimizes local environmental impacts of offshore wind energy development.

We request that the state remain committed to prioritizing ecological considerations and protecting the ecosystem services California's marine environment provides. The state must consider at what scale and over what time period offshore wind energy development in Outer Continental Shelf (OCS) Federal Waters off California and/or in State Waters may be feasible to support California's SB100 clean energy goals by 2045. We believe that elevating ecological considerations with a focus on projected cumulative impacts and anticipated future conditions and uses is critical when identifying areas for prospective development. This approach has the dual benefits of 1) protecting California's unparalleled marine environment, and 2) ensuring that any offshore wind energy projects in Federal Waters off California are developed efficiently and with the least opposition.

I. A ROBUST PLANNING PROCESS IS NEEDED THAT USES ECOLOGICAL RESOURCE DATA TO DETERMINE LEAST CONFLICT AREAS

Our organizations and others have stated repeatedly that a state and/or federal planning process to identify areas of least conflict would provide a more streamlined decision-making process that reflects environmental and other stakeholder concerns, including stakeholders located in affected coastal communities. We believe that the state, working in partnership with BOEM or independently, should facilitate an inclusive and transparent planning process to identify least conflict lease areas.[1] The Desert Renewable Energy Conservation Plan (DRECP) is an example of state and federal coordination in a planning process that designated renewable energy development areas and conservation areas. The DRECP has facilitated more efficient and environmentally-sound permitting of renewable energy projects in California.

Our organizations request that CEC and BOEM fully integrate biological and ecological constraints into 1) current and future Call Areas and subsequent Wind Energy Areas (WEAs) in Federal Waters, and 2) a planning process for determining whether any State Waters are appropriate for wind energy development.

[1] Some fishing communities have expressed support for this approach. In April 2014, the Pacific Fisheries Management Council wrote a letter to BOEM stating the Council's preference for such a process.

The offshore wind energy lead staff from California's state agencies are well positioned to support the IEPR in including an offshore wind energy component and a programmatic data-driven stakeholder planning process that will identify least conflict areas, taking into consideration access to transmission, in order to help inform a sustainable offshore wind energy industry for the future. Such a process would protect our unique California Current System ecologies as well as sustain an offshore wind energy industry to benefit our climate and energy goals.

II. AVOID SENSITIVE MARINE HABITAT, INCLUDING DESIGNATED NATIONAL MARINE SANCTUARIES AND MARINE PROTECTED AREAS

Our organizations have worked with state and federal agencies to secure precedent-setting protections for State Waters, and California has the largest network of National Marine Sanctuaries (NMS) in the United States. Protecting California's marine environment is ecologically, socially, and economically beneficial. As appropriate sites are proposed and considered for offshore wind energy developments, we strongly recommend that Biologically Important Areas (BIAs) for cetaceans, designated National Marine Sanctuaries, Marine Protected Areas, Audubon Marine Important Bird Areas, and ecologically sensitive areas such as migratory corridors, and other ecologically important habitat --including designated critical habitat-- are avoided.

The Intergovernmental Panel on Climate Change *Special Report on Oceans and Cryosphere in a Changing Climate*, released on September 24, 2019, underscores the imperative of preserving intact marine habitat. Scientists recommend highly protecting at least 30 percent of the marine environment to preserve ecosystem function and enhance climate resilience. As state and federal agencies consider this new industrial ocean use, preserving the ecological integrity of known biological hotspots --including those listed above-- is critical.

Further, it is important to recognize that not all ecologically important marine areas are protected, and public input will be vital to ensure such places are identified and analyzed before siting decisions are made. Given the importance of protecting California's natural capital, which drives the state's ocean economy, we would like to work with you to ensure siting decisions reflect an unwavering commitment to protecting the marine environment. A deliberative, planning process that prioritizes environmental protection and takes into account stakeholders' interests is an opportunity to demonstrate environmental leadership that will benefit this burgeoning industry while protecting California's rich natural resources.

III. FOCUS ON AN APPROPRIATE SIZE FOR INITIAL OFFSHORE WIND DEVELOPMENT.

Given that there are and will be data gaps and that the potential impacts of large-scale floating wind energy technology on marine resources are unknown, even with a rigorous environmental review process, we recommend that initial developments are relatively small and scale up incrementally, so that needed changes can be made to future projects based on information gathered through the implementation of a rigorous monitoring protocol that evaluates impacts during each stage of development. Because impacts of offshore wind energy on wildlife likely increase with the scale of a project, it is advisable to test relatively smaller-scale developments before permitting and constructing very large developments. The opportunity to increase development in an area should be contingent on the careful evaluation of the results of the monitoring program.

III. DEPARTMENT OF DEFENSE SHOULD NOT BE THE DE FACTO SITING AGENCY FOR OFFSHORE WIND DEVELOPMENT IN CALIFORNIA

We understand that the Department of Defense (DoD), BOEM, and the State are working cooperatively to identify potential areas for offshore wind development that will also be compatible with DoD activities. However, we are concerned that the DoD use conflict discussions are elevating DoD's role in the BOEM leasing process in Federal Waters and siting proposals in State Waters to supersede other stakeholder priorities and a robust planning process.

The DoD uses the California OCS and near shore areas intensively and extensively for military testing, training, and operations. These activities occur in the airspace, on the water, and throughout the water column on California's OCS[2] and in State Waters. The use of the ocean offshore of California for military purposes is so extensive that the conflicts with prospective offshore wind energy developments threaten much of the potential of developing offshore wind energy by California. By engaging in private negotiations with offshore wind developers to discover areas of potential compatibility with offshore wind development on the Central Coast or elsewhere, CEC, BOEM, DoD, and industry become the sole parties to steering development to specific areas offshore – a practice for offshore wind development that is contrary to the inclusive, science-based, and stakeholder-driven planning process we urge the State and BOEM to conduct.

When any one stakeholder entity is engaged in private negotiations with BOEM and developers, environmental or other stakeholder considerations run the risk of becoming of relatively lesser importance. Our concern is that rather than BOEM or the State identifying and selecting areas with lower environmental sensitivities, the agencies are allowing DoD concerns to override good planning principles. We urge the CEC and other state agencies to leverage California's influence to ensure that DoD negotiations do not predestine developments to one small and specific area.

As CEC and BOEM consider prospective lease areas in Federal Waters, and other state agencies -- including the State Lands Commission-- consider proposals in State Waters, we urge the agencies to follow a holistic, science-based process that establishes a robust environmental baseline and enables the agencies to evaluate the appropriateness of any prospective offshore development area. Ensuring that siting, leasing and permitting decisions are guided by planning that is based on comprehensive baseline research, gives full consideration of potential impacts to sensitive marine areas and species, and reflects recommendations from a robust public process, will be essential for sustainable long-term development of offshore wind energy that will help power California's clean energy future.

Thank you for considering these comments.

Sincerely,

Sandy Aylesworth
Senior Oceans Advocate
Natural Resources Defense Council

Lisa Belenky
Senior Attorney
Center for Biological Diversity

[2] California Renewable Energy Task Force meeting, September 17, 2018, Department of Defense Engagement Activities, Steve Chung, U.S. Navy.

Lauren Cullum
Policy Advocate
Sierra Club California

Garry George
Renewable Energy Director
California Audubon

Kristen Hislop
Marine Conservation Program Director
Environmental Defense Center

cc:

Kate Hucklebridge
Senior Scientist
California Coastal Commission

Mark Gold
Executive Director
Ocean Protection Council
Deputy Secretary for Ocean and Coastal Policy
California Natural Resources Agency

From: George, Garry <Garry.George@audubon.org>
Sent: Friday, August 27, 2021 4:31 PM
To: Mattox, Jennifer@SLC <Jennifer.Mattox@slc.ca.gov>
Subject: WA State Marine Spatial Plan

Hi Jennifer:

I thought you might be interested in how WA state recently planned their state waters with their WA Marine Spatial Plan.

Rhode Island also did an ocean SAMP before siting their demonstration offshore wind project.

California is the only state to even consider putting offshore wind "demonstration" projects in state waters before a marine spatial planning effort.

Just sayin'.

Garry George
Director, Clean Energy Initiative
323-697-1126 p

National Audubon Society
Los Angeles, CA 90031
http://climate.audubon.org

September 13, 2021

California State Lands Commission
Attention: Eric Gillies
100 Howe Ave., Suite 100-South
Sacramento, CA 95825-8202

To Mr. Eric Gilles,

SUBJECT: Vandenberg Offshore Wind Energy Projects Draft PEA

I am an ornithologist who studies waterbirds in San Diego County and a Board member of the San Diego Audubon Society. We appreciate the opportunity to comment on the Draft PEA and we hope that you will consider our suggestions if these projects move forward.

As many species of birds are severely declining, we request the following: an evaluation of bird species that use the space where the proposed wind turbine generators will be placed, the establishment of a requirement to stay abreast of the status of bird populations, and the establishment of stopgaps to operations if the direct and cumulative impacts to bird populations becomes too great.

Bird species have demonstrated rapid population declines of 29% in the last 50 years (Rosenberg et al. 2019) with pelagic seabirds most at risk from climate change (Bortner et al. 2010). Shifts in oceanic resources are predicted to continue in the future and piscivorous birds have already been documented to respond to the increased occurrence of El Nino Southern Oscillation (ENSO) events (Velarde et al. 2015). Cumulative effects caused by climate change such as severe weather events, or El Nino Southern Oscillation may cause shifts in resource availability during recruitment and may impact populations long term if poorly timed. Additionally, wind turbines placed in the path of potentially thousands of migrating birds, many of which migration routes are poorly studied, could be detrimental to many populations of birds, aside from seabirds. With the rapid rate of decline for many bird species, and as it is unpredictable how climate change will affect each species (Inkley et al. 2004), monitoring should be required for species currently at risk and those that are common today. Additionally, as there is a potential for offshore wind turbines to cause mortality to large groups of birds, it will be pertinent to understand the impact one operation may have on bird populations. We request the establishment of a requirement to report on bird species that use the space in the location of the proposed wind turbine generators and the establishment of a requirement to stay abreast of the status of bird populations from cumulative effects of climate change. Periodic reports should be shared with the general public for accountability and should include the impact of this project on local populations and worldwide populations such as for species that only occur on the Pacific coast. Finally, stopgaps should also be determined and established for the operation if huge losses of bird populations are incurred from this project, or if these losses exacerbate other cumulative impacts from climate change and other environmental stressors.

The finer details regarding migratory routes for species of birds including perching birds (passerines) are little studied and as birds migrate in flocks, poorly timed operation has the great potential to kill many individuals at once.

As migrations studies for birds are only in their infancy, we do not know the finer geographical details about the migratory routes for all bird species. More is known about large birds that can carry tracking devices compared to smaller birds due to the limitations of technology. We know that waterbirds

migrating over the ocean will be vulnerable as the turbines may be directly in their path, but little is known about the finer geographical details of the migration of passerines and perching land birds, and they may also be vulnerable to collisions. Only recently did we learn that the Blackpoll Warbler, a perching land bird that occurs on the east coast, flies directly over the ocean during migration (DeLucca et al. 2015). Additionally, as birds may migrate in large flocks during migration simultaneously, the operation of wind turbines at the wrong moment has the potential to take out many individuals at once.

We request diurnal and nocturnal data collection for a year in the proposed location, and in the entire space of the wind turbines, to understand the impact this project may have on avifauna and bats. This information should be shared publicly and used as a guide to determine the timing of the operation of wind turbines.

Although wind farms produce much needed sustainable energy, they have the potential to negatively impact bird populations (Zimmerling et al, 2013, Kern and Kerlinger 2003, Langston and Pullan 2003, Kingsley and Whittam 2005, Drewitt and Langston 2006, Barclay et al. 2007, Smallwood 2013), by causing mortality to numerous birds if the timing of the operation of wind turbines is during bird migration or geographical placement is poorly planned to coincide in the area where many birds migrate. Studies have shown that wind turbines fatalities have approached a level of concern in bird populations such as in raptors (Bellebaum et al. 2013) and as stated in the PEA, bats may be impacted as well by this project. The proposed area for this project is offshore of Vandenberg, California, which is geographically situated along the Pacific Flyway, the migratory route for many species of birds year-round. Before proceeding with this project, the geographical location and entire space with a buffer around the turbines should be closely evaluated year-round including day and night. This will provide information to understand the scope of migration that may differ from spring to fall and account for species that may be migrating at night, as it is unlikely that there is data that spans the entire year and accounts for all times of the day. As Southern California is a biodiversity hotspot for avifauna, with over 500 species occurring in Santa Barbara County (SBCO Birding 2021) alone, and a greater number of species documented in counties southward, this area is vulnerable to loss of a high number of species. Radar and other remote sensing technology allows us to monitor large swaths of spaces to detect animal movement, a tool which we recommend utilizing if this project proceeds. Finally, we ask that this data is shared and available to the general public so that research institutions may be able to study and help determine safer practices that mitigate impacts to wildlife in this industry in the future.

Phenological events provide evidence that wildlife is already adjusting to the changing conditions with climate change, and behavior may not follow typical patterns of use in the future. We request an ongoing evaluation of avifauna and bats in shorter time frames to anticipate changes in shifts outside of normal patterns. We also request that operations remain flexible to adjust to responses from wildlife to climate change.

Our earth is changing rapidly due to climate change, with changes in the ocean more unpredictable than those on land. As the distribution and availability of natural resources change, wildlife will be forced to adjust to these changes and may not follow the same patterns of use or inhabit the same geographical areas. Phenological events, such as the mismatch of blooming flowers and food availability, have provided evidence that shifts are already occurring and that wildlife is attempting to adjust to these changes (Jones and Cresswell 2009, Koleček et al. 2020). As this project has the potential to negatively impact flying animals including birds and bats, we request the periodic evaluation of how animals are using the project space, with the data being used to adjust operations as needed.

We request that wind turbines have the capability of immediate cessation of operations, and that they be shut off during periods of bird migration, severe weather events where birds may have little control of flight direction, or unpredictable events where wildlife may be responding to climate change.

If poorly timed, wind turbines can cause mass mortality events. Examples of vulnerable timing include breeding seasons, which may negatively impact larger population trends if the operation of wind turbines deters adults from foraging and provisioning chicks to ensure population recruitment. Additionally, operation during migration could potentially cause the mortality of numerous individual, and storms may cause birds to get blown off course and have little control over flight direction. Although we can create models to predict how species will respond to climate change, how each species adjusts to the changes in real-time will be unpredictable (Inkley et al. 2004). As changes to the climate may be non-linear and unpredictable, the operation of wind turbines should account for shifts in wildlife use that may not necessarily follow historic patterns of movement. Ideally, sensors from a distance that detect the movement of approaching wildlife would be ideal to trigger shut-off of the operation of blades. We request that all migration and use patterns of birds and bats be fully investigated and considered to mitigate the impact on birds and bats, and to determine the mechanisms by which wind turbines should be temporarily halted during migration, breeding season, during storms, and if wildlife is approaching the turbines. Details about this capability and scenarios should be shared with the general public, and feedback should be solicited from the public and from experts to ensure accountability.

We request that all mortality events use the technology of remote sensing devices such as radar to understand the impacts on all flying animals. This should be operated by a third party and information should be released to the public for accountability.

The carcasses of birds and bats flying into rotating blades may fall across a wide range into the ocean water around the turbines, and evidence of these mortality incidents may get carried away by ocean currents or sink into the water. Larger carcasses may be more evident, but small passerines and bats may go undetected in a mortality event and the full impact of this project on wildlife may not be understood. How will bird and bat mortality from turbine activity be monitored to make sure that all of the carcasses are accounted for? We request that remote sensing technology be implemented such as radar (Desholm et al. 2006) or lidar to record all mortality events, including all carcasses that may fall into the ocean across the wide ranges of the turbine areas. Also, online live webcams would provide additional accountability to ensure that operations are not detrimental to wildlife. A third party should facilitate all data collection to provide accountability. All data and all reports of mortality events should be released to the public to ensure that the wind turbines are not negatively impacting bird, avifauna or bat populations.

We request detailed information about designs and plans to deter wildlife from flying into the wind turbine. Rotating blades cause bird and bat mortality (Desholm et al. 2006) but research has shown that visual cues on devices may reduce avian mortality. The incorporation of visual cues has been demonstrated by marking wires (Barrientos et al. 2012) or marking blades on turbines (May et al. 2020) to deter birds. What specific visual cues are incorporated in the project design, or what auditory cues will be incorporated during operation to help deter birds and bats from being chopped up in the blades and causing injury and mortality during the day and night? As the proposed SATH design will be self-rotating, what kind of impacts will this have on birds? Will the SATH design be viewable from a 360 view if the wind turbine rotates? Please explain in detail how both designs or implementation of deterrents may help reduce bird and bat mortality with supporting scientific evidence.

We request detailed information about the timing of operation of turbines as birds and bats may differ in their temporal use of spring and fall migration routes.

What is the proposed timing of operation to reduce the impact on bird and bat mortality? How will turbines be operated during storms or heavy winds when flocks of migrating birds or bats have little

control and may be blown into the blades? A proposal that considers the use of all species in the area year-round to mitigate impacts of operation should be required.

We request detailed information about the use of light on wind turbines.
As nocturnal oceans are essentially flat and dark, lights offshore in the middle of the ocean on the wind turbines may attract birds. Many nocturnal seabird species are attracted to light (Montevecchi 2006). Light-associated mortality of nocturnal avian migrations have been involved in collisions for thousands or more birds for more than a century (Allen 1880, Brewster 1889, Kumlein 1888, Johnston and Haines 1957, Evans 1968, Montevecchi 2006). What kind of light will the wind turbines have and how will the operation of lights be mitigated to reduce the impact on birds at night?

We request a wildlife management plan if birds decide to use the platform to roost or nest and request that all use of the turbines by wildlife and implementation of the wildlife management plan is reported to the public for accountability.
As the wind turbine platforms are offshore, seabirds could potentially be attracted to the platforms. If birds congregate on the platform or start to use the platform for nesting, what management strategies are planned for wildlife? We request a detailed plan about how wildlife will be managed in these scenarios. For accountability to the public, we request that any reports during the operation of the wind turbines be released to the general public.

We request biological monitoring of flora and fauna on local land areas and areas where turbines are placed before, during, and after the project is dismantled.
The presence of turbines may change the distribution of the fog and may negatively impact the local native population of flora and fauna on land. It may also impact local marine life in the areas where wind turbines are placed. We request that the area inland and the location where the turbines and any structures are secured on the ocean floor be surveyed before the project takes place, during the operation of the project, and after the project is shut down to ensure the ecosystems are not altered by the offshore wind turbines. For accountability, we request that this information be shared with the public.

If the local area inland is affected negatively, including habitat degradation or population declines of flora and fauna, or if marine life is negatively impacted in the areas where the project is taking place, we request a mitigation plan to offset the impacts in another geographical area with comparable biological richness.
Impacts to the population, and in the worst-case scenario, extirpations for land and marine species, may occur where the turbines and support structures are in place, along with inland areas. If there is a great impact on this local population of flora and fauna, this will put an undue burden on other areas to succeed with conservation that host similar species that are outside of the geographical area, such as in San Diego. If this project negatively impacts the local population of any species and causes extirpations, how will conservation efforts be mitigated elsewhere in other geographical areas to prevent the extinction of species? How will the cumulative effects of climate change on flora and fauna be considered in the context of the operation of this project and what stopgaps for the project will be established if the wind turbines are causing rapid declines of flora and fauna? We request that these issues be addressed.

We request the mitigation of impacts on wildlife during the installation process.
Regarding the following installation process as detailed in the document: (3-11) all offshore infrastructure (e.g., moorings, anchors) would be installed at the offshore Project area before the towing and installation of the constructed FWTs…installation of the mooring lines would require an Anchor Handling Vessel (AHV) or an Anchor Handling Tug Vessel (AHTV), (3-15) Jet trenching for cable burial, (3-16) Rock placement over cable, (3-21) the first FWT would be positioned at its respective location within the mooring field and connected to the pre-laid mooring lines, (3-22) the CLV would lay the cable into the

laying corridor, up to the first lazy wave Mile Post signaling the suspended part of the cable. What time of year would installation take place? We ask that the following be taken into consideration when determining periods of installation. Seasonal timing of wildlife breeding periods such as for seabirds, heavy migration periods where birds require foraging in local areas, poor oceanographic conditions such as an ENSO event that may negatively affect seabird foraging and key periods of migration of marine life. Additionally, as installation may cause turbidity to the ocean floor, sensitive cycles of all local marine life should be taken into consideration to minimize the impact on the local ecosystem for local marine life with small home ranges**.**

We request more information about the impact of cable structures on larger marine mammals

Figure 3-5 shows cables that will secure wind turbines. For large marine mammals, what is the potential for cable collisions? We request that this be fully addressed for all species of marine mammals that may use the area.

We request more information about the impact of sound pollution underwater

What will the impact of sound pollution be on all marine life nearby the wind turbines? Please provide evidence including noise decibels and scientific evidence that supports that the level of noise will not injure, impair, or degrade habitat for the marine animals from the area.

We have much to lose in terms of avifaunal biodiversity as this operation will occur in the middle of the Pacific Flyway, and as populations of bird species are declining significantly throughout the country. Many species of birds already face significant obstacles to survive climate change. Additionally, as this location is a biodiversity hotspot, numerous endemic flora and fauna are vulnerable to changes in habitat. This seminal project will set the precedence for future operations on the Pacific coast, and we urge you to ensure due diligence, carry out all of the needed research, and implement the proposed project correctly to mitigate the impact on flora and fauna. This will require consideration of the response of flora and fauna to climate change and flexibility in operations. Thank you for your time and consideration. San Diego Audubon Society would appreciate being included in any updates and developments on this topic.

Respectfully,

Lesley Handa
Handa Ornithology Lab
San Diego Audubon Society Conservation Committee
San Diego Audubon Society Board

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APPENDIX G-4 – Fishing Organization Comments

Alliance of Communities for Sustainable Fisheries
256 Figueroa Street #1, Monterey, CA 93940
(831) 239-1219
www.alliancefisheries.org

California State Lands Commission
Attention: Eric Gillies
100 Howe Ave., Suite 100-South
Sacramento, CA 95825-8202

September 13, 2021

Sent electronically to:
stateapplications.OSW@slc.ca.gov

RE: Comments on the Preliminary Environmental Assessment for the CIERCO and IDEOL offshore wind projects. **The ACSF requests that these projects be deemed not in the State's best interest**.

Dear Mr. Gillies,

Thank you for the opportunity to comment on the State Land Commission's (SLC) Preliminary Environmental Assessment (PEA) for the CIERCO and IDEOL offshore wind "demonstration" projects ("Projects").

Who we are

The Alliance of Communities for Sustainable Fisheries (ACSF) is a 19-year-old 501(c)(3) not-for-profit educational organization, founded for the purposes of connecting fishermen with their communities and to represent fishing interests in state and federal processes. The ACSF is a regional organization, with commercial fishing leader representatives from Monterey, Moss Landing, Santa Cruz, Morro Bay, and Pillar Point harbors, and Port San Luis, on our Board of Directors. Port communities, coastal pelagic fisheries, and several recreational fishing organizations also have representatives on our Board. Thus, the ACSF represents a large cross-section of fishing and community interests for the Central Coast of California, including communities close to the CIERCO and IDEOL projects. We use the term "fishermen" to be inclusive of both our fishing men and women.

Not a worthy demonstration project

There are an abundance of questions surrounding the effects of large offshore wind (OSW) farms and impacts on the environment and fisheries that would make conducting a pilot project appropriate to acquire information. However, the two small proposed

projects are not located or designed to provide answers to key questions. The ACSF submitted a comment (attached) to the SLC on April 9, 2021, which outlines our concerns about the *weakness* of the CIERCO and IDEOL projects as "demonstration" or information-gathering projects, worthy of approval.

A need for clean energy

Most fishermen recognize the need to transition from fossil fuels to renewable energy sources. We do question whether California actually has a plan for this transition *that has involved key stakeholders*, among others, to develop. Fishermen ask if the state has fully exploited other renewable energy sources, such as covering the entire California Aqueduct with solar panels, encouraging more rooftop solar panels, and more on-shore wind projects, to name a few, rather than displace and economically harm fishermen, and reduce the state's food supply. If California does have a plan for switching to renewables, the fishing industry has had no say in it.

A stakeholder planning process is needed that incorporates ecological resource and use data to determine areas where offshore wind can be sited, permitted and operated with least impact to the environment and other stakeholders. Responsible siting and operation of offshore wind energy means engaging state and local government, Native American Tribes and communities, and directly affected ocean stakeholders from the outset. The ACSF is unaware that any such planning process has been conducted by the state

Avoid, minimize, mitigate, compensate, monitor

Fishermen hope that state and federal agencies will review applications for OSW projects in reference to impacts to the environment and to displaced stakeholders with the five principles (above) in mind. For fishermen considering the CADEMO and IDEOL projects:

Avoid: this is the ACSF's preferred alternative. Do not approve these projects.

Minimize: Reduce the number of turbines, or only approve one project, or recommend moving it into federal waters at least 25 miles from shore. If only one project is approved, we recommend the CADEMO project, as they at least put a minimal effort into addressing what they will demonstrate, and held one outreach meeting with fishermen. Still, this is not the ACSF's preferred alternative.

Mitigate: For fishermen, the only mitigation we see is to replace lost fishing opportunity. This could occur by changing the Vandenberg State Marine Reserve from "Reserve" to a "Marine Conservation Area" designation and allow commercial fishing to resume in

that area. This is also not the ACSF's preferred alternative, but it would provide replacement productive habitat as mitigation.

Compensate as partial mitigation: Also not preferred compared to "avoid". Should the SLC approve these projects fishermen will need compensation for losses. Some kind of "mutual benefit agreement" (MBA) such as has been made with the telecommunications cable companies and with one potential federal waters developer, Castle Wind, should be a condition of permit approval by the SLC. The main purpose of the OSW developer's funding MBA's is to preserve the viability and resilience of commercial fishing in their communities, into the future.

The project proponents have stated that they have no funding to compensate for the losses they will create. This seems like yet another reason to not move these projects forward.

Monitor: The ACSF hopes the SLC does not approve these projects, but if it does the SLC should condition before, during, and post project monitoring for biological, habitat, sea life (birds, marine mammals, turtles, etc), and other changes to the environment. The state should define the monitoring, not the developers.

Direct and indirect impacts to fisheries

Fishermen will be excluded from fishing within the OSW arrays, possibly from the cable routes to shore, as well as from any safety or security zone which might be imposed around the farms.

California's coastal waters in this area are productive fishing grounds for: Dungeness crab; Rock crab; Lobster; Halibut trawl and hook and line; Sea Bass; Shallow nearshore live fishery; Deeper nearshore fishery; Salmon; Hagfish; and, Squid.

As noted above, commercial seafood landings data, recorded in 100 square mile blocks, are not in a fine enough scale to accurately portray the loss of harvest cause by the projects. Nevertheless, According to the President of the Port San Luis Commercial Fishing Association, Chris Pavone, and Morro Bay, MBCFO President Tom Hafer estimate that in a given year as much as 50% of those port's landings come from the project area and the area immediately adjacent.

California Department of Fish and Wildlife (CDFW) fisheries block data, also attached, indicates eighty species of seafood have been harvested in the area around the proposed projects over a twenty-five year period, totaling 19,610,298 pounds and $8,737,549 in value. Errors in recording block data are common; local fishermen believe the actual volume and value is much higher for the project area. Should the SLC advance these projects, the ACSF requests that SLC staff directly engage regional

fishery leaders to better understand the spatial and temporal distribution of fishing effort, as well as the consequences of displacing that effort.

Other impacts include potentially increasing the time at sea (always a safety concern) and increased fuel consumption as fishermen avoid the project area.

With a loss of production comes the real risk of losing key fishing infrastructure, such as buyer-processors, ice production, increasing fuel costs at the pump, and, the potential to lose human infrastructure as fishermen give up and/or let crew members go. The knowledge lost if long time fishermen give up will take a generation to replace, if at all.

To understand the effects on fishing opportunity, we ask the SLC to consider the cumulative effects of all of the existing closures, both permanent and seasonal, with which regional fishermen must already contend. These include the several state Marine Reserves and Conservation areas; the trawl and non-trawl Rock Fish Conservation areas; the Cow Cod Conservation area; temporary closures for Dungeness Crab fishing if whales are present; no bottom contact gear allowed at and near the Davidson Seamount; and the Pacific Leatherback Turtle Conservation Area. Additionally, the cumulative effects of the proposed federal waters OSW development area of 399 square miles, and the likelihood of several large wind farms north of San Francisco and into Oregon will cause great disruption to coastwide federal fisheries.

Information from east coast fishermen who are also dealing with proposed large projects have indicated that marine insurers are likely to not insure commercial fishing vessels that try to fish within or even transit offshore wind farms, due to perceived increased risks.

Two agency public comment letters submitted in advance of the PEA are worth highlighting:

Amanda Canepa, CDFW:

"The Department, given its jurisdiction, is particularly concerned about the Project's potential significant impacts on the state's fisheries and biological resources. Adverse impacts to commercial and recreational fisheries could result from the loss of accessible fishing area, loss of fishing gear from snagging on Project infrastructure, navigational hazards, and/or degradation of habitat. The Project sites overlap with fishing grounds for several important fisheries. The Project sites are also located within Essential Fish Habitat for various species within the Pacific Coast Groundfish Fishery Management Plan (FMP) and the Coastal Pelagic Species FMP under the Magnuson-Stevens Fishery Conservation and Management Act."

NMFS:

"The groundfish and coastal pelagic and highly migratory species fisheries may be directly and/or indirectly affected by the Projects if fishing is restricted. Additionally, it is possible that the Projects' areas may become closed to fishing or become limited by potential environmental and biological effects to the fisheries resources and ecosystems upon which they depend. Because there are already extensive groundfish and highly migratory species closures along the California coast, the ramifications of additional closed areas could further displace fishing activity. In addition, depending on the impacts to the fisheries, local seafood processors could also be impacted if fisheries landings are affected."

Environmental impacts and risk

While the loss of fishing opportunity with commensurate socioeconomic losses is the chief concern for fishermen with the two demonstration projects, fishermen also care about the environment. The IDEOL and CIERCO projects pose distinct and likely negative environmental impacts:

- The projects' location will make the turbines massive bird killers. Given the Vandenberg OWS Projects are being proposed in a region of exceptionally high concentration of Audubon Important Bird Areas (6 terrestrially), immediately adjacent to the Vandenberg State Marine Reserve, and within close proximity to the Point Conception Marine Reserve and the Channel Islands National Marine Sanctuary, the potential impacts to birds are significant and troubling. In pointing to Vandenberg's extensive dataset on breeding seabird colonies alone, which are heavily concentrated between Point Arguello and Rocky Point and therefore most adjacent to the proposed turbine locations, collision and habitat-displacement risks are extremely high for breeding western gulls, Brandt's and pelagic cormorants, and pigeon guillemots. With considerations to migrating, foraging and loafing seabirds, shorebirds and waterbirds, potential Project impacts exponentially increase. Breeding and post-breeding birds from the only U.S. breeding population of the (now de-listed) California brown pelican use the Project area, and are ranked among, if not the most, vulnerable species for collision-risk with off-shore wind development in the California Current. California least terns, and the federally endangered short-tailed albatross, both species with vulnerable populations sensitive to disturbance, use the area for foraging and are at risk to turbine interactions. On-shore development supporting turbines (including transmission lines and substations) threaten designated critical habitat for the western snowy plover, a threatened species whose population at Vandenberg ranks as one of the most important for the species. Dozens of others species migrate in large numbers (thousands to millions depending on

annual variation) along this part of the California Coast, with significant concentrations in waters off the Point Conception region where warm and cold water migrants co-occur. While there remains a relative dearth of robust baseline information on avian migratory and forage behavior essential to making informed decisions about offshore wind siting, a critical first step in our view, simply given the location of these projects, real and significant risks exist to important seabird breeding colonies, coastal migrants, threatened and endangered birds, and increased fragmentation of one of the most undeveloped regions of the California coast. Such information must be included in the more advanced environmental review. In our view, if no other factors are considered, for which there are many, the potential impacts to birds would be sufficient to conclude that these projects should not advance any further.

- Interference with whale migration and physical risks to whales. Whales will not recognize turbines and will try to go through them. Collisions with the supporting infrastructure and/or cables are possible. Lunge-feeding whales, such as humpbacks, feed closer to shore, and to the extent that turbines become fish aggregating devices, whales (and birds) will be attracted as food sources. Whales could be injured by cables while lunging for food. Further, whales develop barnacles on their skin, and are known to rub against deep-set ropes marking strings of traps. It is possible that whales will also scrape against the mooring and electrical cables, even compromising them. Should the project advance, the project developers should be tasked with analyzing this risk and provide mitigation if needed.
- Displaced fishing effort. The close location of two state MPA's combined with displacement from the wind farms will move fishing effort to other (less productive) areas, likely leading to localized depletions.
- Electromagnet fields (EMF). The questions surrounding the level of EMF emitted and whether or not it poses risk to sea life which rely on magnetic navigation are real. This is so for whole arrays of undersea cables such as for the two demonstration projects, and especially regarding the federal waters projects, where EMF impacts from 300+electric cables must be understood.
- Underwater noise. Project construction and operation will generate underwater noise that is harmful to marine mammals, turtles, fish, and invertebrates. The amount of operational noise is unknown. Note that NOAA has initiated a program to try to *reduce* the existing levels of human-caused undersea noise.
- Benthic disturbances. Cable(s) installation will disturb the seafloor and the sealife living there. Hard-bottom habitats should be avoided to the maximum extent feasible. If embedment anchors are used, their installation will disturb if not destroy the sealife in the drag-embedment area, and the sweep of mooring chains will continually scour the bottom in an short arc around each anchor.

- Avoid sensitive marine habitat and protected areas. The National Oceanic and Atmospheric Agency issued the Final Rule Designating Critical Habitat for the Central America, Mexico, and Western North Pacific Distinct Population Segments of Humpback Whales. The designation includes the area of the applications which were found to be of very high conservation value for the Central America distinct population segment of humpback whales and high conservation value for the Mexico distinct population segment of humpback whales. Federally designated Habitats of Particular Concern (HAPC's) and Essential Fish Habitat (EFH) Conservation Areas (EFHCA's) must be avoided. The proposed project areas are entirely within EFH for groundfish.
- Radar interference: The likelihood (based on East Coast and European experience) that the turbines will dangerously affect marine radar systems is a safety issue that could also be an environmental issue should vessel collisions or sinkings occur.

Information Gaps and Monitoring

Floating OSW technologies are relatively new, and much is unknown about their environmental impacts. In the unfortunate event that the projects are approved, a strong monitoring program will be needed. Further, the project proponents should be tasked with providing a much more detailed description of the scientific and practical questions that their "demonstration" projects will study. The ACSF also suggests that the SLC direct the developers to study questions important to the SLC and the state.

Should the CADEMO and IDEOL projects move forward in the CEQA/ EIR review process, the ACSF strongly recommends direct discussions between SLC staff and regional fishermen to understand and gauge the level of fishing activity, potential losses, and the effects of fishing displacement.

Environmental and Social Justice

The ACSF's April 9, 2021 letter to the SLC contained an important comment about environmental and social justice, yet our comment was not included in the PEA's listing of comments on this subject.

To reiterate, harming commercial fishing will also fly in the face of social and environmental justice goals that state leaders and the President have stated are of value. The seafood supply chain is heavily represented in people of color, from direct harvest through processing and delivery. Diminishing the harvest of seafood (for other than conservation or sustainability purposes) will cost jobs in the supply chain. We hope the state will value, and not sacrifice, the good paying jobs, many with benefits, that exist in seafood processing from California companies like Santa Monica Seafood and Lusamerica, Inc.

Further, as working class people who have few funds and little time to participate in the federal and state processes that are driving towards a large takeover of the ocean by OSW developers, fishermen are not able to participate on a level playing field with these forces. We have already seen that fishermen were not invited to participate in the future planning for OSW, with the exception of the work that Castle Wind has done in working directly with us to identify the area of least impact for their proposed federal waters project. Neither CADEMO nor IDEOL project proponents made any effort to work with us to identify locations. Please don't compound this injustice.

Comments on details in the PEA

The ACSF understands that the PEA is not a complete review of potential environmental, social and economic impacts that will be required should these projects advance to a full CEQA/EIR review. Our comments below are meant to be constructive and helpful should such an advanced review occur.

1) The PEA does not include whether VAFB needs the electricity provided by the projects, nor does it include information from DoD about how they might affect military training and operations.
2) It should be pointed out that only one company held just one meeting to engage the fishing community and hear concerns.
3) Within the descriptions of the turbine platforms and mooring systems, an engineer's calculation-based description of the conditions that could lead to toppling, or breaking free (failure), of this equipment is needed.
4) The PEA would benefit from more definitive statements from Port Hueneme and Port of Long Beach as to their interest in supporting the projects.
5) The information provided by the companies regarding cable burial is inadequate. Experience in Europe has shown the difficulty in securing cables undersea to avoid damage and prevent EMF emissions.
6) Great White Sharks are not listed under "special status" fish, though they are abundant in the area.
7) Under the "noise" section, only noise from construction is mentioned. Undersea noise from the turbines should be included as an item of concern, to be studied.
8) Table 4.8,from BOEM, should be viewed with caution. Some categories (noise, EMF) should be rated as "unknown" rather than "minimal".
9) Much greater detailed mapping of the seafloor must be provided.
10) Although the PEA does mention the need to understand cumulative effects, more could be said, especially about the effects on fisheries should both the state and much larger federal waters OSW projects advance. The ACSF asserts this combination will be devastating to fisheries and our communities.
11) Table 5.1 should show at least the top ten species landed in each port over a ten year period to capture the seasonal variability of fisheries, as well as information

from DFW blocks 643 and 644, which include the project areas. This would provide better information about what percentage of harvest would be compromised by the projects. Often smaller volume fisheries are important to round out a fisherman's portfolio, providing needed additional income.

12) The section on fishing gears fails to mention purse seine vessels and gear. Squid is a major fishery in the project area.
13) The PEA contains sparse information about recreational angling which occurs in the project area. The project area is in fact a very popular and well used destination for recreational fishing vessels.
14) We appreciate that the PEA is clear that the vast majority, and likely all, commercial gears will not be able to be deployed inside or even near these wind farms.

In conclusion

While the ACSF could support responsibly sited and operated floating offshore wind demonstration projects that had clear goals, the proposed project areas raises grave concerns for our fisheries, and especially so if viewed in conjunction with the likely development of large OSW farms in federal waters. As demonstration projects, they provide little to improve our knowledge for larger projects in much deeper water. There are also many environmental concerns as described above. These combined concerns would likely apply for any nearshore project. The ACSF believes that the benefits of new knowledge are small, while the known negative consequences and other risks are so great that we do not believe the proposed projects are in the best interests of the State.

The ACSF respectfully suggests that rather than advancing the IDEOL and CIRECO projects to full CEQA/EIR analysis, Commission and staff time would be better spent on fully understanding the cable routes and other impacts to State Lands from the likely, much larger federal OSW developments. The ACSF stands ready to assist the SLC in understanding these impacts.

Thank you for considering comments from the Alliance of Communities for Sustainable Fisheries.

Alan Alward

Co-Chair

Frank Emerson

Co-Chair

Attachment, ACSF April 9,2021 letter to SLC

Attachment, CDFW fisheries landing data from Blocks 643 and 644

Cc

CA Coastal Commission

CA Energy Commission

Pacific Fishery Management Council

BOEM

Commercial Fishermen of Santa Barbara

Alliance of Communities for Sustainable Fisheries

256 Figueroa Street #1, Monterey, CA 93940
(831) 239-1219
www.alliancefisheries.org

Jennifer Lucchesi, Executive Officer April 9, 2021
Jennifer Mattox, Senior Policy Advisor and Tribal Liaison
California State Lands Commission
100 Howe Avenue, Suite 100 South
Sacramento, CA 95825

Via Email: Jennifer.Lucchesi@slc.ca.gov
Jennifer.Mattox@slc.ca.gov

RE: Comments on permit applications from CIERCO and IDEOL for offshore wind projects. **The ACSF requests that these projects be deemed at this time to not be in the state's best interest.**

Dear Ms. Lucchesi and Ms. Mattox,

The Alliance of Communities for Sustainable Fisheries (ACSF) is a 19-year-old 501(c)(3) not-for-profit educational organization, founded for the purposes of connecting fishermen with their communities, and to represent fishing interests in state and federal processes. The ACSF is a regional organization, with commercial fishing leader representatives from Monterey, Moss Landing, Santa Cruz, Morro Bay, and Pillar Point harbors, and Port San Luis, on our Board of Directors. Port communities, Coastal Pelagic fisheries, and several recreational fishing organizations also have representatives on our Board. Thus, the ACSF represents a large cross-section of fishing and community interests for the Central Coast of California, including those communities closest to the CIERCO and IDEOL "pilot" Offshore Wind (OSW) projects. The term "fisherman" is used inclusive of both our fishing men and women.

The ACSF appreciates the two electronic meetings for fishermen hosted by SLC staff and primarily led by Jennifer Mattox. Many ACSF members participated and found the discussions informative, though not necessarily reassuring.

It is abundantly clear to us that these "pilot" or "demonstration" projects are headed in the wrong location. Their location in relatively shallow water (approximately 270-300 feet) will not replicate the depths of the waters being considered by BOEM off the California coast in federal waters off Morro Bay and Eureka, which are 2,700-3,900 feet deep. The mooring systems, fisheries, and habitats affected will be quite different.

Wind conditions and sea state are stronger further offshore. These pilot projects will not lend themselves to the stress test of extreme, but common, wind speeds and sea states on the structures and mooring systems. They will also not be useful for scientific testing of the reduction of wind velocity that will occur downwind of the OSW development. This is important information to develop, as it could interfere with the upwelling that drives ocean productivity.

Being proposed for location in state waters, these turbines will be massive bird killers. Bird mortality will be a concern no matter where OSW projects are located, but will likely be less so the farther offshore they are located.

As small projects of four turbines each, they do not create cable infrastructure that will represent the same electric loads and distances as projects of 100-500 turbines that may be placed twenty miles or more offshore. The cumulative effects of large numbers of spinning turbines producing sound that transmits through mooring systems and cables and the effect on sea life will not be studied. Thus, important information about the effects of sound and electro-magnetic fields on protected marine mammals, fish, and other sea life will not be developed.

And last, but not least, is the effect on fishing opportunity and the communities that are reliant upon those activities that these projects will create. As was stated during the electronic meeting, there are eleven important fisheries in and around the proposed project areas. These

include California halibut trawling and hook and line; salmon; Dungeness and rock crab; near shore shallow live fishery; Deeper near shore fishery; spot prawns; market squid; hagfish; and, sea bass. As was also pointed out during the call, the state already designated two prime fishing areas in this region as Marine Protected Areas, which had significant displacement impacts. Should the CIERCO and/or the IDEOL projects go through, they will be de-facto no-fishing zones and will be compounded by more lost fishing area if/when the federal waters projects are developed. This will be a heavy blow to the State's fishing industry, and in particular to our members based in the Port San Luis and Morro Bay communities, as well as fishermen from Santa Barbara.

As the SLC is surely aware, the California Coastal Act prioritizes the preservation of commercial fishing infrastructure, which under that law can not be harmed or moved, unless equal or greater facilities are provided (or proof shown that it is no longer needed by the industry). We argue that preserving infrastructure while removing fishing opportunity is contrary to the spirit of the Costal Act.

Perhaps even more relevant to SLC consideration, the Coast Act also contains these protective sections:

- **Section 30230 Marine resources**
  Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.

- **Section 30234.5 Economic, commercial, and recreational importance of fishing**
  The economic, commercial, and recreational importance of fishing activities shall be recognized and protected.

- **Section 30255 Priority of coastal-dependent developments**
  Coastal-dependent developments shall have priority over other developments on or near the shoreline.

Harming commercial fishing will also fly in the face of stated social and environmental justice goals that both state leaders and the President have stated are of value. The seafood supply chain is heavily represented in people of color, from direct harvest through processing and delivery. Diminishing the harvest of seafood (for other than conservation or sustainability purposes) will cost jobs in the supply chain. We hope the state will value, and not sacrifice, the good paying jobs, many with benefits, that exist in seafood processing from California companies like Santa Monica Seafood and Lusamerica, Inc.

The ACSF also must point out that the greatest connection many Californians of all income levels have with our ocean is in their ability to purchase and consume our sustainable seafood.

When asked, the stated reasons that CEIRCO and IDEOL chose to locate their projects in state waters are because they perceive the permit path to approval to be easier and quicker compared to federal waters—not a particularly satisfying answer to affected stakeholders. Also stated as a reason is to test their gear in a small project. Regarding the latter reason, we note that the information only serves their companies, and as noted above, does not contribute to answering the many environmental, social, and economic questions that surround OSW development.

Considering there is very limited meaningful information, scientific or otherwise, that will be generated by these projects, and also considering their numerous harmful effects, **the ACSF requests that these projects be deemed at this time to not be in the state's best interest**. There seems to be no sense in wasting SLC Commission, staff, and the public's time in advancing the consideration of these two projects.

There will be much work for SLC staff in understanding and processing permit applications for larger federal waters projects which will pass cables through state waters and SLC jurisdiction. The ACSF stands ready to help the SLC understand the effects of those cables and the larger projects. We understand the need to develop alternative energy resources; however, we

feel this should not be accomplished by sacrificing another sustainable, needed industry contributing to the nation's food security.

Thank you again for reaching out to Central Coast fishermen and for considering this request.

Alan Alward

Co-Chair

Frank Emerson

Co-Chair

Cc

ACSF Board of Directors

The Honorable Salud Carbajal

Commercial Fishermen of Santa Barbara

From CDFW

SpeciesName	SpeciesCode	BlockCode	TotalPrice	CatchLbs
Abalone, red	702	643	35677.101	3905
Abalone, white	705	643		
Anchovy, norther	110	643		
Anchovy, norther	110	644		
Barracuda, Califc	130	643		
Barracuda, Califc	130	644	15.3	48.8
Bonito, Pacific	3	643		
Cabezon	261	643	76957.765	16223.4
Cabezon	261	644	9021.9	1782
Crab, armed box	823	643		
Crab, box	809	643		
Crab, brown rock	343	643	44286.85	23478.25
Crab, brown rock	343	644		
Crab, claws	802	643		
Crab, Dungeness	800	643	142639.4275	29235.24
Crab, Dungeness	800	644	346146.46	88051.1
Crab, king	804	643		
Crab, king	804	644		
Crab, red rock	341	643	288605.525	169879
Crab, red rock	341	644	6989.5	4083
Crab, rock unspe	801	643	350877.919	253633.95
Crab, rock unspe	801	644	46106.4415	30479.79
Crab, spider	803	643	11711.51	6639.55
Crab, spider	803	644	1135.95	799.5
Crab, tanner	808	644		
Crab, yellow rock	342	643	193294.3775	107573.01
Crab, yellow rock	342	644	2280.1	1262.8
Croaker, white	435	643		
Croaker, white	435	644		
Escolar	15	644		
Flounder, starry	231	644		
Flounder, unspec	230	644		
Greenling, kelp	290	643	3322.875	511.75
Greenling, kelp	290	644		
Grenadier	198	643		
Grenadier	198	644		
Guitarfish, shove	174	643		
Guitarfish, shove	174	644		
Hagfishes	457	644		
Halibut, Californi	222	643	49716.3	11581.9
Halibut, Californi	222	644	27983.5575	8072.93
Lingcod	195	643	8213.75	5570.85
Lingcod	195	644	384.275	731.5
Lobster, Californi	820	643	94633.685	9538.7
Lobster, Californi	820	644	2429.3	186.9

Louvar	191	643		
Mackerel, Pacific	51	643		
Mackerel, Pacific	51	644		
Octopus, unspec	712	643		
Octopus, unspec	712	644	683	140
Opah	467	644	455.9	731
Pacific Hagfish	458	644		
Prawn, ridgeback	813	643		
Prawn, ridgeback	813	644		
Prawn, spot	815	643	63237.7	6126.9
Prawn, spot	815	644	756758.685	66574.94
Ray, unspecified	170	643		
Rockfish, bank	663	643		
Rockfish, bank	663	644		
Rockfish, black	252	643		
Rockfish, black-a	251	643	9906.5055	1660.05
Rockfish, black-a	251	644		
Rockfish, blackgi	667	643	11229.51	20362
Rockfish, blackgi	667	644	3865.65	3299.4
Rockfish, blue	665	643	14.45	35.4
Rockfish, bocacc	253	643	183.845	317.4
Rockfish, bocacc	253	644	7522	16539.5
Rockfish, brown	267	643	38758.21	6655.85
Rockfish, brown	267	644	723.9	150.6
Rockfish, chilipep	254	643		
Rockfish, chilipep	254	644	7092.8	12762.5
Rockfish, China	258	643	157.6	21.3
Rockfish, copper	655	643	2589.1	700.7
Rockfish, copper	655	644		
Rockfish, cowcod	245	643		
Rockfish, cowcod	245	644		
Rockfish, darkblc	257	643		
Rockfish, darkblc	257	644		
Rockfish, flag	657	643		
Rockfish, gopher	263	643	31240.9025	4868.15
Rockfish, gopher	263	644		
Rockfish, grass	652	643	44809.7	5750.5
Rockfish, grass	652	644		
Rockfish, greens	255	643		
Rockfish, greens	255	644		
Rockfish, greens	654	643		
Rockfish, group b	957	643	3853.875	1074.75
Rockfish, group b	957	644		
Rockfish, group g	962	643	1690.475	683.2
Rockfish, group g	962	644		
Rockfish, group r	973	643		

Rockfish, group r	959	643	2154.745	1057.2
Rockfish, group r	959	644	12037.985	7052.88
Rockfish, group r	961	643	3798.93	12537
Rockfish, group r	961	644		
Rockfish, group s	974	644		
Rockfish, group s	975	643		
Rockfish, group s	975	644		
Rockfish, group s	960	643		
Rockfish, group s	960	644		
Rockfish, kelp	659	643	417.225	97.2
Rockfish, olive	651	643		
Rockfish, olive	651	644		
Rockfish, redban	675	643		
Rockfish, splitnos	270	643		
Rockfish, starry	256	643	309.15	36.7
Rockfish, treefish	658	643	2045.75	247.75
Rockfish, treefish	658	644		
Rockfish, unspec	250	643	8609.3975	19070.75
Rockfish, unspec	250	644	7048.8535	14789.36
Rockfish, vermili	249	643	2035.225	623
Rockfish, widow	269	643		
Rockfish, widow	269	644		
Rockfish, yellowt	259	643		
Rockfish, yellowt	259	644		
Sablefish	190	643	119780.035	87324
Sablefish	190	644	66637.42	32776.4
Salmon	300	644		
Salmon, Chinook	302	643	10006.15	2035.4
Salmon, Chinook	302	644	53869.045	25215.35
Sanddab	225	643		
Sanddab	225	644		
Sanddab, Pacific	227	643		
Sanddab, Pacific	227	644		
Sardine, Pacific	100	643	1571.52	45070
Sardine, Pacific	100	644		
Sea cucumber, g	754	643		
Sea cucumber, u	755	643		
Sea cucumber, u	755	644		
Sea urchin, red	752	643	23457.31	36506
Sea urchin, red	752	644		
Seabass, white	400	643	6688.55	2239.65
Seabass, white	400	644	9239.55	3210.4
Shark, brown sm	154	644		
Shark, leopard	153	644		
Shark, Pacific an	165	643	926.2	917
Shark, Pacific an	165	644	911.59	1087

Shark, shortfin m	151	643		
Shark, shortfin m	151	644	720.6	665
Shark, soupfin	159	643	1253.9	1523.9
Shark, soupfin	159	644	135.295	201.55
Shark, spiny dog	152	643		
Shark, thresher	155	643	3693.25	2181.5
Shark, thresher	155	644	6478.05	4718
Shark, unspecifie	150	643		
Shark, unspecifie	150	644		
Sheephead, Cali	145	643	6152.25	2108.85
Sheephead, Cali	145	644		
Shrimp, mantis	821	643		
Shrimp, ocean (p	812	643		
Shrimp, ocean (p	812	644		
Skate, longnose	147	644		
Skate, unspecifie	175	643		
Snail, sea	732	643		
Sole, Dover	211	643	87360.27	287587
Sole, Dover	211	644	3467.56	11176
Sole, English	206	643		
Sole, English	206	644	7785.5	19252
Sole, petrale	209	643		
Sole, petrale	209	644	30045.6	23501
Sole, rex	207	643	24223.15	61569
Sole, rex	207	644	2523.44	6175
Sole, sand	205	643	187.35	204
Sole, unspecified	200	643		
Sole, unspecified	200	644	436.41	576.4
Squid, market	711	643	4582743.06	16013572
Squid, market	711	644	554533.85	1604172
Surfperch, barrec	551	643		
Surfperch, barrec	551	644		
Surfperch, unspe	550	643		
Swordfish	91	643		
Swordfish	91	644	21844.75	7262
Thornyhead, long	678	643	84911.53	89117.8
Thornyhead, long	678	644	7504.26	7690.4
Thornyhead, sho	679	643	94369.31	38539.4
Thornyhead, sho	679	644	16262.6	4792.7
Thornyheads	262	643		
Thornyheads	262	644		
Tuna, albacore	5	643		
Tuna, albacore	5	644	94033.29	121975
Tuna, bluefin	4	643	44115.25	83757.5
Tuna, bluefin	4	644		
Tuna, yellowfin	1	643		

Turbot	240	644		
Whelk, Kellet's	731	643	3784.64	4034.3
Whelk, Kellet's	731	644		
Whitefish, ocean	490	643	236.05	329.2
Whitefish, ocean	490	644		
Rule of Three				
Rows Affected: 103				
Total Pounds Affected: 3.04%				
Total Price Affected: 5.30%				

From: PETER H FLOURNOY <phf@pacbell.net>
Sent: Monday, September 13, 2021 10:32 AM
To: stateapplications OSW@SLC <stateapplications.OSW@slc.ca.gov>
Subject: COMMENT ON DRAFT PRELIMINARY ENVIRONMENTAL ASSESSMENT VANDENBERG OFFSHORE WIND ENERGY PROJECTS

Thank you for this opportunity to comment. I represent various commercial and sport fishermen who operate out of California ports. Since this is a DRAFT preliminary environmental assessment, I will keep my comments general and short.

1. First there is no reason or purpose for either project to proceed. The CADEMO project, while not categorized as a demonstration project, actually is one as described in that it will test the differences between two distinct floating foundation systems. The IDEOL proposal is actually described as only a demonstration project. (ES-1-2). However, the BOEM call areas currently under consideration are all in offshore waters from 500 to 1,200 *meters deep.* This is where economically viable wind resources are thought to exist. The proposed projects above are merely in waters 262 to 328 *feet deep* . (4-23) Clearly whatever may be demonstrated by these proposed projects will provide no useful or needed information on where the major BOEM sponsored projects are likely to be sited.

2. My second comment is that while section 4.0 Assessment of Potential Environmental Impacts does an excellent job of listing the important and vastly multiple marine mammal, endangered, and commercially and recreationally available species in this area of State waters, there is very little current information, research or existing studies on how these valuable species, some of which are protected, may be impacted by the project. This will, however, serve as an especially vital listing for all the species on which impacts will need to be studied prior to the undertaking of either the CADEMO or IDEOL projects. This will of necessity include current and timely research on the adverse impacts on commercial and recreational fishermen.

Thank you for this opportunity to comment briefly, Peter H. Flournoy

PACIFIC COAST FEDERATION of FISHERMEN'S ASSOCIATIONS

Please Respond to:
☒ **California Office**
P.O. Box 29370
San Francisco, CA 94129-0370
Tel: (415) 561-5080
Fax: (415) 561-5464

☐ **Northwest Office**
P.O. Box 11170
Eugene, OR 97440-3370
Tel: (541) 689-2000
Fax: (541) 689-2500

September 13, 2021

To: California State Lands Commission
Attention: Eric Gillies
100 Howe Ave., Suite 100-South
Sacramento, CA 95825-8202

Re: Vandenberg OSW Projects PEA comments

Submitted via email to stateapplications.OSW@slc.ca.gov

Dear Mr. Gillies,

The Pacific Coast Federation of Fishermen's Associations ("**PCFFA**") greatly appreciates the opportunity to submit the following comments on the State Lands Commission ("**SLC**") Draft Preliminary Environmental Assessment ("**PEA**") in response to two separate applications submitted by CADEMO Corporation ("**CADEMO**") and IDEOL USA Inc. ("**IDEOL**") for proposed offshore wind energy demonstration projects, collectively referred to as the "Vandenberg Offshore Wind Energy Projects" ("**Projects**").

PCFFA is the largest organization of commercial fishermen and women on the West Coast. For forty years, we have been leading the industry in protecting the rights of individual fishermen[1] and fighting for the long-term survival of commercial fishing as a productive livelihood and way of life. PCFFA represents local fishermen's associations from Santa Barbara to the Canadian border. PCFFA fishermen fish in and around the area(s) proposed to be occupied by the Projects. Based on local knowledge and experience, our members believe it highly probable the Projects will impact their ability to engage in commercial fishing operations in and around the Projects to the detriment of their small businesses, the many small businesses dependent upon their operations, the State's seafood economy, and the State's food security.

[1] We use the term "fishermen" because women who fish prefer that term. That and a fisher is alternatively a small weasel-like rodent or a bird. We mean no offense or disrespect.

At the outset, we do want to thank the proponent of the CADEMO proposal for their outreach to PCFFA and local fishing interests from Santa Barbara, Morro Bay and representatives from other associations whose members fish in and around the proposed Project. As SLC staff knows, the fishing industry[2] has expressed concern over the process(es) by which offshore wind energy ("**OWE**") has been unleashed. We also appreciate the willingness of SLC staff to engage with the fishing industry and holding a Stakeholder workshop in December of last year to provide a Status Update on the Projects. We also support the comments submitted by the Alliance of Communities for Sustainable Fisheries and the Pacific Fishery Management Council.

We note the purpose of the PEA is "to serve as an early foundation of information to feed into the EIR process." While we strive to keep our comments within the scope of what is sought, we will touch on the merits of the Projects and offer an opinion on the action before the SLC in October. Attached, as Appendix A, is a preliminary list of questions from, and corrections within, the body of the PEA for your consideration.

The PEA states, "understanding how the proposed CADEMO and IDEOL Projects may affect communities and ocean users is a critical part of developing this early assessment." It is against that background that we offer the following comments. For convenience, we follow the layout of the PEA.

Section 2 – Introduction

We are not opposed to development of alternate, renewable, energy sources. In fact, we are very much in favor of renewable energy projects which have secondary benefits as well. For example, a recent study "showed that covering all 4,000 miles of California's [freshwater delivery] canals with solar panels would save more than 65 billion gallons of water annually by reducing evaporation" while providing "some 13 gigawatts of renewable energy capacity, which is about half of the new sources the state needs to add to meet its clean electricity goals: 60% from carbon-free sources by 2030 and 100% renewable by 2045.[3]" In addition to generating significant amounts of clean, renewable, energy, covering the canals could be integral in saving California's imperiled Sacramento River salmon runs. In July, the California Department of Fish and Wildlife ("**CDFW**") cautioned "it is possible that all in-river juveniles will not survive this season."

California's commercial and charter boat fleets are already taking steps to reduce their carbon footprint. The Carl Moyer Program is a voluntary grant program that reduces air pollution from vessels and equipment by providing incentive funds to private companies and public agencies to purchase cleaner-than-required engines, equipment, and emission reduction technologies.

[2] "Fishing industry" as used throughout includes recreational fishing – both Commercial Passenger Fishing Vessels (CPFV) and private vessels. Where appropriate, the different sectors of the fishing industry will be addressed separately.

[3] https://www.yahoo.com/news/installing-solar-panels-over-californias-120434637.html

We are also not opposed to offshore wind projects provided they are sited and designed in ways that avoid interference with our operations, do not negatively impact the environment nor the ecological functions of the California Current. As implied above, the fishing industry has not had a voice when siting decisions are made. Offshore wind farms sited in areas important to commercial fishing operations will necessarily result in reduced production of domestically sourced seafood. This void will likely be filled by imports – which come at a much higher climate cost (measured in terms of carbon footprint per pound of seafood consumed).

While CADEMO seeks to develop a "demonstration" project and IDEOL seeks to construct, operate, and ultimately decommission a "pilot" project we treat those as synonymous. To be sure, each Project proposes important goal and objectives; but each speak of informing larger, commercial scale offshore wind developments or facilities. We fail to understand how the Projects, located in 30 – 40 fathoms,[4] will inform large-scale offshore wind developments in waters up to 700 fathoms[5]? We appreciate CADEMO's acknowledgment of impacts to the fishing industry; and would suggest IDEOL consider how their Project would impact current ocean users.

We believe SLC and the public would benefit from additional information on specific research goals, research plans and measurable metrics upon which success or failure could be judged.

Information surrounding the Site Selection process for IDEOL is sparse. We would ask the Applicant to provide further detail. For example, what about the site's water depth made it an attractive location?

Section 3 – Description of the Two Proposed Projects

Port Hueneme is identified as the preferred port location for their Projects. Port Hueneme is an important offloading station for commercial fishermen in the area. Table 1 shows the total pounds offloaded in Port Hueneme and the ex-vessel value[6] of that product.

Year	Pounds	Ex-vessel Value
2019	3,294,274 lbs	$2,514,511
2018	13,908,010	$8,264,201
2017	35,936,403	$18,481,438
2016	17,224,213	$9,300,002
2015	17,886,149	$5,849,371

[4] Depths estimated by overlaying CADEMO project area over NOAA Chart 18700. A screenshot of the Project Area is attached as Appendix B.

[5] Apparently, the operational limitation of OSE technology is 1300 meters (BOEM). When pressed, BOEM admitted (during the Pacific Fishery Management Council's Marine Planning Committee on September 1) there is no technological limitations to putting turbines in deeper waters, it is an economic consideration to the developers of OSE facilities.

[6] Ex-vessel value represents the dollar amounts paid to the fishermen. It does not capture the true economic contribution resulting from downstream economic impacts

2014	34,677,838	$11,507,240
2013	36,324,835	$11,923,632
2012	36,791,416	$10,707,442
2011	58,916,159	$14,768,970
2010	60,385,096	$17,985,224

Table 1 – Commercial landings and ex-vessel revenues landed in Port Hueneme. Source – California Department of Fish and Wildlife Final California Commercial Landings – Table 19 PUB – for each year.

Port Hueneme is indispensable for the California Market Squid fishery as it is one of two Ports between Los Angeles and the Project Area with infrastructure necessary to offload squid from the vessels participating in that fishery. 2019 was one of the lowest squid harvests since 2000 which explains the drastic drop in landings in 2019. This was likely repeated in 2020; but that information is not yet publicly available. Information on the ability of Port Hueneme to serve both the commercial fishing industry and Projects would be helpful.

Both projects propose to bury cables under the seafloor at a depth of approximately five (5) feet. In October of last year, National Grid and Ørsted announced that sections of transmission cables from the Block Island Wind Farm to the mainland Rhode Island had to be reburied due to "challenges with sediment coverage over the cables." Those cables were originally buried 4-6 feet below the sea floor; but were reburied at a depth of between 25 to 50 feet below the seafloor[7]. Given the sea state around Point Arguello, we suggest both Applicants provide information on the feasibility of burying their cables at a similar depth. We would also suggest consideration of a deeper penetration depth for anchoring system(s): CADEMO proposes a penetration depth of 8.2 feet and IDEOL did not provide that information.

CADEMO proposes a mooring radius of 1,968 feet (0.37 miles); IDEOL proposes a mooring radius between 1,640 and 3,280 feet (0.31 – 0.63 miles). We would suggest considering as small a mooring radius as possible in order to reduce the amount of lost fishing grounds due to mooring systems.

Section 4 – Assessment of Potential Environmental Impacts

The PEA acknowledges "[f]urther scoping and information gathering is needed to identify and analyze cumulative impacts through the CEQA process; therefore, cumulative impacts are not assessed in this PEA." We remind SLC that the Project areas is situated adjacent to the Vandenberg State Marine Reserve and in close proximity to the Point Conception State Marine Reserve. Identification of the potential cumulative impacts to commercial and recreational fisheries and dependent fishing communities should the Project areas be functionally closed to fishing activities.

[7] See - https://www.nationalgridus.com/News/2020/09/National-Grid,-216-rsted-Mobilizing-Teams-to-Begin-Block-Island-Wind-Farm-Cable-Repairs-This-Fall/

The Project proponents when anticipating potential emission sources fail to include increased emissions from the fishing industry resulting from having to travel further and the increased reliance on imported seafood which will necessarily result from displacement.

When addressing potential impacts to marine mammals, SLC staff relies on studies from 1983 and 1993 as definitive for describing the region as the northernmost or southernmost extent of their range. We would encourage the SLC to seek more current information as it is likely that species ranges have changed since the mid-80s and 90s - as we are seeing with fish stocks (Pacific Bluefin Tuna, Market Squid, Southern Stock of Sardine, spiny lobster, etc). We also suggest that consideration of potential impacts to marine mammal migratory patterns be considered as that may result in an increased risk of co-occurrence with fishing gear. In the fall of 2020, the CDFW began to manage its commercial Dungeness crab fishery under regulations implementing the Risk Assessment and Mitigation Program (RAMP). RAMP provides the Director of CDFW the ability to delay the start of, or close the fishery before its scheduled end date, if there is an elevated risk of entangling humpback whales, blue whales or leatherback sea turtles. There are concerns that wind energy farms may alter migratory patterns of these, and other, marine species and impact the State's Dungeness crab fishery, often the State's most valuable commercial fishery.

Should the Projects (or either Project) move forward, we would suggest the section on Fish (p 4-17) needs updating. SLC staff should engage with the fishing industry to ensure the impacts analyzed reflect ALL commercially and recreationally important stocks/species which are harvested in the area.

We appreciate the acknowledgement that given the lack of operational floating wind energy facilities, the "effects on the marine environment are speculative." While the Projects are designed to provide some useful information, we do not believe they will address many of the concerns that have been raised in discussions about such effects.

The PEA discusses Water Quality Degradation and Pollution; but fails to acknowledge that turbines have gearboxes which require lubricating. This is typically in the form of oil. The internet is replete with imagines of turbines leaking lubricating oil; this will need to be considered should the Projects or one of the Projects moves forward.

The PEA also discusses Artificial Structures and Entanglements and states, "new offshore artificial structures has the potential to locally alter species composition and abundance by providing hard substrate that is susceptible to colonization by native and non-native organisms, changing the habitat and community structure of the area." We believe this statement is specific to fixed offshore wind facilities which are pile driven into the seafloor and create artificial structures. Floating offshore wind facilities, such as those envisioned by the Projects, will offer very little hard substrate.

Section 5 – Commercial and Recreational Fishing, Tribal Consultation, and Environmental Justice

We appreciate SLC staff identifying the importance of understanding how the proposed Projects will impact communities and ocean users. We address each subsection separately:

Section 5.1 – Commercial and Recreational Fishing

Commercial Fishing Overview

We strongly suggest expanding the scope of analysis of commercial fishing activity in the Project Area. Table 5-1 Top Three Poundage and Value of Commercial Landings in 2019 by Port for Santa Barbara and Morro Bay Areas. This seems to imply that landings occur near harvest locations. While that may be true, it is not always true, especially for higher value fisheries. A more accurate reflection of the relative importance of those areas would be datasets on catch from CDFW blocks 643 and 644[8]. We also suggest considering more than just one year of data in order to accurately present a complete and valid picture. As shown in Table 1 above, harvest levels and locations fluctuate with changing ocean conditions and increased or relaxed regulatory pressures. We recommend going back to 1990 to paint a more complete picture. We use that date because it predated serious restrictions on groundfish fisheries operating off the U.S. west coast implemented to rebuild overfished stocks. As those stocks were rebuilt, additional opportunities were made available to the State's commercial and recreational fishermen.

We also note, Table 5-1 reports value in terms of ex-vessel fishing revenues. These represent dollar amounts paid to the vessels; and do not reflect the downstream economic impact of the seafood harvested. Estimates have shown the downstream multiplier could be as high as 8x for seafood.

The PEA fails to identify purse seine or hand scoop as gear types used in the Project Area. Those are the gear types used in the market squid fishery. Vessels using purse seine gear would be heavily impacted as the Project designs would functionally eliminate their use in the Project Area.

In response to a recent data request, data provided by CDFW showed over 80 commercially important fish stocks were harvested in those blocks between 1995 and June of 2021.

The PEA indicates the recreational fishing overview included catch data from Monterey and Santa Cruz. For consistency, landings into those areas should be included in the commercial fishing dataset. Based on personal communications, salmon harvested in the Project Area have been landed in Monterey and Santa Cruz in the past.

Recreational Fishing Overview

[8] The CDFW tracks catch location by fishing block. The Project Areas are in Blocks 643 and 644. See - https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=144496&inline

We strongly suggest seeking recreational catch data from blocks 643 ad 644 from CDFW.

Section 5.2 - Tribal Consultation and Tribal Cultural Resources

We appreciate SLC engaging with the Tribes early on in the process.

Section 5.3 - Environmental Justice

We must remember that for the vast majority of Californian's the only access to the living marine resources in the State's ocean waters is through the seafood we provide. Any actions which may impact our ability to provide ALL Californian's with a sustainably source of protein should be carefully scrutinized.

As stated at the beginning of this comment letter, we are not opposed to the idea of offshore wind facilities provided they are sited and designed in ways that avoid interference with our operations, do not negatively impact the environment nor the ecological functions of the California Current. The Projects before you do not satisfy those conditions. Given the functional closure of the Project Area to most, if not all fishing activity, they clearly will interfere with our operations. We do not know the impacts to the environment nor the ecological functions of the California Current from OSE. Unless and until we have confidence that there will be no impacts or very little impacts (which are easily mitigated against) you should not allow either Project to move forward. There are many research needs which have been identified; but remain unaddressed. Throwing steel in the water and hoping for the best is not managing these lands in trust for the people of California. As such, we respectfully request that you do not move forward with the EIR process for either Project. Alternatively, should SLC remain interest in the Applications, we would recommend choosing one or combining the two Applications into one Project with four turbines sited in areas agreed upon by the Applicants and the fishing industry. We believe the CADEMO Applicants have provided more detailed information about their project, the goals and objectives, etc.

Sincerely,

Mike Conroy
Executive Director

cc: Alliance of Communities for Sustainable Fisheries
Morro Bay Commercial Fishermen's Organization
Commercial Fishermen of Santa Barbara

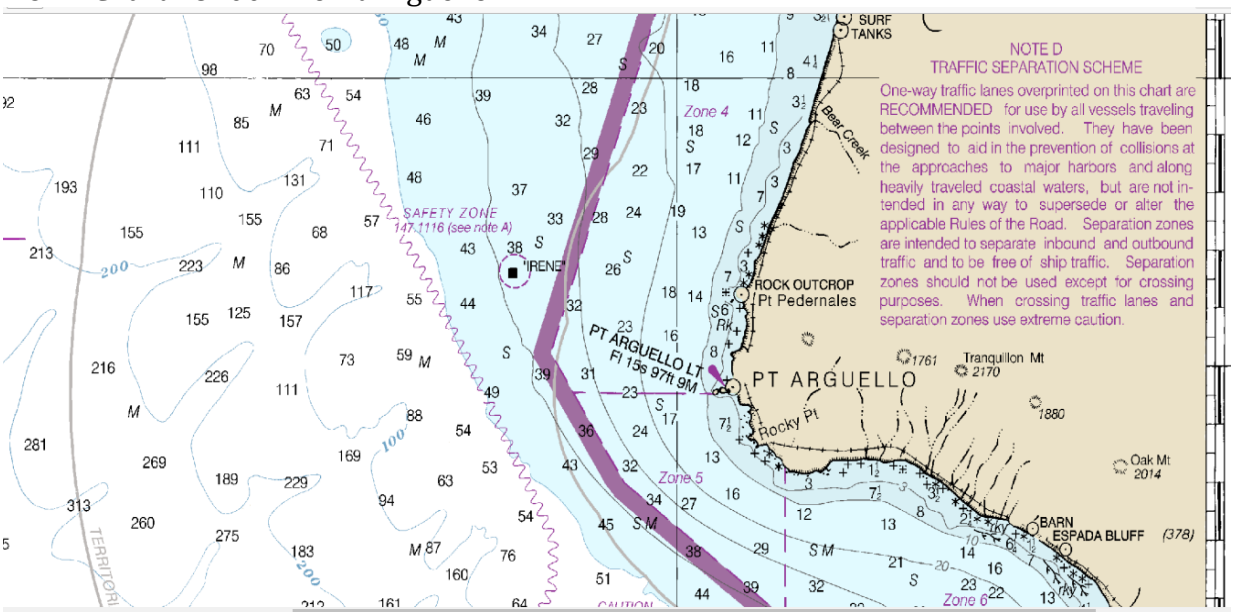
Appendix A

Some Questions/Comments based on the PEA

Section	Page	Question/Comment
Glossary	viii	Hub Height is defined as the height above the "ground". For purposes of these projects shouldn't this be reported as height above the sea surface as the height above ground (sea floor) will vary with the tides?
2	2-2	The following statement is made, "it is clear that California will not meet its renewable energy goals without development of offshore wind capacity." Given that covering California's freshwater canals with solar panels would generate about half needed to meet the State's clean electricity goals – we disagree with that statement. We are only limited by our creativity and that statement is akin to taking the easy way out.
	2-2	The PEA references the Block Island facility as the only operating commercial offshore wind farm in the US. It bears noting, Block Island has experienced shutdowns of four of the five turbines since June after 'stress fatigue' was found in the turbines. This follows a brief outage earlier in the spring when sections of the transmission cables became unburied due to "sediment challenges".
	2-5	The third goal and objective of the CADEMO project includes the consideration of potential short- and long-term impacts to the commercial fishing industry. We ask this be expanded to include impacts to the CPFV fleet and recreational fishermen[9]. We also ask that "commercial fishing industry" be expanded to include "and dependent communities."
	2-5	The fourth goal and objective references the "local fishing industry". Commercial fishing operations off the California coast are highly mobile. As such, focusing on the local fishing industry may not be expansive enough depending on how that term is defined. For example, would an albacore fisherman based on San Diego who harvests in CDFW Block 643 or 644[10]; but delivers his/her catch to San Diego be part of the "local fishing industry"? What about the salmon fisherman from Crescent City?
	2-7	CADEMO has indicated the Proposed site was based, in part, on avoiding "conflicts with other land and sea uses to the extent practicable." We would be interested in seeing the methodologies used in determining "to the extent practicable".
	Table 2-1	• Impacts on Essential Fish Habitat. Should also include potential impacts to Habitat Areas of Particular Concern which are located within or adjacent to the Project Area(s). • "Floating foundations and mooring systems may act as artificial reefs." This is less likely with floating turbines than fixed. Anchors and anchoring cables are not likely to become artificial reefs. • "Fish aggregation around floating foundations could lead to altered fish migration routes and increased risk of capture by fishermen" or remove these fish from the fisheries as it will be next to impossible to fish with most gear types within the Project Area.

3	3-15	• CADEMO intends to use jet trenching for cable burying. Given the proximity to important squid grounds, could that be disruptive to larval and egg phases for squid or other commercially and/or recreationally important stocks?
4	4-9	• "The PEA does not include an analysis of potential emissions for criteria air pollutants." We would suggest analysis of the potential increase in emissions from increased emissions from fishing operations having to travel further and the increased reliance on imported seafood which will necessarily result from displacement.
	4-17	• Where "Fish" is discussed need to be updated.
	4-25	• Table 4-8 indicates EMF is "unlikely to substantially alter survival and reproduction". Is there a source for this? Have impacts to species and/or stocks in the Project Area been analyzed?
	4-25	• Table 4-8 implies that downstream wind speeds are likely to impacted. We point you to the following study (from earlier this summer) which states otherwise. https://www.nature.com/articles/s41598-021-91283-3
	4-27	• When discussing vessel collisions with wildlife the PEA states vessels will be creating new routes that are not commonly transited by vessels. This is not true.

Appendix B
NOAA Chart 18700 – Point Arguello



Pacific Fishery Management Council

7700 NE Ambassador Place, Suite 101 Portland, OR 97220-1384
Phone 503-820-2280 | Toll free 866-806-7204 | Fax 503-820-2299 | www.pcouncil.org
Marc Gorelnik, Chair | Charles A. Tracy, Executive Director

September 13, 2021

California State Lands Commission
Attention: Eric Gillies
100 Howe Ave., Suite 100-South
Sacramento, CA 95825-8202

CSLC File Ref: A2181; A2222

Dear Mr. Gillies:

The Pacific Fishery Management Council (Council) appreciates the opportunity to comment on the California State Lands Commission (CSLC) Draft Preliminary Environmental Assessment (PEA) in response to two separate applications submitted by CADEMO Corporation (CADEMO) and IDEOL USA Inc. (IDEOL) for proposed offshore wind (OSW) energy demonstration projects, collectively referred to as the "Vandenberg Offshore Wind Energy Projects" (Projects).

The Council is charged with sustainably managing West Coast fisheries, which includes conserving and enhancing habitats in support of sustainable fisheries and managed species. The Council is one of eight Regional Fishery Management Councils established by the Magnuson-Stevens Fishery Conservation and Management Act of 1976 (MSA). The Council develops management actions for Federal fisheries off Washington, Oregon, and California, and is required to achieve optimum yield for public trust marine resources. Optimizing the yield of our nation's fisheries requires safeguarding these resources, their habitats, and the fishing communities that rely on their harvest.

Per its terms, the PEA is intended to serve as an early foundation of information to feed into the State's Environmental Impact Report (EIR) process should CSLC decide to continue evaluation of the proposed Projects. The Council recommends CLSC consideration and evaluation of the following:

- The areas encompassed by the Projects are within essential fish habitat for groundfish, salmon, highly migratory species, and coastal pelagic species, including krill.
- The Project areas appear to be in close proximity to Rocky Reef and Kelp Canopy Habitat Areas of Particular Concern (HAPC). HAPC represent high priority areas for conservation, management, protection, or research and are important for healthy ecosystems and sustainable fisheries. The Council is of the opinion that ocean energy structures may be incompatible with rocky habitats and HAPCs, and believes that these areas warrant careful impacts analysis and consideration as to whether OSW planning and development would be compatible with these important physical and biogenic habitat features.

- Commercially and recreationally important fish stocks managed under the Council's Groundfish, Coastal Pelagic Species, Salmon, and Highly Migratory Species Fishery Management Plans are harvested in the area. Additionally, a number of State-managed fisheries operate in the area. The Project areas are situated in California Department of Fish and Wildlife (CDFW) blocks 643 and 644. Based on data provided by CDFW, over 80 commercially important fish stocks were harvested in those blocks between 1995 and June of 2021. Additional information that reflects recreational catch from those blocks will allow an analysis of the importance of the Project areas to dependent fishing communities.
- The Project areas are situated adjacent to the Vandenberg State Marine Reserve and are in close proximity to the Point Conception State Marine Reserve. The Council **recommends** that CSLC conduct a cumulative effects analysis, taking into account future state and Federally-regulated wind energy proposed areas (including consideration of all areas in the region closed to fishing) on all commercial and recreational fisheries, fishing communities, and impacts to domestic seafood production (including port-based fishery-specific facilities and related services).
- The PEA states that transmission cables will be buried to a depth of five feet. However, this may not be an adequate depth to avoid cables becoming unburied. The Block Island OSW project off Rhode Island originally buried transmission cables at a depth of 4-6 feet below the seafloor. After sediment shifts exposed sections of the cable, the operator of the project reburied the cables at a depth of 25-50 feet. The applicants of the demonstration Projects should consider burying cables deeper under the sea floor to account for the sea state in and around Point Arguello.
- We appreciate the PEA including Appendix F - Commercial Fish Landings for Santa Barbara and Morro Bay Areas. We suggest expanding the range of years to include years prior to 2019, to paint a more accurate picture. California's market squid fishery landed 15,228 short tons (st) during the 2019-20 fishing season, which represents the lowest landing total since the 1999-2000 fishing season. However, that gives an incomplete picture of commercial squid landings. For example, 104,000 st and over 61,000 st were harvested in the 2014-15 and 2017-18 fishing seasons, respectively.
- The CADEMO Project seeks to develop a wind demonstration project. The IDEOL Project seeks to develop an OSW electrical generation pilot project. More information on the goals and the research endeavors, methodologies, and plans would be helpful in analyzing the Projects' benefits. In short, the Council suggests that the following questions be addressed: How will two different types of projects in shallow water help inform floating OSW projects in much deeper water and much further offshore? Are the applicants intending to pursue full scale commercial wind projects in the future? What are the plans for conducting research and reporting out on the findings? Additionally, the Council recommends that should these two projects move forward, the CSLC define what the duration of a demonstration project would be for projects with lifespans of 25 and 30 years.

Future Engagement and Consultation with the Council

The Council recently convened an ad hoc Marine Planning Committee (MPC) composed of members from its existing advisory bodies to directly engage on ocean energy development and other emerging ocean industries. The Council, through the MPC, intends to stay fully engaged in the CSLC's process going forward. The Council appreciates CSLC's participation in the recent MPC meeting. We look forward to working with CSLC to ensure that fishery and fish habitat are fully considered throughout the process.

Please note that the Council's meeting schedule and opportunities for its advisory bodies to inform the Council do not necessarily align with public comment periods of other public processes. We would appreciate your consideration of our comments if issues should arise outside the public comment window.

The Council looks forward to assisting CSLC in reviewing its EIR document as it pertains to the CADEMO and IDEOL Projects, as well as in finding development options that minimize impacts to ecological and fisheries resources and in achieving the long-term goal of responsible development of this industry.

Sincerely,

Marc Gorelnik
Pacific Council Chair

KFG:ael

Cc: Pacific Council Members
Ad Hoc Marine Planning Committee
Ms. Jennifer Mattox, CSLC

From: Chris Pavone <pavonefish@gmail.com>
Sent: Sunday, September 12, 2021 6:01 PM
To: stateapplications OSW@SLC <stateapplications.OSW@slc.ca.gov>
Subject: Vandenberg OSW Projects PEA comments

My name is Chris Pavone, and I am President of the Port San Luis Commercial Fishermen's Association. I represent about 100 commercial fishermen (and their families). Our port has the most landings in live rockfish on the west coast, and is also one of the leading ports in slime eels, rock crab, halibut, and dungeness crab.

The Port San Luis Commercial Fishermen are 100% opposed to the Vandenberg Wind project.

The Vandenberg, Purisma, and Arguello fishing grounds are the last, premier, most abundant live rockfish waters in our area. This area is literally our last viable fishing area that has yet to be lost to MPAs, cables, and now wind farms. A vast majority of ALL of our fishermen's landings come from this area. We are already exhausting our resources fighting the proposed wind project in the Morro Bay Call Area. Our port is at a very delicate stage in the rebuilding of the commercial fishing industry. We have many veteran fishermen who have left (are leaving) the industry, while there are only a few new fishermen determined enough to take on the high risk & extremely high premiums for the permits needed to commercial fish on the Central Coast of California. Port San Luis Commercial FIshermen's Association also just started a new fishermen's market last year, and, we are in the process of securing a long term lease and new building on the pier for our association. One wind farm off of Morro Bay is enough. We were promised by the politicians that the Morro project would be the only project on the coast and there would be mitigation with fishermen. To be clear, we did not want that project either. You wouldn't show up on a farmer's land and take it away to put in a turbine, why/how can you do this to the fishermen who have worked in those waters for years? We are the main stakeholders in your proposed project, and minimal effort has been made to even begin communicating with us. Taking away more fishing grounds is criminal (especially without any mention of compensation or mitigation), and the Vandenberg OSW Projects will ultimately lend a hand to ending the commercial fishing industry on the Central Coast of California.

Thank you for your time, and for considering the Port San Luis & Morro Bay Commercial Fishermen.

Chris Pavone
PSLCFA President
530.518.5510

From: Tom St. John <tvstjohn@gmail.com>
Sent: Sunday, September 12, 2021 8:26 PM
To: stateapplications OSW@SLC <stateapplications.OSW@slc.ca.gov>
Subject: Vandenberg OSW Projects PEA Comments

Hi..I just want to go on record as being opposed to the offshore wind projects..I am third generation fisherman from Avila..It surely is another means of shrinking the fishing grounds..I believe the ocean is pretty healthy and the impact the wind projects is a big mistake..thank you..Tom St.John

Forms (https://www.office.com/launch/forms?auth=2) Offshore Wind PEA Survey and Feed - Saved ? MM

Respondent

3 Anonymous

05:55
Time to complete

About

Tell us about yourself and how you heard about the PEA.

1. First Name

Gary

2. Last Name

Burke

3. Email Address

Gburke9934@aol.com

4. Organization/Entity

CFSB

5. What is your interest in offshore wind development and how did you become interested in it?

In fishing area

6. How did you hear about the PEA?

- [ ] I found out about the PEA via a State Lands Commission meeting
- [ ] I found out about the PEA through a colleague of mine
- [x] I've been following offshore wind activities in CA for a long time
- [ ] I am subscribed to State Lands Commission updates on offshore wind and received the PEA via email
- [ ] I sought out the PEA on the State Lands Commission website
- [ ] Other

Overall Impressions of Offshore Wind

This section aims to gauge overall impressions of floating offshore wind in California, and of its impacts on the environment and ocean users.

7. What was your overall impression of floating offshore wind development in California state waters?

Rate your impression before reading the PEA versus after reading the PEA.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Before reading the PEA	◉	○	○	○	○
After reading the PEA	○	○	○	○	○

8. As California advances floating offshore wind development, I would rather see development in...

- ○ State waters (0-3 nautical miles offshore)
- ○ Federal waters (3-200 nautical miles offshore)
- ○ Both
- ◉ Neither

9. Please indicate your overall support or opposition to these floating offshore wind state applications.

- ○ I would like to see the Commission proceed with the EIR
- ◉ I would like to see the Commission terminate the applications
- ○ Other

10. Explain your response to the question above.

Optional.

Taking prime fishing area

11. What potential environmental impacts do you have concerns about as they pertain to floating offshore wind development in state waters?

The following impacts are listed and described in Section 4 of the PEA. Check all that apply.

- [x] Aesthetics
- [ ] Air Quality & Greenhouse Gas Emissions
- [x] Biological Resources (Marine)
- [ ] Biological Resources (Terrestrial)
- [ ] Cultural Resources
- [ ] Energy, Utilities, & Service Systems
- [ ] Geology, Soils, & Paleontological Resources
- [x] Hazards & Hazardous Materials
- [ ] Hydrology, Water Quality, & Coastal Processes
- [ ] Land Use and Planning
- [x] Noise
- [ ] Population & Housing
- [ ] Recreation
- [ ] Transportation
- [ ] I have no concerns

12. Many of the aforementioned impacts can coalesce to create additional impacts that involve multiple key communities and ocean users. In addition to the impacts above, do you have concerns about any of the following as they pertain to floating offshore wind development in state waters?

Check all that apply.

- [x] Commercial & Recreational Fishing
- [ ] Tribal Cultural Resources
- [ ] Environmental Justice
- [ ] I have no concerns related to these areas

General PEA Feedback

This section aims to understand how useful the PEA was in helping the public understand various aspects of floating offshore wind technology, benefits and impacts, and approval/leasing processes.

13. The PEA helped me better understand...

	Disagree	Agree	No Opinion
Floating offshore wind technology	○	○	◉
Potential benefits of floating offshore wind	○	○	○
Potential impacts of floating offshore wind	○	○	○

The public perception of floating offshore wind (from the stakeholder comments)			
The approval and leasing process for development in CA state waters			
The approval and leasing process for development in federal waters			

Specific PEA Feedback

The following questions allow you to provide comments and feedback pertaining to specific PEA sections. All of the questions below are optional - you can leave some or all of them blank.

If you have no specific comments about the PEA, you can skip to the end of the form to submit.

14. Section 1: Purpose of Report

Please enter any comments you have on Section 1 of the PEA.

15. Section 2: Introduction

Please enter any comments you have on Section 2 of the PEA.

16. Section 3: Description of the Two Proposed Projects

Please enter any comments you have on Section 3 of the PEA.

17. Section 4: Assessment of Potential Environmental Impacts

Please enter any comments you have on Section 4 of the PEA.

18. Section 5: Commercial and Recreational Fishing, Tribal Consultation, and Environmental Justice

Please enter any comments you have on Section 5 of the PEA.

Taking fishing area

19. PROJECT ALTERNATIVES: In addition to the alternatives for the proposed projects described in Section 3 of the PEA, what other alternatives to the proposed projects would you recommend?

Comment Letter Submission Instructions

Thank you for completing this form! Your feedback is valuable and will help Commission staff with the evaluation of these projects.

If you would like to provide more detailed comments than is available on this form, you can email a comment letter to stateapplications.OSW@slc.ca.gov (mailto:stateapplications.OSW@slc.ca.gov) or mail to:

California State Lands Commission
Attention: Eric Gillies
100 Howe Ave., Suite 100-South
Sacramento, CA 95825-8202

The subject line (if submitting via email) should be titled "Vandenberg OSW Projects PEA Comments." When referencing the PEA in your comment letter, please include relevant PEA sections and page numbers. This will assist us in synthesizing all the feedback we receive.

Forms (https://www.office.com/launch/forms?auth=2) Offshore Wind PEA Survey and Feed - Saved ? MM

Respondent

7 Anonymous

05:50
Time to complete

About

Tell us about yourself and how you heard about the PEA.

1. First Name

PETER H

2. Last Name

FLOURNOY

3. Email Address

phf@pacbell.net

4. Organization/Entity

INTERNATIONAL AW OFFICES OF SAN DIEGO

5. What is your interest in offshore wind development and how did you become interested in it?

represent commercial and sport fishermen. First became interested in 2018 with BOEM's offshore projects.

6. How did you hear about the PEA?

- [ ] I found out about the PEA via a State Lands Commission meeting
- [ ] I found out about the PEA through a colleague of mine
- [x] I've been following offshore wind activities in CA for a long time
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After reading the PEA	◉	○	○	○	○

8. As California advances floating offshore wind development, I would rather see development in...

- ○ State waters (0-3 nautical miles offshore)
- ◉ Federal waters (3-200 nautical miles offshore)
- ○ Both
- ○ Neither

9. Please indicate your overall support or opposition to these floating offshore wind state applications.

- ○ I would like to see the Commission proceed with the EIR
- ◉ I would like to see the Commission terminate the applications
- ○ Other

10. Explain your response to the question above.

Optional.

I have senty in a separate comment that these demonstration projects are unnecessary and will have too great an impact on other ocean uses and resources.

11. What potential environmental impacts do you have concerns about as they pertain to floating offshore wind development in state waters?

The following impacts are listed and described in Section 4 of the PEA. Check all that apply.

- [ ] Aesthetics
- [ ] Air Quality & Greenhouse Gas Emissions
- [x] Biological Resources (Marine)
- [ ] Biological Resources (Terrestrial)
- [ ] Cultural Resources
- [ ] Energy, Utilities, & Service Systems
- [ ] Geology, Soils, & Paleontological Resources
- [ ] Hazards & Hazardous Materials
- [ ] Hydrology, Water Quality, & Coastal Processes
- [ ] Land Use and Planning
- [ ] Noise
- [ ] Population & Housing
- [x] Recreation
- [ ] Transportation
- [ ] I have no concerns

12. Many of the aforementioned impacts can coalesce to create additional impacts that involve multiple key communities and ocean users. In addition to the impacts above, do you have concerns about any of the following as they pertain to floating offshore wind development in state waters?

Check all that apply.

- [x] Commercial & Recreational Fishing
- [ ] Tribal Cultural Resources
- [ ] Environmental Justice
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	Disagree	Agree	No Opinion
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Potential benefits of floating offshore wind	○	○	◉
Potential impacts of floating offshore wind	◉	○	○

The public perception of floating offshore wind (from the stakeholder comments)	○	○	◉
The approval and leasing process for development in CA state waters	○	◉	○
The approval and leasing process for development in federal waters	○	○	◉

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Respondent

6 Anonymous

70:51
Time to complete

About

Tell us about yourself and how you heard about the PEA.

1. First Name

Chris

2. Last Name

Pavone

3. Email Address

pavonefish@gmail.com

4. Organization/Entity

Port San Luis Commercial Fishermen's Association

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After reading the PEA	○	○	○	○	○

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- ○ Federal waters (3-200 nautical miles offshore)
- ○ Both
- ◉ Neither

9. Please indicate your overall support or opposition to these floating offshore wind state applications.

- ○ I would like to see the Commission proceed with the EIR
- ◉ I would like to see the Commission terminate the applications
- ○ Other

10. Explain your response to the question above.

Optional.

As mentioned above, this will ultimately help end commercial fishing on the Central Coast of California

11. What potential environmental impacts do you have concerns about as they pertain to floating offshore wind development in state waters?

The following impacts are listed and described in Section 4 of the PEA. Check all that apply.

- ☑ Aesthetics
- ☑ Air Quality & Greenhouse Gas Emissions
- ☑ Biological Resources (Marine)
- ☑ Biological Resources (Terrestrial)

- [x] Cultural Resources
- [x] Energy, Utilities, & Service Systems
- [x] Geology, Soils, & Paleontological Resources
- [x] Hazards & Hazardous Materials
- [x] Hydrology, Water Quality, & Coastal Processes
- [x] Land Use and Planning
- [x] Noise
- [x] Population & Housing
- [x] Recreation
- [x] Transportation
- [ ] I have no concerns

12. Many of the aforementioned impacts can coalesce to create additional impacts that involve multiple key communities and ocean users. In addition to the impacts above, do you have concerns about any of the following as they pertain to floating offshore wind development in state waters?

Check all that apply.

- [x] Commercial & Recreational Fishing
- [x] Tribal Cultural Resources
- [x] Environmental Justice
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13. The PEA helped me better understand...

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Floating offshore wind technology	○	○	○
Potential benefits of floating offshore wind	○	○	○
Potential impacts of floating offshore wind	○	○	○
The public perception of floating offshore wind (from the stakeholder comments)	○	○	○
The approval and leasing process for development in CA state waters	○	○	○
The approval and leasing process for development in federal waters	○	○	○

Specific PEA Feedback

The following questions allow you to provide comments and feedback pertaining to specific PEA sections. All of the questions below are optional - you can leave some or all of them blank.

If you have no specific comments about the PEA, you can skip to the end of the form to submit.

14. Section 1: Purpose of Report

Please enter any comments you have on Section 1 of the PEA.

15. Section 2: Introduction

Please enter any comments you have on Section 2 of the PEA.

16. Section 3: Description of the Two Proposed Projects

Please enter any comments you have on Section 3 of the PEA.

17. Section 4: Assessment of Potential Environmental Impacts

Please enter any comments you have on Section 4 of the PEA.

18. Section 5: Commercial and Recreational Fishing, Tribal Consultation, and Environmental Justice

Please enter any comments you have on Section 5 of the PEA.

19. PROJECT ALTERNATIVES: In addition to the alternatives for the proposed projects described in Section 3 of the PEA, what other alternatives to the proposed projects would you recommend?

Comment Letter Submission Instructions

Thank you for completing this form! Your feedback is valuable and will help Commission staff with the evaluation of these projects.

If you would like to provide more detailed comments than is available on this form, you can email a comment letter to stateapplications.OSW@slc.ca.gov (mailto:stateapplications.OSW@slc.ca.gov) or mail to:

California State Lands Commission
Attention: Eric Gillies
100 Howe Ave., Suite 100-South
Sacramento, CA 95825-8202

The subject line (if submitting via email) should be titled "Vandenberg OSW Projects PEA Comments." When referencing the PEA in your comment letter, please include relevant PEA sections and page numbers. This will assist us in synthesizing all the feedback we receive.

APPENDIX G-5 – Labor Organization Comments

P: (626) 381-9248
F: (626) 389-5414
E: info@mitchtsailaw.com

Mitchell M. Tsai
Attorney At Law

139 South Hudson Avenue
Suite 200
Pasadena, California 91101

VIA E-MAIL

September 13, 2021

Eric Gillies, Assistant Chief
California State Lands Commission
100 Howe Ave., Suite 100-South
Sacramento, CA 95825-8202
Em: stateapplications.OSW@slc.ca.gov

RE: Vandenberg Offshore Wind Energy Projects (CIERCO CADEMO Offshore Wind Demonstration Project; IDEOL Vandenberg Air Force Base Pilot Project) – Comments on Draft Preliminary Environmental Assessment

Dear Eric Gillies,

On behalf of the Southwest Regional Council of Carpenters ("**Commenters**" or "**Southwest Carpenters**"), my Office is submitting these comments on the California State Lands Commission's ("**Commission**" or "**Lead Agency**") Draft Preliminary Environmental Assessment ("**PEA**") for the Vandenberg Offshore Wind Energy Projects (the CIERCO CADEMO Offshore Wind Demonstration Project and the IDEOL Vandenberg Air Force Base Pilot Project, collectively, "**Projects**").

The Southwest Carpenters is a labor union representing more than 50,000 union carpenters in six states, including California, and has a strong interest in well-ordered land use planning, addressing the environmental impacts of development projects and equitable economic development.

Individual members of the Southwest Carpenters live, work and recreate in the area and surrounding communities and would be directly affected by the Projects' environmental impacts.

Commenters expressly reserves the right to supplement these comments at or prior to hearings on the Projects, and at any later hearings and proceedings related to these Projects. Cal. Gov. Code § 65009(b); Cal. Pub. Res. Code § 21177(a); *Bakersfield Citizens*

for Local Control v. Bakersfield (2004) 124 Cal. App. 4th 1184, 1199-1203; see *Galante Vineyards v. Monterey Water Dist.* (1997) 60 Cal. App. 4th 1109, 1121.

Commenters incorporate by reference all comments raising issues regarding the Projects, including the PEA, submitted prior to certification of the respective Environmental Impact Reports ("**EIRs**") for the Projects. *Citizens for Clean Energy v City of Woodland* (2014) 225 Cal. App. 4th 173, 191 (finding that any party who has objected to the Project's environmental documentation may assert any issue timely raised by other parties).

Moreover, Commenters request that the Lead Agency provide notice for any and all notices referring or related to the Projects issued under the California Environmental Quality Act ("**CEQA**"), Cal Public Resources Code ("**PRC**") § 21000 *et seq*, and the California Planning and Zoning Law ("**Planning and Zoning Law**"), Cal. Gov't Code §§ 65000–65010. California Public Resources Code Sections 21092.2, and 21167(f) and Government Code Section 65092 require agencies to mail such notices to any person who has filed a written request for them with the clerk of the agency's governing body.

The Commission should require the Applicants to provide additional community benefits such as requiring local hire and use of a skilled and trained workforce to build the Projects. The Commission should require the use of workers who have graduated from a Joint Labor Management apprenticeship training program approved by the State of California, or have at least as many hours of on-the-job experience in the applicable craft which would be required to graduate from such a state approved apprenticeship training program or who are registered apprentices in an apprenticeship training program approved by the State of California.

Community benefits such as local hire and skilled and trained workforce requirements can also be helpful to reduce environmental impacts and improve the positive economic impact of the Projects. Local hire provisions requiring that a certain percentage of workers reside within 10 miles or less of the Project Sites can reduce the length of vendor trips, reduce greenhouse gas emissions and providing localized economic benefits. As environmental consultants Matt Hagemann and Paul E. Rosenfeld note:

> [A]ny local hire requirement that results in a decreased worker trip length from the default value has the potential to result in a reduction of

> construction-related GHG emissions, though the significance of the reduction would vary based on the location and urbanization level of the project site.

March 8, 2021 SWAPE Letter to Mitchell M. Tsai re Local Hire Requirements and Considerations for Greenhouse Gas Modeling.

Skilled and trained workforce requirements promote the development of skilled trades that yield sustainable economic development. As the California Workforce Development Board and the UC Berkeley Center for Labor Research and Education concluded:

> . . . labor should be considered an investment rather than a cost – and investments in growing, diversifying, and upskilling California's workforce can positively affect returns on climate mitigation efforts. In other words, well trained workers are key to delivering emissions reductions and moving California closer to its climate targets.[1]

Recently, on May 7, 2021, the South Coast Air Quality Management District found that that the "[u]se of a local state-certified apprenticeship program or a skilled and trained workforce with a local hire component" can result in air pollutant reductions.[2]

Cities are increasingly adopting local skilled and trained workforce policies and requirements into general plans and municipal codes. For example, the City of Hayward 2040 General Plan requires the City to "promote local hiring . . . to help achieve a more positive jobs-housing balance, and reduce regional commuting, gas consumption, and greenhouse gas emissions."[3]

In fact, the City of Hayward has gone as far as to adopt a Skilled Labor Force policy into its Downtown Specific Plan and municipal code, requiring developments in its

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[1] California Workforce Development Board (2020) Putting California on the High Road: A Jobs and Climate Action Plan for 2030 at p. ii, *available at* https://laborcenter.berkeley.edu/wp-content/uploads/2020/09/Putting-California-on-the-High-Road.pdf

[2] South Coast Air Quality Management District (May 7, 2021) Certify Final Environmental Assessment and Adopt Proposed Rule 2305 – Warehouse Indirect Source Rule – Warehouse Actions and Investments to Reduce Emissions Program, and Proposed Rule 316 – Fees for Rule 2305, Submit Rule 2305 for Inclusion Into the SIP, and Approve Supporting Budget Actions, *available at* http://www.aqmd.gov/docs/default-source/Agendas/Governing-Board/2021/2021-May7-027.pdf?sfvrsn=10

[3] City of Hayward (2014) Hayward 2040 General Plan Policy Document at p. 3-99, *available at* https://www.hayward-ca.gov/sites/default/files/documents/General_Plan_FINAL.pdf.

Downtown area to requiring that the City "[c]ontribute to the stabilization of regional construction markets by spurring applicants of housing and nonresidential developments to require contractors to utilize apprentices from state-approved, joint labor-management training programs, . . ."[4] In addition, the City of Hayward requires all projects 30,000 square feet or larger to "utilize apprentices from state-approved, joint labor-management training programs."[5]

Locating jobs closer to residential areas can have significant environmental benefits. As the California Planning Roundtable noted in 2008:

> People who live and work in the same jurisdiction would be more likely to take transit, walk, or bicycle to work than residents of less balanced communities and their vehicle trips would be shorter. Benefits would include potential reductions in both vehicle miles traveled and vehicle hours traveled.[6]

In addition, local hire mandates as well as skill training are critical facets of a strategy to reduce vehicle miles traveled. As planning experts Robert Cervero and Michael Duncan noted, simply placing jobs near housing stock is insufficient to achieve VMT reductions since the skill requirements of available local jobs must be matched to those held by local residents.[7] Some municipalities have tied local hire and skilled and trained workforce policies to local development permits to address transportation issues. As Cervero and Duncan note:

> In nearly built-out Berkeley, CA, the approach to balancing jobs and housing is to create local jobs rather than to develop new housing." The city's First Source program encourages businesses to hire local residents, especially for entry- and intermediate-level jobs, and sponsors vocational

---

[4] City of Hayward (2019) Hayward Downtown Specific Plan at p. 5-24, *available at* https://www.hayward-ca.gov/sites/default/files/Hayward%20Downtown%20Specific%20Plan.pdf.

[5] City of Hayward Municipal Code, Chapter 10, § 28.5.3.020(C).

[6] California Planning Roundtable (2008) Deconstructing Jobs-Housing Balance at p. 6, *available at* https://cproundtable.org/static/media/uploads/publications/cpr-jobs-housing.pdf

[7] Cervero, Robert and Duncan, Michael (2006) Which Reduces Vehicle Travel More: Jobs-Housing Balance or Retail-Housing Mixing? Journal of the American Planning Association 72 (4), 475-490, 482, *available at* http://reconnectingamerica.org/assets/Uploads/UTCT-825.pdf.

> training to ensure residents are employment-ready. While the program is voluntary, some 300 businesses have used it to date, placing more than 3,000 city residents in local jobs since it was launched in 1986. When needed, these carrots are matched by sticks, since the city is not shy about negotiating corporate participation in First Source as a condition of approval for development permits.

The Commission should consider utilizing skilled and trained workforce policies and requirements to benefit the local area economically and mitigate greenhouse gas, air quality and transportation impacts.

Also, the Commission should require the Projects to be built to standards exceeding the current 2019 California Green Building Code to mitigate the Projects' environmental impacts and to advance progress towards the State of California's environmental goals.

Commenters believe that local hire and skilled and trained workforce requirements are well-aligned with the Applicants' stated goals of "maximiz[ing] the potential opportunities and benefits to the local California supply chain and employment opportunities" (PEA, 2-5) and "[c]reat[ing] living-wage jobs for Californians." (PEA, 2-7).

I. THE CALIFORNIA ENVIRONMENTAL QUALITY ACT

A. Background Concerning the California Environmental Quality Act

CEQA has two basic purposes. First, CEQA is designed to inform decision makers and the public about the potential, significant environmental effects of a project. 14 California Code of Regulations ("**CCR**" or "**CEQA Guidelines**") § 15002(a)(1).[8] "Its purpose is to inform the public and its responsible officials of the environmental consequences of their decisions *before* they are made. Thus, the EIR 'protects not only the environment but also informed self-government.' [Citation.]" *Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal. 3d 553, 564. The EIR has been described as "an environmental 'alarm bell' whose purpose it is to alert the public and its

[8] The CEQA Guidelines, codified in Title 14 of the California Code of Regulations, section 150000 et seq, are regulatory guidelines promulgated by the state Natural Resources Agency for the implementation of CEQA. (Cal. Pub. Res. Code § 21083.) The CEQA Guidelines are given "great weight in interpreting CEQA except when . . . clearly unauthorized or erroneous." *Center for Biological Diversity v. Department of Fish & Wildlife* (2015) 62 Cal. 4th 204, 217.

responsible officials to environmental changes before they have reached ecological points of no return." *Berkeley Keep Jets Over the Bay v. Bd. of Port Comm'rs.* (2001) 91 Cal. App. 4th 1344, 1354 ("*Berkeley Jets")*; *County of Inyo v. Yorty* (1973) 32 Cal. App. 3d 795, 810.

Second, CEQA directs public agencies to avoid or reduce environmental damage when possible by requiring alternatives or mitigation measures. CEQA Guidelines § 15002(a)(2) and (3). *See also, Berkeley Jets,* 91 Cal. App. 4th 1344, 1354; *Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal. 3d 553; *Laurel Heights Improvement Ass'n v. Regents of the University of California* (1988) 47 Cal. 3d 376, 400. The EIR serves to provide public agencies and the public in general with information about the effect that a proposed project is likely to have on the environment and to "identify ways that environmental damage can be avoided or significantly reduced." CEQA Guidelines § 15002(a)(2). If the project has a significant effect on the environment, the agency may approve the project only upon finding that it has "eliminated or substantially lessened all significant effects on the environment where feasible" and that any unavoidable significant effects on the environment are "acceptable due to overriding concerns" specified in CEQA section 21081. CEQA Guidelines § 15092(b)(2)(A–B).

While the courts review an EIR using an "abuse of discretion" standard, "the reviewing court is not to 'uncritically rely on every study or analysis presented by a project proponent in support of its position.' A 'clearly inadequate or unsupported study is entitled to no judicial deference.'" *Berkeley Jets*, 91 Cal. App. 4th 1344, 1355 (emphasis added) (quoting *Laurel Heights,* 47 Cal. 3d at 391, 409 fn. 12). Drawing this line and determining whether the EIR complies with CEQA's information disclosure requirements presents a question of law subject to independent review by the courts. (*Sierra Club v. Cnty. of Fresno* (2018) 6 Cal. 5th 502, 515; *Madera Oversight Coalition, Inc. v. County of Madera* (2011) 199 Cal. App. 4th 48, 102, 131.) As the court stated in *Berkeley Jets*, 91 Cal. App. 4th at 1355:

> A prejudicial abuse of discretion occurs "if the failure to include relevant information precludes informed decision-making and informed public participation, thereby thwarting the statutory goals of the EIR process.

The preparation and circulation of an EIR is more than a set of technical hurdles for agencies and developers to overcome. The EIR's function is to ensure that government officials who decide to build or approve a project do so with a full understanding of the environmental consequences and, equally important, that the

public is assured those consequences have been considered. For the EIR to serve these goals it must present information so that the foreseeable impacts of pursuing the project can be understood and weighed, and the public must be given an adequate opportunity to comment on that presentation before the decision to go forward is made. *Communities for a Better Environment v. Richmond* (2010) 184 Cal. App. 4th 70, 80 (quoting *Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova* (2007) 40 Cal. 4th 412, 449–450).

B. Due to the COVID-19 Crisis, the City Must Adopt a Mandatory Finding of Significance that the Project May Cause a Substantial Adverse Effect on Human Beings and Mitigate COVID-19 Impacts

CEQA requires that an agency make a finding of significance when a project may cause a significant adverse effect on human beings. PRC § 21083(b)(3); CEQA Guidelines § 15065(a)(4).

Public health risks related to construction work requires a mandatory finding of significance under CEQA. Construction work has been defined as a Lower to High-risk activity for COVID-19 spread by the Occupations Safety and Health Administration. Recently, several construction sites have been identified as sources of community spread of COVID-19.[9]

SWRCC recommends that the Commission adopt additional CEQA mitigation measures to mitigate public health risks from the Project's construction activities. SWRCC requests that the Commission require safe on-site construction work practices as well as training and certification for any construction workers on the Project Site.

In particular, based upon SWRCC's experience with safe construction site work practices, SWRCC recommends that the Commission require that while construction activities are being conducted at the Project Sites:

Construction Site Design:

- The Project Sites will be limited to two controlled entry points.

[9] Santa Clara County Public Health (June 12, 2020) COVID-19 CASES AT CONSTRUCTION SITES HIGHLIGHT NEED FOR CONTINUED VIGILANCE IN SECTORS THAT HAVE REOPENED, *available at* https://www.sccgov.org/sites/covid19/Pages/press-release-06-12-2020-cases-at-construction-sites.aspx.

- Entry points will have temperature screening technicians taking temperature readings when the entry point is open.
- The Temperature Screening Site Plan shows details regarding access to the Project Sites and Project Site logistics for conducting temperature screening.
- A 48-hour advance notice will be provided to all trades prior to the first day of temperature screening.
- The perimeter fence directly adjacent to the entry points will be clearly marked indicating the appropriate 6-foot social distancing position for when you approach the screening area. Please reference the Apex temperature screening site map for additional details.
- There will be clear signage posted at the project site directing you through temperature screening.
- Provide hand washing stations throughout the construction site.

Testing Procedures:

- The temperature screening being used are non-contact devices.
- Temperature readings will not be recorded.
- Personnel will be screened upon entering the testing center and should only take 1-2 seconds per individual.
- Hard hats, head coverings, sweat, dirt, sunscreen or any other cosmetics must be removed on the forehead before temperature screening.
- Anyone who refuses to submit to a temperature screening or does not answer the health screening questions will be refused access to the Project Site.
- Screening will be performed at both entrances from 5:30 am to 7:30 am.; main gate [ZONE 1] and personnel gate [ZONE 2]

- After 7:30 am only the main gate entrance [ZONE 1] will continue to be used for temperature testing for anybody gaining entry to the project site such as returning personnel, deliveries, and visitors.
- If the digital thermometer displays a temperature reading above 100.0 degrees Fahrenheit, a second reading will be taken to verify an accurate reading.
- If the second reading confirms an elevated temperature, DHS will instruct the individual that he/she will not be allowed to enter the Project Site. DHS will also instruct the individual to promptly notify his/her supervisor and his/her human resources (HR) representative and provide them with a copy of Annex A.

Planning

- Require the development of an Infectious Disease Preparedness and Response Plan that will include basic infection prevention measures (requiring the use of personal protection equipment), policies and procedures for prompt identification and isolation of sick individuals, social distancing (prohibiting gatherings of no more than 10 people including all-hands meetings and all-hands lunches) communication and training and workplace controls that meet standards that may be promulgated by the Center for Disease Control, Occupational Safety and Health Administration, Cal/OSHA, California Department of Public Health or applicable local public health agencies.[10]

[10] *See also* The Center for Construction Research and Training, North America's Building Trades Unions (April 27 2020) NABTU and CPWR COVIC-19 Standards for U.S Constructions Sites, *available at* https://www.cpwr.com/sites/default/files/NABTU_CPWR_Standards_COVID-19.pdf; Los Angeles County Department of Public Works (2020) Guidelines for Construction Sites During COVID-19 Pandemic, *available at* https://dpw.lacounty.gov/building-and-safety/docs/pw_guidelines-construction-sites.pdf.

..

The United Brotherhood of Carpenters and Carpenters International Training Fund has developed COVID-19 Training and Certification to ensure that Carpenter union members and apprentices conduct safe work practices. The Agency should require that all construction workers undergo COVID-19 Training and Certification before being allowed to conduct construction activities at the Project Site.

SWRCC has also developed a rigorous Infection Control Risk Assessment ("**ICRA**") training program to ensure it delivers a workforce that understands how to identify and control infection risks by implementing protocols to protect themselves and all others during renovation and construction projects in healthcare environments.[11]

ICRA protocols are intended to contain pathogens, control airflow, and protect patients during the construction, maintenance and renovation of healthcare facilities. ICRA protocols prevent cross contamination, minimizing the risk of secondary infections in patients at hospital facilities.

The Commission should require the Projects to be built using a workforce trained in ICRA protocols.

If the Commission has any questions or concerns, feel free to contact my Office.

Sincerely,

Mitchell M. Tsai
Attorneys for Southwest Regional
Council of Carpenters

Attached:

March 8, 2021 SWAPE Letter to Mitchell M. Tsai re Local Hire Requirements and Considerations for Greenhouse Gas Modeling (Exhibit A);

Air Quality and GHG Expert Paul Rosenfeld CV (Exhibit B); and

Air Quality and GHG Expert Matt Hagemann CV (Exhibit C).

[11] For details concerning SWRCC's ICRA training program, *see* https://icrahealthcare.com/.

EXHIBIT A

SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment

2656 29th Street, Suite 201
Santa Monica, CA 90405

Matt Hagemann, P.G, C.Hg.
(949) 887-9013
mhagemann@swape.com

Paul E. Rosenfeld, PhD
(310) 795-2335
prosenfeld@swape.com

March 8, 2021

Mitchell M. Tsai
155 South El Molino, Suite 104
Pasadena, CA 91101

Subject: Local Hire Requirements and Considerations for Greenhouse Gas Modeling

Dear Mr. Tsai,

Soil Water Air Protection Enterprise ("SWAPE") is pleased to provide the following draft technical report explaining the significance of worker trips required for construction of land use development projects with respect to the estimation of greenhouse gas ("GHG") emissions. The report will also discuss the potential for local hire requirements to reduce the length of worker trips, and consequently, reduced or mitigate the potential GHG impacts.

Worker Trips and Greenhouse Gas Calculations

The California Emissions Estimator Model ("CalEEMod") is a "statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and greenhouse gas (GHG) emissions associated with both construction and operations from a variety of land use projects."[1] CalEEMod quantifies construction-related emissions associated with land use projects resulting from off-road construction equipment; on-road mobile equipment associated with workers, vendors, and hauling; fugitive dust associated with grading, demolition, truck loading, and on-road vehicles traveling along paved and unpaved roads; and architectural coating activities; and paving.[2]

The number, length, and vehicle class of worker trips are utilized by CalEEMod to calculate emissions associated with the on-road vehicle trips required to transport workers to and from the Project site during construction.[3]

[1] "California Emissions Estimator Model." CAPCOA, 2017, *available at:* http://www.aqmd.gov/caleemod/home.
[2] "California Emissions Estimator Model." CAPCOA, 2017, *available at:* http://www.aqmd.gov/caleemod/home.
[3] "CalEEMod User's Guide." CAPCOA, November 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4, p. 34.

Specifically, the number and length of vehicle trips is utilized to estimate the vehicle miles travelled ("VMT") associated with construction. Then, utilizing vehicle-class specific EMFAC 2014 emission factors, CalEEMod calculates the vehicle exhaust, evaporative, and dust emissions resulting from construction-related VMT, including personal vehicles for worker commuting.[4]

Specifically, in order to calculate VMT, CalEEMod multiplies the average daily trip rate by the average overall trip length (see excerpt below):

> "$VMT_d = \Sigma(\text{Average Daily Trip Rate}_i * \text{Average Overall Trip Length}_i)_n$
>
> Where:
>
> n = Number of land uses being modeled."[5]

Furthermore, to calculate the on-road emissions associated with worker trips, CalEEMod utilizes the following equation (see excerpt below):

> "$\text{Emissions}_{pollutant} = VMT * EF_{running,pollutant}$
>
> Where:
>
> $\text{Emissions}_{pollutant}$ = emissions from vehicle running for each pollutant
>
> VMT = vehicle miles traveled
>
> $EF_{running,pollutant}$ = emission factor for running emissions."[6]

Thus, there is a direct relationship between trip length and VMT, as well as a direct relationship between VMT and vehicle running emissions. In other words, when the trip length is increased, the VMT and vehicle running emissions increase as a result. Thus, vehicle running emissions can be reduced by decreasing the average overall trip length, by way of a local hire requirement or otherwise.

Default Worker Trip Parameters and Potential Local Hire Requirements

As previously discussed, the number, length, and vehicle class of worker trips are utilized by CalEEMod to calculate emissions associated with the on-road vehicle trips required to transport workers to and from the Project site during construction.[7] In order to understand how local hire requirements and associated worker trip length reductions impact GHG emissions calculations, it is important to consider the CalEEMod default worker trip parameters. CalEEMod provides recommended default values based on site-specific information, such as land use type, meteorological data, total lot acreage, project type and typical equipment associated with project type. If more specific project information is known, the user can change the default values and input project-specific values, but the California Environmental Quality Act ("CEQA") requires that such changes be justified by substantial evidence.[8] The default number of construction-related worker trips is calculated by multiplying the

[4] "Appendix A Calculation Details for CalEEMod." CAPCOA, October 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/02_appendix-a2016-3-2.pdf?sfvrsn=6, p. 14-15.
[5] "Appendix A Calculation Details for CalEEMod." CAPCOA, October 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/02_appendix-a2016-3-2.pdf?sfvrsn=6, p. 23.
[6] "Appendix A Calculation Details for CalEEMod." CAPCOA, October 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/02_appendix-a2016-3-2.pdf?sfvrsn=6, p. 15.
[7] "CalEEMod User's Guide." CAPCOA, November 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4, p. 34.
[8] CalEEMod User Guide, *available at:* http://www.caleemod.com/, p. 1, 9.

number of pieces of equipment for all phases by 1.25, with the exception of worker trips required for the building construction and architectural coating phases.[9] Furthermore, the worker trip vehicle class is a 50/25/25 percent mix of light duty autos, light duty truck class 1 and light duty truck class 2, respectively."[10] Finally, the default worker trip length is consistent with the length of the operational home-to-work vehicle trips.[11] The operational home-to-work vehicle trip lengths are:

> "[B]ased on the *location* and *urbanization* selected on the project characteristic screen. These values were *supplied by the air districts or use a default average for the state*. Each district (or county) also assigns trip lengths for urban and rural settings" (emphasis added). [12]

Thus, the default worker trip length is based on the location and urbanization level selected by the User when modeling emissions. The below table shows the CalEEMod default rural and urban worker trip lengths by air basin (see excerpt below and Attachment A).[13]

Worker Trip Length by Air Basin		
Air Basin	**Rural (miles)**	**Urban (miles)**
Great Basin Valleys	16.8	10.8
Lake County	16.8	10.8
Lake Tahoe	16.8	10.8
Mojave Desert	16.8	10.8
Mountain Counties	16.8	10.8
North Central Coast	17.1	12.3
North Coast	16.8	10.8
Northeast Plateau	16.8	10.8
Sacramento Valley	16.8	10.8
Salton Sea	14.6	11
San Diego	16.8	10.8
San Francisco Bay Area	10.8	10.8
San Joaquin Valley	16.8	10.8
South Central Coast	16.8	10.8
South Coast	19.8	14.7
Average	**16.47**	**11.17**
Minimum	**10.80**	**10.80**
Maximum	**19.80**	**14.70**
Range	**9.00**	**3.90**

[9] "CalEEMod User's Guide." CAPCOA, November 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4, p. 34.
[10] "Appendix A Calculation Details for CalEEMod." CAPCOA, October 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/02_appendix-a2016-3-2.pdf?sfvrsn=6, p. 15.
[11] "Appendix A Calculation Details for CalEEMod." CAPCOA, October 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/02_appendix-a2016-3-2.pdf?sfvrsn=6, p. 14.
[12] "Appendix A Calculation Details for CalEEMod." CAPCOA, October 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/02_appendix-a2016-3-2.pdf?sfvrsn=6, p. 21.
[13] "Appendix D Default Data Tables." CAPCOA, October 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/05_appendix-d2016-3-2.pdf?sfvrsn=4, p. D-84 – D-86.

As demonstrated above, default rural worker trip lengths for air basins in California vary from 10.8- to 19.8-miles, with an average of 16.47 miles. Furthermore, default urban worker trip lengths vary from 10.8- to 14.7-miles, with an average of 11.17 miles. Thus, while default worker trip lengths vary by location, default urban worker trip lengths tend to be shorter in length. Based on these trends evident in the CalEEMod default worker trip lengths, we can reasonably assume that the efficacy of a local hire requirement is especially dependent upon the urbanization of the project site, as well as the project location.

Practical Application of a Local Hire Requirement and Associated Impact

To provide an example of the potential impact of a local hire provision on construction-related GHG emissions, we estimated the significance of a local hire provision for the Village South Specific Plan ("Project") located in the City of Claremont ("City"). The Project proposed to construct 1,000 residential units, 100,000-SF of retail space, 45,000-SF of office space, as well as a 50-room hotel, on the 24-acre site. The Project location is classified as Urban and lies within the Los Angeles-South Coast County. As a result, the Project has a default worker trip length of 14.7 miles.[14] In an effort to evaluate the potential for a local hire provision to reduce the Project's construction-related GHG emissions, we prepared an updated model, reducing all worker trip lengths to 10 miles (see Attachment B). Our analysis estimates that if a local hire provision with a 10-mile radius were to be implemented, the GHG emissions associated with Project construction would decrease by approximately 17% (see table below and Attachment C).

Local Hire Provision Net Change	
Without Local Hire Provision	
Total Construction GHG Emissions (MT CO_2e)	3,623
Amortized Construction GHG Emissions (MT CO_2e/year)	120.77
With Local Hire Provision	
Total Construction GHG Emissions (MT CO2e)	3,024
Amortized Construction GHG Emissions (MT CO_2e/year)	100.80
% Decrease in Construction-related GHG Emissions	***17%***

As demonstrated above, by implementing a local hire provision requiring 10 mile worker trip lengths, the Project could reduce potential GHG emissions associated with construction worker trips. More broadly, any local hire requirement that results in a decreased worker trip length from the default value has the potential to result in a reduction of construction-related GHG emissions, though the significance of the reduction would vary based on the location and urbanization level of the project site.

This serves as an example of the potential impacts of local hire requirements on estimated project-level GHG emissions, though it does not indicate that local hire requirements would result in reduced construction-related GHG emission for all projects. As previously described, the significance of a local hire requirement depends on the worker trip length enforced and the default worker trip length for the project's urbanization level and location.

[14] "Appendix D Default Data Tables." CAPCOA, October 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/05_appendix-d2016-3-2.pdf?sfvrsn=4, p. D-85.

Disclaimer

SWAPE has received limited discovery. Additional information may become available in the future; thus, we retain the right to revise or amend this report when additional information becomes available. Our professional services have been performed using that degree of care and skill ordinarily exercised, under similar circumstances, by reputable environmental consultants practicing in this or similar localities at the time of service. No other warranty, expressed or implied, is made as to the scope of work, work methodologies and protocols, site conditions, analytical testing results, and findings presented. This report reflects efforts which were limited to information that was reasonably accessible at the time of the work, and may contain informational gaps, inconsistencies, or otherwise be incomplete due to the unavailability or uncertainty of information obtained or provided by third parties.

Sincerely,

Matt Hagemann, P.G., C.Hg.

Paul E. Rosenfeld, Ph.D.

EXHIBIT B

SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment

SOIL WATER AIR PROTECTION ENTERPRISE
2656 29th Street, Suite 201
Santa Monica, California 90405
Attn: Paul Rosenfeld, Ph.D.
Mobil: (310) 795-2335
Office: (310) 452-5555
Fax: (310) 452-5550
Email: prosenfeld@swape.com

Paul Rosenfeld, Ph.D.

Chemical Fate and Transport & Air Dispersion Modeling

Principal Environmental Chemist

Risk Assessment & Remediation Specialist

Education

Ph.D. Soil Chemistry, University of Washington, 1999. Dissertation on volatile organic compound filtration.

M.S. Environmental Science, U.C. Berkeley, 1995. Thesis on organic waste economics.

B.A. Environmental Studies, U.C. Santa Barbara, 1991. Thesis on wastewater treatment.

Professional Experience

Dr. Rosenfeld has over 25 years' experience conducting environmental investigations and risk assessments for evaluating impacts to human health, property, and ecological receptors. His expertise focuses on the fate and transport of environmental contaminants, human health risk, exposure assessment, and ecological restoration. Dr. Rosenfeld has evaluated and modeled emissions from unconventional oil drilling operations, oil spills, landfills, boilers and incinerators, process stacks, storage tanks, confined animal feeding operations, and many other industrial and agricultural sources. His project experience ranges from monitoring and modeling of pollution sources to evaluating impacts of pollution on workers at industrial facilities and residents in surrounding communities.

Dr. Rosenfeld has investigated and designed remediation programs and risk assessments for contaminated sites containing lead, heavy metals, mold, bacteria, particulate matter, petroleum hydrocarbons, chlorinated solvents, pesticides, radioactive waste, dioxins and furans, semi- and volatile organic compounds, PCBs, PAHs, perchlorate, asbestos, per- and poly-fluoroalkyl substances (PFOA/PFOS), unusual polymers, fuel oxygenates (MTBE), among other pollutants. Dr. Rosenfeld also has experience evaluating greenhouse gas emissions from various projects and is an expert on the assessment of odors from industrial and agricultural sites, as well as the evaluation of odor nuisance impacts and technologies for abatement of odorous emissions. As a principal scientist at SWAPE, Dr. Rosenfeld directs air dispersion modeling and exposure assessments. He has served as an expert witness and testified about pollution sources causing nuisance and/or personal injury at dozens of sites and has testified as an expert witness on more than ten cases involving exposure to air contaminants from industrial sources.

Professional History:

Soil Water Air Protection Enterprise (SWAPE); 2003 to present; Principal and Founding Partner
UCLA School of Public Health; 2007 to 2011; Lecturer (Assistant Researcher)
UCLA School of Public Health; 2003 to 2006; Adjunct Professor
UCLA Environmental Science and Engineering Program; 2002-2004; Doctoral Intern Coordinator
UCLA Institute of the Environment, 2001-2002; Research Associate
Komex H_2O Science, 2001 to 2003; Senior Remediation Scientist
National Groundwater Association, 2002-2004; Lecturer
San Diego State University, 1999-2001; Adjunct Professor
Anteon Corp., San Diego, 2000-2001; Remediation Project Manager
Ogden (now Amec), San Diego, 2000-2000; Remediation Project Manager
Bechtel, San Diego, California, 1999 – 2000; Risk Assessor
King County, Seattle, 1996 – 1999; Scientist
James River Corp., Washington, 1995-96; Scientist
Big Creek Lumber, Davenport, California, 1995; Scientist
Plumas Corp., California and USFS, Tahoe 1993-1995; Scientist
Peace Corps and World Wildlife Fund, St. Kitts, West Indies, 1991-1993; Scientist

Publications:

Remy, L.L., Clay T., Byers, V., **Rosenfeld P. E.** (2019) Hospital, Health, and Community Burden After Oil Refinery Fires, Richmond, California 2007 and 2012. *Environmental Health.* 18:48

Simons, R.A., Seo, Y. **Rosenfeld, P**., (2015) Modeling the Effect of Refinery Emission On Residential Property Value. Journal of Real Estate Research. 27(3):321-342

Chen, J. A, Zapata A. R., Sutherland A. J., Molmen, D.R., Chow, B. S., Wu, L. E., **Rosenfeld, P. E.,** Hesse, R. C., (2012) Sulfur Dioxide and Volatile Organic Compound Exposure To A Community In Texas City Texas Evaluated Using Aermod and Empirical Data. *American Journal of Environmental Science*, 8(6), 622-632.

Rosenfeld, P.E. & Feng, L. (2011). *The Risks of Hazardous Waste.* Amsterdam: Elsevier Publishing.

Cheremisinoff, N.P., & **Rosenfeld, P.E.** (2011). *Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Agrochemical Industry*, Amsterdam: Elsevier Publishing.

Gonzalez, J., Feng, L., Sutherland, A., Waller, C., Sok, H., Hesse, R., **Rosenfeld, P.** (2010). PCBs and Dioxins/Furans in Attic Dust Collected Near Former PCB Production and Secondary Copper Facilities in Sauget, IL. *Procedia Environmental Sciences*. 113–125.

Feng, L., Wu, C., Tam, L., Sutherland, A.J., Clark, J.J., **Rosenfeld, P.E.** (2010). Dioxin and Furan Blood Lipid and Attic Dust Concentrations in Populations Living Near Four Wood Treatment Facilities in the United States. *Journal of Environmental Health*. 73(6), 34-46.

Cheremisinoff, N.P., & **Rosenfeld, P.E.** (2010). *Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Wood and Paper Industries.* Amsterdam: Elsevier Publishing.

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Wu, C., Tam, L., Clark, J., **Rosenfeld, P**. (2009). Dioxin and furan blood lipid concentrations in populations living near four wood treatment facilities in the United States. *WIT Transactions on Ecology and the Environment, Air Pollution,* 123 (17), 319-327.

Tam L. K.., Wu C. D., Clark J. J. and **Rosenfeld, P.E.** (2008). A Statistical Analysis Of Attic Dust And Blood Lipid Concentrations Of Tetrachloro-p-Dibenzodioxin (TCDD) Toxicity Equivalency Quotients (TEQ) In Two Populations Near Wood Treatment Facilities. *Organohalogen Compounds*, 70, 002252-002255.

Tam L. K.., Wu C. D., Clark J. J. and **Rosenfeld, P.E.** (2008). Methods For Collect Samples For Assessing Dioxins And Other Environmental Contaminants In Attic Dust: A Review. *Organohalogen Compounds*, 70, 000527-000530.

Hensley, A.R. A. Scott, J. J. J. Clark, **Rosenfeld, P.E.** (2007). Attic Dust and Human Blood Samples Collected near a Former Wood Treatment Facility. *Environmental Research*. 105, 194-197.

Rosenfeld, P.E., J. J. J. Clark, A. R. Hensley, M. Suffet. (2007). The Use of an Odor Wheel Classification for Evaluation of Human Health Risk Criteria for Compost Facilities. *Water Science & Technology* 55(5), 345-357.

Rosenfeld, P. E., M. Suffet. (2007). The Anatomy Of Odour Wheels For Odours Of Drinking Water, Wastewater, Compost And The Urban Environment. *Water Science & Technology* 55(5), 335-344.

Sullivan, P. J. Clark, J.J.J., Agardy, F. J., **Rosenfeld, P.E.** (2007). *Toxic Legacy, Synthetic Toxins in the Food, Water, and Air in American Cities.* Boston Massachusetts: Elsevier Publishing

Rosenfeld, P.E., and Suffet I.H. (2004). Control of Compost Odor Using High Carbon Wood Ash. *Water Science and Technology*. 49(9),171-178.

Rosenfeld P. E., J.J. Clark, I.H. (Mel) Suffet (2004). The Value of An Odor-Quality-Wheel Classification Scheme For The Urban Environment. *Water Environment Federation's Technical Exhibition and Conference (WEFTEC) 2004*. New Orleans, October 2-6, 2004.

Rosenfeld, P.E., and Suffet, I.H. (2004). Understanding Odorants Associated With Compost, Biomass Facilities, and the Land Application of Biosolids. *Water Science and Technology*. 49(9), 193-199.

Rosenfeld, P.E., and Suffet I.H. (2004). Control of Compost Odor Using High Carbon Wood Ash, *Water Science and Technology*, 49(9), 171-178.

Rosenfeld, P. E., Grey, M. A., Sellew, P. (2004). Measurement of Biosolids Odor and Odorant Emissions from Windrows, Static Pile and Biofilter. *Water Environment Research*. 76(4), 310-315.

Rosenfeld, P.E., Grey, M and Suffet, M. (2002). Compost Demonstration Project, Sacramento California Using High-Carbon Wood Ash to Control Odor at a Green Materials Composting Facility. *Integrated Waste Management Board Public Affairs Office*, Publications Clearinghouse (MS–6), Sacramento, CA Publication #442-02-008.

Rosenfeld, P.E., and C.L. Henry. (2001). Characterization of odor emissions from three different biosolids. *Water Soil and Air Pollution*. 127(1-4), 173-191.

Rosenfeld, P.E., and Henry C. L., (2000). Wood ash control of odor emissions from biosolids application. *Journal of Environmental Quality.* 29, 1662-1668.

Rosenfeld, P.E., C.L. Henry and D. Bennett. (2001). Wastewater dewatering polymer affect on biosolids odor emissions and microbial activity. *Water Environment Research*. 73(4), 363-367.

Rosenfeld, P.E., and C.L. Henry. (2001). Activated Carbon and Wood Ash Sorption of Wastewater, Compost, and Biosolids Odorants. *Water Environment Research*, 73, 388-393.

Rosenfeld, P.E., and Henry C. L., (2001). High carbon wood ash effect on biosolids microbial activity and odor. *Water Environment Research*. 131(1-4), 247-262.

Chollack, T. and **P. Rosenfeld. (**1998). Compost Amendment Handbook For Landscaping. Prepared for and distributed by the City of Redmond, Washington State.

Rosenfeld, P. E. (1992). The Mount Liamuiga Crater Trail. *Heritage Magazine of St. Kitts*, 3(2).

Rosenfeld, P. E. (1993). High School Biogas Project to Prevent Deforestation On St. Kitts. *Biomass Users Network*, 7(1).

Rosenfeld, P. E. (1998). Characterization, Quantification, and Control of Odor Emissions From Biosolids Application To Forest Soil. Doctoral Thesis. University of Washington College of Forest Resources.

Rosenfeld, P. E. (1994). Potential Utilization of Small Diameter Trees on Sierra County Public Land. Masters thesis reprinted by the Sierra County Economic Council. Sierra County, California.

Rosenfeld, P. E. (1991). How to Build a Small Rural Anaerobic Digester & Uses Of Biogas In The First And Third World. Bachelors Thesis. University of California.

Presentations:

Rosenfeld, P.E., Sutherland, A; Hesse, R.; Zapata, A. (October 3-6, 2013). Air dispersion modeling of volatile organic emissions from multiple natural gas wells in Decatur, TX. *44th Western Regional Meeting, American Chemical Society.* Lecture conducted from Santa Clara, CA.

Sok, H.L.; Waller, C.C.; Feng, L.; Gonzalez, J.; Sutherland, A.J.; Wisdom-Stack, T.; Sahai, R.K.; Hesse, R.C.; **Rosenfeld, P.E.** (June 20-23, 2010). Atrazine: A Persistent Pesticide in Urban Drinking Water. *Urban Environmental Pollution*. Lecture conducted from Boston, MA.

Feng, L.; Gonzalez, J.; Sok, H.L.; Sutherland, A.J.; Waller, C.C.; Wisdom-Stack, T.; Sahai, R.K.; La, M.; Hesse, R.C.; **Rosenfeld, P.E.** (June 20-23, 2010). Bringing Environmental Justice to East St. Louis, Illinois. *Urban Environmental Pollution.* Lecture conducted from Boston, MA.

Rosenfeld, P.E. (April 19-23, 2009). Perfluoroctanoic Acid (PFOA) and Perfluoroactane Sulfonate (PFOS) Contamination in Drinking Water From the Use of Aqueous Film Forming Foams (AFFF) at Airports in the United States. *2009 Ground Water Summit and 2009 Ground Water Protection Council Spring Meeting*, Lecture conducted from Tuscon, AZ.

Rosenfeld, P.E. (April 19-23, 2009). Cost to Filter Atrazine Contamination from Drinking Water in the United States" Contamination in Drinking Water From the Use of Aqueous Film Forming Foams (AFFF) at Airports in the United States. *2009 Ground Water Summit and 2009 Ground Water Protection Council Spring Meeting*. Lecture conducted from Tuscon, AZ.

Wu, C., Tam, L., Clark, J., **Rosenfeld, P**. (20-22 July, 2009). Dioxin and furan blood lipid concentrations in populations living near four wood treatment facilities in the United States. Brebbia, C.A. and Popov, V., eds., *Air Pollution XVII: Proceedings of the Seventeenth International Conference on Modeling, Monitoring and Management of Air Pollution*. Lecture conducted from Tallinn, Estonia.

Rosenfeld, P. E. (October 15-18, 2007). Moss Point Community Exposure To Contaminants From A Releasing Facility. *The 23rd Annual International Conferences on Soils Sediment and Water.* Platform lecture conducted from University of Massachusetts, Amherst MA.

Rosenfeld, P. E. (October 15-18, 2007). The Repeated Trespass of Tritium-Contaminated Water Into A Surrounding Community Form Repeated Waste Spills From A Nuclear Power Plant. *The 23rd Annual International Conferences on Soils Sediment and Water*. Platform lecture conducted from University of Massachusetts, Amherst MA.

Rosenfeld, P. E. (October 15-18, 2007). Somerville Community Exposure To Contaminants From Wood Treatment Facility Emissions. The *23rd Annual International Conferences on Soils Sediment and Water*. Lecture conducted from University of Massachusetts, Amherst MA.

Rosenfeld P. E. (March 2007). Production, Chemical Properties, Toxicology, & Treatment Case Studies of 1,2,3-Trichloropropane (TCP). *The Association for Environmental Health and Sciences (AEHS) Annual Meeting*. Lecture conducted from San Diego, CA.

Rosenfeld P. E. (March 2007). Blood and Attic Sampling for Dioxin/Furan, PAH, and Metal Exposure in Florala, Alabama. *The AEHS Annual Meeting.* Lecture conducted from San Diego, CA.

Hensley A.R., Scott, A., **Rosenfeld P.E.,** Clark, J.J.J. (August 21 – 25, 2006). Dioxin Containing Attic Dust And Human Blood Samples Collected Near A Former Wood Treatment Facility. *The 26th International Symposium on Halogenated Persistent Organic Pollutants – DIOXIN2006*. Lecture conducted from Radisson SAS Scandinavia Hotel in Oslo Norway.

Hensley A.R., Scott, A., **Rosenfeld P.E.,** Clark, J.J.J. (November 4-8, 2006). Dioxin Containing Attic Dust And Human Blood Samples Collected Near A Former Wood Treatment Facility. *APHA 134 Annual Meeting & Exposition.* Lecture conducted from Boston Massachusetts.

Paul Rosenfeld Ph.D. (October 24-25, 2005). Fate, Transport and Persistence of PFOA and Related Chemicals. Mealey's C8/PFOA. *Science, Risk & Litigation Conference.* Lecture conducted from The Rittenhouse Hotel, Philadelphia, PA.

Paul Rosenfeld Ph.D. (September 19, 2005). Brominated Flame Retardants in Groundwater: Pathways to Human Ingestion, *Toxicology and Remediation PEMA Emerging Contaminant Conference*. Lecture conducted from Hilton Hotel, Irvine California.

Paul Rosenfeld Ph.D. (September 19, 2005). Fate, Transport, Toxicity, And Persistence of 1,2,3-TCP. *PEMA Emerging Contaminant Conference.* Lecture conducted from Hilton Hotel in Irvine, California.

Paul Rosenfeld Ph.D. (September 26-27, 2005). Fate, Transport and Persistence of PDBEs. *Mealey's Groundwater Conference.* Lecture conducted from Ritz Carlton Hotel, Marina Del Ray, California.

Paul Rosenfeld Ph.D. (June 7-8, 2005). Fate, Transport and Persistence of PFOA and Related Chemicals. *International Society of Environmental Forensics: Focus On Emerging Contaminants*. Lecture conducted from Sheraton Oceanfront Hotel, Virginia Beach, Virginia.

Paul Rosenfeld Ph.D. (July 21-22, 2005). Fate Transport, Persistence and Toxicology of PFOA and Related Perfluorochemicals. *2005 National Groundwater Association Ground Water And Environmental Law Conference*. Lecture conducted from Wyndham Baltimore Inner Harbor, Baltimore Maryland.

Paul Rosenfeld Ph.D. (July 21-22, 2005). Brominated Flame Retardants in Groundwater: Pathways to Human Ingestion, Toxicology and Remediation. *2005 National Groundwater Association Ground Water and Environmental Law Conference.* Lecture conducted from Wyndham Baltimore Inner Harbor, Baltimore Maryland.

Paul Rosenfeld, Ph.D. and James Clark Ph.D. and Rob Hesse R.G. (May 5-6, 2004). Tert-butyl Alcohol Liability and Toxicology, A National Problem and Unquantified Liability. *National Groundwater Association. Environmental Law Conference*. Lecture conducted from Congress Plaza Hotel, Chicago Illinois.

Paul Rosenfeld, Ph.D. (March 2004). Perchlorate Toxicology. *Meeting of the American Groundwater Trust*. Lecture conducted from Phoenix Arizona.

Hagemann, M.F., **Paul Rosenfeld, Ph.D.** and Rob Hesse (2004). Perchlorate Contamination of the Colorado River. *Meeting of tribal representatives*. Lecture conducted from Parker, AZ.

Paul Rosenfeld, Ph.D. (April 7, 2004). A National Damage Assessment Model For PCE and Dry Cleaners. *Drycleaner Symposium. California Ground Water Association*. Lecture conducted from Radison Hotel, Sacramento, California.

Rosenfeld, P. E., Grey, M., (June 2003) Two stage biofilter for biosolids composting odor control. *Seventh International In Situ And On Site Bioremediation Symposium Battelle Conference* Orlando, FL.

Paul Rosenfeld, Ph.D. and James Clark Ph.D. (February 20-21, 2003) Understanding Historical Use, Chemical Properties, Toxicity and Regulatory Guidance of 1,4 Dioxane. *National Groundwater Association. Southwest Focus Conference. Water Supply and Emerging Contaminants*.. Lecture conducted from Hyatt Regency Phoenix Arizona.

Paul Rosenfeld, Ph.D. (February 6-7, 2003). Underground Storage Tank Litigation and Remediation. *California CUPA Forum*. Lecture conducted from Marriott Hotel, Anaheim California.

Paul Rosenfeld, Ph.D. (October 23, 2002) Underground Storage Tank Litigation and Remediation. *EPA Underground Storage Tank Roundtable*. Lecture conducted from Sacramento California.

Rosenfeld, P.E. and Suffet, M. (October 7- 10, 2002). Understanding Odor from Compost, *Wastewater and Industrial Processes. Sixth Annual Symposium On Off Flavors in the Aquatic Environment. International Water Association*. Lecture conducted from Barcelona Spain.

Rosenfeld, P.E. and Suffet, M. (October 7- 10, 2002). Using High Carbon Wood Ash to Control Compost Odor. *Sixth Annual Symposium On Off Flavors in the Aquatic Environment. International Water Association*. Lecture conducted from Barcelona Spain.

Rosenfeld, P.E. and Grey, M. A. (September 22-24, 2002). Biocycle Composting For Coastal Sage Restoration. *Northwest Biosolids Management Association*. Lecture conducted from Vancouver Washington..

Rosenfeld, P.E. and Grey, M. A. (November 11-14, 2002). Using High-Carbon Wood Ash to Control Odor at a Green Materials Composting Facility. *Soil Science Society Annual Conferenc*e. Lecture conducted from Indianapolis, Maryland.

Rosenfeld. P.E. (September 16, 2000). Two stage biofilter for biosolids composting odor control. *Water Environment Federation.* Lecture conducted from Anaheim California.

Rosenfeld. P.E. (October 16, 2000). Wood ash and biofilter control of compost odor. *Biofest.* Lecture conducted from Ocean Shores, California.

Rosenfeld, P.E. (2000). Bioremediation Using Organic Soil Amendments. *California Resource Recovery Association*. Lecture conducted from Sacramento California.

Rosenfeld, P.E., C.L. Henry, R. Harrison. (1998). Oat and Grass Seed Germination and Nitrogen and Sulfur Emissions Following Biosolids Incorporation With High-Carbon Wood-Ash. *Water Environment Federation 12th Annual Residuals and Biosolids Management Conference Proceedings*. Lecture conducted from Bellevue Washington.

Rosenfeld, P.E., and C.L. Henry. (1999). An evaluation of ash incorporation with biosolids for odor reduction. *Soil Science Society of America*. Lecture conducted from Salt Lake City Utah.

Rosenfeld, P.E., C.L. Henry, R. Harrison. (1998). Comparison of Microbial Activity and Odor Emissions from Three Different Biosolids Applied to Forest Soil. *Brown and Caldwell.* Lecture conducted from Seattle Washington.

Rosenfeld, P.E., C.L. Henry. (1998). Characterization, Quantification, and Control of Odor Emissions from Biosolids Application To Forest Soil. *Biofest.* Lecture conducted from Lake Chelan, Washington.

Rosenfeld, P.E, C.L. Henry, R. Harrison. (1998). Oat and Grass Seed Germination and Nitrogen and Sulfur Emissions Following Biosolids Incorporation With High-Carbon Wood-Ash. Water Environment Federation 12th Annual Residuals and Biosolids Management Conference Proceedings. Lecture conducted from Bellevue Washington.

Rosenfeld, P.E., C.L. Henry, R. B. Harrison, and R. Dills. (1997). Comparison of Odor Emissions From Three Different Biosolids Applied to Forest Soil. *Soil Science Society of America*. Lecture conducted from Anaheim California.

Teaching Experience:

UCLA Department of Environmental Health (Summer 2003 through 20010) Taught Environmental Health Science 100 to students, including undergrad, medical doctors, public health professionals and nurses. Course focused on the health effects of environmental contaminants.

National Ground Water Association, Successful Remediation Technologies. Custom Course in Sante Fe, New Mexico. May 21, 2002. Focused on fate and transport of fuel contaminants associated with underground storage tanks.

National Ground Water Association; Successful Remediation Technologies Course in Chicago Illinois. April 1, 2002. Focused on fate and transport of contaminants associated with Superfund and RCRA sites.

California Integrated Waste Management Board, April and May, 2001. Alternative Landfill Caps Seminar in San Diego, Ventura, and San Francisco. Focused on both prescriptive and innovative landfill cover design.

UCLA Department of Environmental Engineering, February 5, 2002. Seminar on Successful Remediation Technologies focusing on Groundwater Remediation.

University Of Washington, Soil Science Program, Teaching Assistant for several courses including: Soil Chemistry, Organic Soil Amendments, and Soil Stability.

U.C. Berkeley, Environmental Science Program Teaching Assistant for Environmental Science 10.

Academic Grants Awarded:

California Integrated Waste Management Board. $41,000 grant awarded to UCLA Institute of the Environment. Goal: To investigate effect of high carbon wood ash on volatile organic emissions from compost. 2001.

Synagro Technologies, Corona California: $10,000 grant awarded to San Diego State University.
Goal: investigate effect of biosolids for restoration and remediation of degraded coastal sage soils. 2000.

King County, Department of Research and Technology, Washington State. $100,000 grant awarded to University of Washington: Goal: To investigate odor emissions from biosolids application and the effect of polymers and ash on VOC emissions. 1998.

Northwest Biosolids Management Association, Washington State. $20,000 grant awarded to investigate effect of polymers and ash on VOC emissions from biosolids. 1997.

James River Corporation, Oregon: $10,000 grant was awarded to investigate the success of genetically engineered Poplar trees with resistance to round-up. 1996.

United State Forest Service, Tahoe National Forest: $15,000 grant was awarded to investigating fire ecology of the Tahoe National Forest. 1995.

Kellogg Foundation, Washington D.C. $500 grant was awarded to construct a large anaerobic digester on St. Kitts in West Indies. 1993

Deposition and/or Trial Testimony:

In the United States District Court For The District of New Jersey
Duarte et al, *Plaintiffs,* vs. United States Metals Refining Company et. al. *Defendant.*
Case No.: 2:17-cv-01624-ES-SCM
Rosenfeld Deposition. 6-7-2019

In the United States District Court of Southern District of Texas Galveston Division
M/T Carla Maersk, *Plaintiffs,* vs. Conti 168., Schiffahrts-GMBH & Co. Bulker KG MS "Conti Perdido" *Defendant.*
Case No.: 3:15-CV-00106 consolidated with 3:15-CV-00237
Rosenfeld Deposition. 5-9-2019

In The Superior Court of the State of California In And For The County Of Los Angeles – Santa Monica
Carole-Taddeo-Bates et al., vs. Ifran Khan et al., Defendants
Case No.: No. BC615636
Rosenfeld Deposition, 1-26-2019

In The Superior Court of the State of California In And For The County Of Los Angeles – Santa Monica
The San Gabriel Valley Council of Governments et al. vs El Adobe Apts. Inc. et al., Defendants
Case No.: No. BC646857
Rosenfeld Deposition, 10-6-2018; Trial 3-7-19

In United States District Court For The District of Colorado
Bells et al. Plaintiff vs. The 3M Company et al., Defendants
Case: No 1:16-cv-02531-RBJ
Rosenfeld Deposition, 3-15-2018 and 4-3-2018

In The District Court Of Regan County, Texas, 112th Judicial District
Phillip Bales et al., Plaintiff vs. Dow Agrosciences, LLC, et al., Defendants
Cause No 1923
Rosenfeld Deposition, 11-17-2017

In The Superior Court of the State of California In And For The County Of Contra Costa
Simons et al., Plaintiffs vs. Chevron Corporation, et al., Defendants
Cause No C12-01481
Rosenfeld Deposition, 11-20-2017

In The Circuit Court Of The Twentieth Judicial Circuit, St Clair County, Illinois
Martha Custer et al., Plaintiff vs. Cerro Flow Products, Inc., Defendants
Case No.: No. 0i9-L-2295
Rosenfeld Deposition, 8-23-2017

In The Superior Court of the State of California, For The County of Los Angeles
Warrn Gilbert and Penny Gilber, Plaintiff vs. BMW of North America LLC
Case No.: LC102019 (c/w BC582154)
Rosenfeld Deposition, 8-16-2017, Trail 8-28-2018

In the Northern District Court of Mississippi, Greenville Division
Brenda J. Cooper, et al., *Plaintiffs,* vs. Meritor Inc., et al., *Defendants*
Case Number: 4:16-cv-52-DMB-JVM
Rosenfeld Deposition: July 2017

In The Superior Court of the State of Washington, County of Snohomish
Michael Davis and Julie Davis et al., Plaintiff vs. Cedar Grove Composting Inc., Defendants
Case No.: No. 13-2-03987-5
Rosenfeld Deposition, February 2017
Trial, March 2017

In The Superior Court of the State of California, County of Alameda
Charles Spain., Plaintiff vs. Thermo Fisher Scientific, et al., Defendants
Case No.: RG14711115
Rosenfeld Deposition, September 2015

In The Iowa District Court In And For Poweshiek County
Russell D. Winburn, et al., Plaintiffs vs. Doug Hoksbergen, et al., Defendants
Case No.: LALA002187
Rosenfeld Deposition, August 2015

In The Iowa District Court For Wapello County
Jerry Dovico, et al., Plaintiffs vs. Valley View Sine LLC, et al., Defendants
Law No,: LALA105144 - Division A
Rosenfeld Deposition, August 2015

In The Iowa District Court For Wapello County
Doug Pauls, et al.,, et al., Plaintiffs vs. Richard Warren, et al., Defendants
Law No,: LALA105144 - Division A
Rosenfeld Deposition, August 2015

In The Circuit Court of Ohio County, West Virginia
Robert Andrews, et al. v. Antero, et al.
Civil Action N0. 14-C-30000
Rosenfeld Deposition, June 2015

In The Third Judicial District County of Dona Ana, New Mexico
Betty Gonzalez, et al. Plaintiffs vs. Del Oro Dairy, Del Oro Real Estate LLC, Jerry Settles and Deward DeRuyter, Defendants
Rosenfeld Deposition: July 2015

In The Iowa District Court For Muscatine County
Laurie Freeman et. al. Plaintiffs vs. Grain Processing Corporation, Defendant
Case No 4980
Rosenfeld Deposition: May 2015

In the Circuit Court of the 17th Judicial Circuit, in and For Broward County, Florida
Walter Hinton, et. al. Plaintiff, vs. City of Fort Lauderdale, Florida, a Municipality, Defendant.
Case Number CACE07030358 (26)
Rosenfeld Deposition: December 2014

In the United States District Court Western District of Oklahoma
Tommy McCarty, et al., Plaintiffs, v. Oklahoma City Landfill, LLC d/b/a Southeast Oklahoma City Landfill, et al. Defendants.
Case No. 5:12-cv-01152-C
Rosenfeld Deposition: July 2014

In the County Court of Dallas County Texas
Lisa Parr et al, *Plaintiff*, vs. Aruba et al, *Defendant.*
Case Number cc-11-01650-E
Rosenfeld Deposition: March and September 2013
Rosenfeld Trial: April 2014

In the Court of Common Pleas of Tuscarawas County Ohio
John Michael Abicht, et al., *Plaintiffs,* vs. Republic Services, Inc., et al., *Defendants*
Case Number: 2008 CT 10 0741 (Cons. w/ 2009 CV 10 0987)
Rosenfeld Deposition: October 2012

In the United States District Court of Southern District of Texas Galveston Division
Kyle Cannon, Eugene Donovan, Genaro Ramirez, Carol Sassler, and Harvey Walton, each Individually and on behalf of those similarly situated, *Plaintiffs,* vs. BP Products North America, Inc., *Defendant.*
Case 3:10-cv-00622
Rosenfeld Deposition: February 2012
Rosenfeld Trial: April 2013

In the Circuit Court of Baltimore County Maryland
Philip E. Cvach, II et al., *Plaintiffs* vs. Two Farms, Inc. d/b/a Royal Farms, Defendants
Case Number: 03-C-12-012487 OT
Rosenfeld Deposition: September 2013

EXHIBIT C

SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment

1640 5th St.., Suite 204 Santa
Santa Monica, California 90401
Tel: (949) 887-9013
Email: mhagemann@swape.com

Matthew F. Hagemann, P.G., C.Hg., QSD, QSP

Geologic and Hydrogeologic Characterization
Industrial Stormwater Compliance
Investigation and Remediation Strategies
Litigation Support and Testifying Expert
CEQA Review

Education:

M.S. Degree, Geology, California State University Los Angeles, Los Angeles, CA, 1984.
B.A. Degree, Geology, Humboldt State University, Arcata, CA, 1982.

Professional Certifications:

California Professional Geologist
California Certified Hydrogeologist
Qualified SWPPP Developer and Practitioner

Professional Experience:

Matt has 25 years of experience in environmental policy, assessment and remediation. He spent nine years with the U.S. EPA in the RCRA and Superfund programs and served as EPA's Senior Science Policy Advisor in the Western Regional Office where he identified emerging threats to groundwater from perchlorate and MTBE. While with EPA, Matt also served as a Senior Hydrogeologist in the oversight of the assessment of seven major military facilities undergoing base closure. He led numerous enforcement actions under provisions of the Resource Conservation and Recovery Act (RCRA) while also working with permit holders to improve hydrogeologic characterization and water quality monitoring.

Matt has worked closely with U.S. EPA legal counsel and the technical staff of several states in the application and enforcement of RCRA, Safe Drinking Water Act and Clean Water Act regulations. Matt has trained the technical staff in the States of California, Hawaii, Nevada, Arizona and the Territory of Guam in the conduct of investigations, groundwater fundamentals, and sampling techniques.

Positions Matt has held include:

- Founding Partner, Soil/Water/Air Protection Enterprise (SWAPE) (2003 – present);
- Geology Instructor, Golden West College, 2010 – 2014;
- Senior Environmental Analyst, Komex H2O Science, Inc. (2000 -- 2003);

- Executive Director, Orange Coast Watch (2001 – 2004);
- Senior Science Policy Advisor and Hydrogeologist, U.S. Environmental Protection Agency (1989–1998);
- Hydrogeologist, National Park Service, Water Resources Division (1998 – 2000);
- Adjunct Faculty Member, San Francisco State University, Department of Geosciences (1993 – 1998);
- Instructor, College of Marin, Department of Science (1990 – 1995);
- Geologist, U.S. Forest Service (1986 – 1998); and
- Geologist, Dames & Moore (1984 – 1986).

Senior Regulatory and Litigation Support Analyst:

With SWAPE, Matt's responsibilities have included:

- Lead analyst and testifying expert in the review of over 100 environmental impact reports since 2003 under CEQA that identify significant issues with regard to hazardous waste, water resources, water quality, air quality, Valley Fever, greenhouse gas emissions, and geologic hazards. Make recommendations for additional mitigation measures to lead agencies at the local and county level to include additional characterization of health risks and implementation of protective measures to reduce worker exposure to hazards from toxins and Valley Fever.
- Stormwater analysis, sampling and best management practice evaluation at industrial facilities.
- Manager of a project to provide technical assistance to a community adjacent to a former Naval shipyard under a grant from the U.S. EPA.
- Technical assistance and litigation support for vapor intrusion concerns.
- Lead analyst and testifying expert in the review of environmental issues in license applications for large solar power plants before the California Energy Commission.
- Manager of a project to evaluate numerous formerly used military sites in the western U.S.
- Manager of a comprehensive evaluation of potential sources of perchlorate contamination in Southern California drinking water wells.
- Manager and designated expert for litigation support under provisions of Proposition 65 in the review of releases of gasoline to sources drinking water at major refineries and hundreds of gas stations throughout California.
- Expert witness on two cases involving MTBE litigation.
- Expert witness and litigation support on the impact of air toxins and hazards at a school.
- Expert witness in litigation at a former plywood plant.

With Komex H2O Science Inc., Matt's duties included the following:

- Senior author of a report on the extent of perchlorate contamination that was used in testimony by the former U.S. EPA Administrator and General Counsel.
- Senior researcher in the development of a comprehensive, electronically interactive chronology of MTBE use, research, and regulation.
- Senior researcher in the development of a comprehensive, electronically interactive chronology of perchlorate use, research, and regulation.
- Senior researcher in a study that estimates nationwide costs for MTBE remediation and drinking water treatment, results of which were published in newspapers nationwide and in testimony against provisions of an energy bill that would limit liability for oil companies.
- Research to support litigation to restore drinking water supplies that have been contaminated by MTBE in California and New York.

- Expert witness testimony in a case of oil production-related contamination in Mississippi.
- Lead author for a multi-volume remedial investigation report for an operating school in Los Angeles that met strict regulatory requirements and rigorous deadlines.

- Development of strategic approaches for cleanup of contaminated sites in consultation with clients and regulators.

Executive Director:

As Executive Director with Orange Coast Watch, Matt led efforts to restore water quality at Orange County beaches from multiple sources of contamination including urban runoff and the discharge of wastewater. In reporting to a Board of Directors that included representatives from leading Orange County universities and businesses, Matt prepared issue papers in the areas of treatment and disinfection of wastewater and control of the discharge of grease to sewer systems. Matt actively participated in the development of countywide water quality permits for the control of urban runoff and permits for the discharge of wastewater. Matt worked with other nonprofits to protect and restore water quality, including Surfrider, Natural Resources Defense Council and Orange County CoastKeeper as well as with business institutions including the Orange County Business Council.

Hydrogeology:

As a Senior Hydrogeologist with the U.S. Environmental Protection Agency, Matt led investigations to characterize and cleanup closing military bases, including Mare Island Naval Shipyard, Hunters Point Naval Shipyard, Treasure Island Naval Station, Alameda Naval Station, Moffett Field, Mather Army Airfield, and Sacramento Army Depot. Specific activities were as follows:

- Led efforts to model groundwater flow and contaminant transport, ensured adequacy of monitoring networks, and assessed cleanup alternatives for contaminated sediment, soil, and groundwater.
- Initiated a regional program for evaluation of groundwater sampling practices and laboratory analysis at military bases.
- Identified emerging issues, wrote technical guidance, and assisted in policy and regulation development through work on four national U.S. EPA workgroups, including the Superfund Groundwater Technical Forum and the Federal Facilities Forum.

At the request of the State of Hawaii, Matt developed a methodology to determine the vulnerability of groundwater to contamination on the islands of Maui and Oahu. He used analytical models and a GIS to show zones of vulnerability, and the results were adopted and published by the State of Hawaii and County of Maui.

As a hydrogeologist with the EPA Groundwater Protection Section, Matt worked with provisions of the Safe Drinking Water Act and NEPA to prevent drinking water contamination. Specific activities included the following:

- Received an EPA Bronze Medal for his contribution to the development of national guidance for the protection of drinking water.
- Managed the Sole Source Aquifer Program and protected the drinking water of two communities through designation under the Safe Drinking Water Act. He prepared geologic reports, conducted public hearings, and responded to public comments from residents who were very concerned about the impact of designation.

- Reviewed a number of Environmental Impact Statements for planned major developments, including large hazardous and solid waste disposal facilities, mine reclamation, and water transfer.

Matt served as a hydrogeologist with the RCRA Hazardous Waste program. Duties were as follows:

- Supervised the hydrogeologic investigation of hazardous waste sites to determine compliance with Subtitle C requirements.
- Reviewed and wrote "part B" permits for the disposal of hazardous waste.
- Conducted RCRA Corrective Action investigations of waste sites and led inspections that formed the basis for significant enforcement actions that were developed in close coordination with U.S. EPA legal counsel.
- Wrote contract specifications and supervised contractor's investigations of waste sites.

With the National Park Service, Matt directed service-wide investigations of contaminant sources to prevent degradation of water quality, including the following tasks:

- Applied pertinent laws and regulations including CERCLA, RCRA, NEPA, NRDA, and the Clean Water Act to control military, mining, and landfill contaminants.
- Conducted watershed-scale investigations of contaminants at parks, including Yellowstone and Olympic National Park.
- Identified high-levels of perchlorate in soil adjacent to a national park in New Mexico and advised park superintendent on appropriate response actions under CERCLA.
- Served as a Park Service representative on the Interagency Perchlorate Steering Committee, a national workgroup.
- Developed a program to conduct environmental compliance audits of all National Parks while serving on a national workgroup.
- Co-authored two papers on the potential for water contamination from the operation of personal watercraft and snowmobiles, these papers serving as the basis for the development of nation-wide policy on the use of these vehicles in National Parks.
- Contributed to the Federal Multi-Agency Source Water Agreement under the Clean Water Action Plan.

Policy:

Served senior management as the Senior Science Policy Advisor with the U.S. Environmental Protection Agency, Region 9. Activities included the following:

- Advised the Regional Administrator and senior management on emerging issues such as the potential for the gasoline additive MTBE and ammonium perchlorate to contaminate drinking water supplies.
- Shaped EPA's national response to these threats by serving on workgroups and by contributing to guidance, including the Office of Research and Development publication, Oxygenates in Water: Critical Information and Research Needs.
- Improved the technical training of EPA's scientific and engineering staff.
- Earned an EPA Bronze Medal for representing the region's 300 scientists and engineers in negotiations with the Administrator and senior management to better integrate scientific principles into the policy-making process.
- Established national protocol for the peer review of scientific documents.

Geology:

With the U.S. Forest Service, Matt led investigations to determine hillslope stability of areas proposed for timber harvest in the central Oregon Coast Range. Specific activities were as follows:

- Mapped geology in the field, and used aerial photographic interpretation and mathematical models to determine slope stability.
- Coordinated his research with community members who were concerned with natural resource protection.
- Characterized the geology of an aquifer that serves as the sole source of drinking water for the city of Medford, Oregon.

As a consultant with Dames and Moore, Matt led geologic investigations of two contaminated sites (later listed on the Superfund NPL) in the Portland, Oregon, area and a large hazardous waste site in eastern Oregon. Duties included the following:

- Supervised year-long effort for soil and groundwater sampling.
- Conducted aquifer tests.
- Investigated active faults beneath sites proposed for hazardous waste disposal.

Teaching:

From 1990 to 1998, Matt taught at least one course per semester at the community college and university levels:

- At San Francisco State University, held an adjunct faculty position and taught courses in environmental geology, oceanography (lab and lecture), hydrogeology, and groundwater contamination.
- Served as a committee member for graduate and undergraduate students.
- Taught courses in environmental geology and oceanography at the College of Marin.

Matt taught physical geology (lecture and lab and introductory geology at Golden West College in Huntington Beach, California from 2010 to 2014.

Invited Testimony, Reports, Papers and Presentations:

Hagemann, M.F., 2008. Disclosure of Hazardous Waste Issues under CEQA. Presentation to the Public Environmental Law Conference, Eugene, Oregon.

Hagemann, M.F., 2008. Disclosure of Hazardous Waste Issues under CEQA. Invited presentation to U.S. EPA Region 9, San Francisco, California.

Hagemann, M.F., 2005. Use of Electronic Databases in Environmental Regulation, Policy Making and Public Participation. Brownfields 2005, Denver, Coloradao.

Hagemann, M.F., 2004. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in Nevada and the Southwestern U.S. Presentation to a meeting of the American Groundwater Trust, Las Vegas, NV (served on conference organizing committee).

Hagemann, M.F., 2004. Invited testimony to a California Senate committee hearing on air toxins at schools in Southern California, Los Angeles.

Brown, A., Farrow, J., Gray, A. and **Hagemann, M.**, 2004. An Estimate of Costs to Address MTBE Releases from Underground Storage Tanks and the Resulting Impact to Drinking Water Wells. Presentation to the Ground Water and Environmental Law Conference, National Groundwater Association.

Hagemann, M.F., 2004. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in Arizona and the Southwestern U.S. Presentation to a meeting of the American Groundwater Trust, Phoenix, AZ (served on conference organizing committee).

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in the Southwestern U.S. Invited presentation to a special committee meeting of the National Academy of Sciences, Irvine, CA.

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River. Invited presentation to a tribal EPA meeting, Pechanga, CA.

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River. Invited presentation to a meeting of tribal repesentatives, Parker, AZ.

Hagemann, M.F., 2003. Impact of Perchlorate on the Colorado River and Associated Drinking Water Supplies. Invited presentation to the Inter-Tribal Meeting, Torres Martinez Tribe.

Hagemann, M.F., 2003. The Emergence of Perchlorate as a Widespread Drinking Water Contaminant. Invited presentation to the U.S. EPA Region 9.

Hagemann, M.F., 2003. A Deductive Approach to the Assessment of Perchlorate Contamination. Invited presentation to the California Assembly Natural Resources Committee.

Hagemann, M.F., 2003. Perchlorate: A Cold War Legacy in Drinking Water. Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. From Tank to Tap: A Chronology of MTBE in Groundwater. Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. A Chronology of MTBE in Groundwater and an Estimate of Costs to Address Impacts to Groundwater. Presentation to the annual meeting of the Society of Environmental Journalists.

Hagemann, M.F., 2002. An Estimate of the Cost to Address MTBE Contamination in Groundwater (and Who Will Pay). Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. An Estimate of Costs to Address MTBE Releases from Underground Storage Tanks and the Resulting Impact to Drinking Water Wells. Presentation to a meeting of the U.S. EPA and State Underground Storage Tank Program managers.

Hagemann, M.F., 2001. From Tank to Tap: A Chronology of MTBE in Groundwater. Unpublished report.

Hagemann, M.F., 2001. Estimated Cleanup Cost for MTBE in Groundwater Used as Drinking Water. Unpublished report.

Hagemann, M.F., 2001. Estimated Costs to Address MTBE Releases from Leaking Underground Storage Tanks. Unpublished report.

Hagemann, M.F., and VanMouwerik, M., 1999. Potential Water Quality Concerns Related to Snowmobile Usage. Water Resources Division, National Park Service, Technical Report.

VanMouwerik, M. and **Hagemann, M.F**. 1999, Water Quality Concerns Related to Personal Watercraft Usage. Water Resources Division, National Park Service, Technical Report.

Hagemann, M.F., 1999, Is Dilution the Solution to Pollution in National Parks? The George Wright Society Biannual Meeting, Asheville, North Carolina.

Hagemann, M.F., 1997, The Potential for MTBE to Contaminate Groundwater. U.S. EPA Superfund Groundwater Technical Forum Annual Meeting, Las Vegas, Nevada.

Hagemann, M.F., and Gill, M., 1996, Impediments to Intrinsic Remediation, Moffett Field Naval Air Station, Conference on Intrinsic Remediation of Chlorinated Hydrocarbons, Salt Lake City.

Hagemann, M.F., Fukunaga, G.L., 1996, The Vulnerability of Groundwater to Anthropogenic Contaminants on the Island of Maui, Hawaii. Hawaii Water Works Association Annual Meeting, Maui, October 1996.

Hagemann, M. F., Fukanaga, G. L., 1996, Ranking Groundwater Vulnerability in Central Oahu, Hawaii. Proceedings, Geographic Information Systems in Environmental Resources Management, Air and Waste Management Association Publication VIP-61.

Hagemann, M.F., 1994. Groundwater Characterization and Cleanup at Closing Military Bases in California. Proceedings, California Groundwater Resources Association Meeting.

Hagemann, M.F. and Sabol, M.A., 1993. Role of the U.S. EPA in the High Plains States Groundwater Recharge Demonstration Program. Proceedings, Sixth Biennial Symposium on the Artificial Recharge of Groundwater.

Hagemann, M.F., 1993. U.S. EPA Policy on the Technical Impracticability of the Cleanup of DNAPL-contaminated Groundwater. California Groundwater Resources Association Meeting.

Hagemann, M.F., 1992. Dense Nonaqueous Phase Liquid Contamination of Groundwater: An Ounce of Prevention... Proceedings, Association of Engineering Geologists Annual Meeting, v. 35.

Other Experience:

Selected as subject matter expert for the California Professional Geologist licensing examination, 2009-2011.

APPENDIX G-6 – Individuals Comments

Coastal Coordination Program

September 12, 2021

Ms. Jennifer Lucchesi
Executive Officer
Attn: Mr. Eric Gillies
California State Lands Commission
100 Howe Avenue, Suite 110-South
Sacramento, CA 95825-8202

Re: Vandenberg OSW Projects PEA comments

Submitted via email to: stateapplications.OSW@slc.ca.gov

Dear Ms. Lucchesi:

Thank you for this opportunity to provide these comments in response to California State Land's (CSLC) request related to a draft Preliminary Environmental Assessment (PEA) affecting the state waters offshore Vandenberg AFB by CADEMO Corporation (CADEMO) and IDEOL USA (IDEOL).

Coastal Industrialization:

There is no question that both of the proposed CADEMO and IDEOL projects will each require a full Environmental Impact Report (EIR) with full public input at all stages.

The requisite future EIR must identify the nature and extent of the state land or resource involved, the level of compensation for use and occupation, the level and scope of CEQA compliance, and whether or not the anticipated use is consistent with State Lands Commission policy, practice, or procedure; is conducive to public access; is consistent with environmental safeguards and state policies; and is otherwise in the state's best interests.

The floating offshore wind array installations and supporting infrastructure being proposed would industrialize an important shoreline segment of California's fragile coastline near Pt. Arugello, impacting viewsheds, land use, subsea habitat, and both commercial and recreational fishing activities in major ways. Vandenberg State Marine Reserve and Point Conception State Marine Reserve lie well within project impact proximity. The task now emergent before your agency is to avoid impacts wherever possible, to minimize impacts in instances where they cannot be avoided, and to fully

mitigate those effects that cannot be avoided or minimized. Compensatory mitigation should be evaluated to address the loss of viewsheds, prime fishing grounds, and other irreplaceable values, for interference with cetacean migratory pathways, and for what will likely be substantial damage to important seabird species, many of them already under stress due to climate change. The project footprints lie within Essential Fish Habitat (EFH) and are close to rocky reef and kelp canopy Habitat Areas of Particular Concern (HAPC) sites. Kelp is of particular concern as climate change and purple urchin barrens decimate former rich kelp beds along parts of the California coast.

A "least conflict" siting process will be necessary to accommodate OSW and inevitably, such an approach would direct such activities further from shore. It would appear that if these two projects are to be considered "proof of concept" models for the more extensive federal OSW projects near Morro Bay and off of Humboldt County, that a testbed located further offshore and in deeper water would make more sense and be more likely to provide relevant and transferable lessons. An analysis of lease conflict areas needs to be completed by CSLC and accepted by fishing community representatives, Tribes, and credentialed independent academics with proper expertise in the impacted bird species and the other space-use risk factors at risk, including potential hazards to personnel and turbines from falling Vandenberg launch debris as part of the requisite EIR.

Floating wind turbines require a complex web of large-diameter steel cables extending downward to permanent seafloor anchors. At sea, along the Pacific Coast, floating electrical substations and the accompanying subsea electrical transmission cables can be expected to introduce unshielded electromagnetic fields, in addition to stray electrical currents in the water column, under normal operational conditions. The CADEMO and IDEOL projects plan to rely on shallow seafloor cable burial depths, which are likely insufficient in this location's high-energy marine environment. The customary migratory routes of the Pacific gray whale overlap with proposed Vandenberg offshore floating wind lease tract areas now being evaluated by your agency, and there is little prior peer-reviewed science addressing the impacts of construction or operational noise, electromagnetic fields, or a gridwork of electrical and anchor cables on this species. All elements of both proposed OSW projects must comply with the Marine Mammal Protection Act (MMPA).

Jeopardy to Seabirds:

Offshore wind turbines, as proposed, have the potential to be hazardous to particular species of seabirds, including the ashy storm petrel, which has proven to exhibit an often-fatal attraction to nighttime lighting on offshore oil rigs and similar structures, while offshore wind arrays also appear to pose a similar survival threat to particular subspecies of shearwaters. For shearwaters, climate-induced modifications in ocean conditions can arbitrarily alter the location of important marine food sources, and therefore their critical habitat locations can be unpredictably ephemeral. Three-

dimensional distribution studies of seabirds and their relative risk from OSW turbine arrays should not ignore the threat posed by lighting issues for sensitive species. The proposed Vandenberg wind lease tracts appear to be of particular concern with regard to shearwaters. Please enter into the record the following studies on this topic, see https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0110114
See also
https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0110114#pone.0110114-Bourgeois1
See also
https://scholar.google.com/scholar?q=Effects+of+artificial+lights+and+moonlight+on+petrels+at+St+Kilda+Miles+2010
and also
https://scholar.google.com/scholar?q=Light-induced+mortality+of+petrels%3A+a+4-year+study+from+Réunion+Island+%28Indian+Ocean%29+Le+Corre+2002

Turbine rotor diameters have grown bigger as more advanced blade technology has developed to now sweep a very large circumference. This growth of the size of the area swept by the rotors, and related design modifications in blade profile, is claimed by some to lessen part of the excessive avian blade collision mortality experienced throughout the early onshore windfarms where raptors, in particular, have often been associated with terrestrial turbine collision casualties. Precautionary science may be able to help to mitigate some of the more obvious adverse wind turbine impacts to marine mammals and seabirds, which means that your agency must ensure that the relevant studies in various disciplines are duly conducted in order to design appropriate mitigation measures. Compliance of all OSW project elements with the federal Migratory Bird Treaty Act (MTBA) should be assured.

Sensitive Marine Areas:

The consideration of onshore transmission and power distribution facilities of necessity will require more information regarding California state waters as well as about terrestrial locations subject to siting of OSW-related onshore facilities. As noted above, two California State Marine Protected Areas (MPA's) lie within the impact zones of the proposed activities. Protected waters should be identified in the EIR with suggestions for mitigation measures that could be provided by the state or its lessees that have proven to be effective in similar ecosystem contexts elsewhere. There should be efforts on behalf of your agency to conduct a spatial analysis of the affected region, on which the agency would be able to reliably base a tradeoff analysis. An open Request for Proposals (RFP) for all necessary science activities in support of OSW off of Vandenberg AFB must be carried out by the state to secure objective science, with a focus on engaging established state academic institutions as reliably unbiased vendors.

Scientific Data Gaps:

Key data is now missing upon which your agency would need to base the necessary rational objective evaluation of the environmental-costs vs. economic benefits analyses of the anticipated introduction of floating offshore wind leases. With so much of the ecological and economic well-being of this sensitive coastal region at stake, your agency needs to ensure full transparency and unbiased objectivity in its OSW science.

Some of the important data gaps are listed below, and these and any other outstanding unresolved questions must be fully addressed in the pending EIRs prior to the conduct of any OSW lease sale by your agency:

1) Little study has been forthcoming about the overarching seabird and marine mammal impacts of electrical cables, anchor systems, and turbine arrays anticipated to be constructed and deployed in the Pacific Current Marine Ecosystem.

2) Essential baseline data on seabird population numbers, spatial distribution, and avian use of the waters offshore Vandenberg, particularly by shearwaters, is lacking.

3) Accurate mapping of cetacean migratory patterns through and nearby the target areas has not been done and will be needed before the state considers the award of any leases, due to associated impacts of geophysical survey noise and operational turbine seismic signatures. The physical complexity and potential spatial obstacles to cetacean migration posed by anthropogenic sound in combination with the physical barriers posed by the proposed cable arrays and floating wind energy devices will require a thorough evaluation in the EIR.

4) No sufficiently detailed high-resolution understanding of where commercial fishing activity occurs exists for the affected areas nor for surrounding waters, thereby illustrating the need for a comprehensive survey of commercial fishing industry stakeholders using established socioeconomic approaches, including the gathering of tract-by-tract, catch-per-unit-effort data.

5) Fish aggregation characteristics for the types of structures anticipated in and around the targeted Vandenberg waters are virtually unknown and will need to be documented.

6) The role of offshore structures, such as floating wind devices, in attracting and/or serving as a migratory pathway mechanism for marine invasive species, including harmful invasive biofilms commonly known to colonize ferrous metallic surfaces, has not been studied. Associated biofouling of the floating devices and cables will need close monitoring as this technology is introduced to California’s waters, and experience in similar water temperatures elsewhere could potentially help to define the necessary monitoring and mitigation programs.

7) CSLC should require the preparation of comprehensive oil spill trajectory modeling and cleanup plans and an assessment of the potential for any accidental spill or discharge event that may occur in, or in transit to, the planned OSW lease areas then be transported on the seasonal currents to “enter and injure” existing National Marine Sanctuary waters or other sensitive resources. OSW service vessels powered exclusively by either electricity or by LNG should be considered, to alleviate some of the oil spill concerns associated with wind and sea conditions in the proposed OSW lease areas.

8) The EIR should address prior seafloor cable array issues associated with the Half Moon Bay ATOC-Pioneer Seamount Submarine Cable deployment at https://montereybay.noaa.gov/research/techreports/trkogan2003a.html This is a situation where a range of seafloor cable impacts have been studied and subsequent deferred decommissioning of the ATOC infrastructure had to be undertaken at substantial public expense. Studies suggesting appropriate mitigations and decommissioning plans for eventual removal of the proposed extensive seafloor wind cable array and anchoring deployment associated with the CSLC project areas near Pt. Arguello will need to be included in the EIS.

9) Heritage viewsheds will be impacted by deployment of wind turbine arrays of increasingly large rotor diameters in the Vandenberg area, therefore the topic of visual intrusion needs detailed analysis. Computer-generated visual simulations of turbine arrays viewed from blufftops and beach-level vantage points in this region should not be idealized with Photoshop or similar image manipulation, but instead must depict the real-world post-OSW implementation viewshed from visual perspectives both inside the boundaries of Vandenberg AFB, and from adjacent communities to the north and south of the base.

10) Little study has been done on the impacts of electromagnetic fields on benthic and marine life from seafloor and suspended mid-water electrical transmission cables, floating power stations, large anchors, and seafloor cable arrays, and it is incumbent on industry and the agencies to gather this data.

11) Scientific studies are lacking for subsea high-capacity connective “plug-and-play” power cables that have the known potential to create stray electrical currents in the water column, particularly when in disconnect mode, with unknown impacts on marine life.

12) Existing and projected vessel traffic density, routes, and prospective ports for the affected areas needs to be determined and potential mitigations evaluated in any leasing decisions.

13) Tests to evaluate the tensile strength of the seabed to determine whether it is strong enough at any given point to support planned infrastructure should be done early in the process, so that lease planning does not get ahead of site-specific feasibility analysis.

14) The CSLC EIR should address the cumulative impacts of the current state waters OSW proposal in combination with the BOEM Morro Bay OSW federal lease area activities.

Remaining Unanswered Questions:

The take-home message from these observed data gaps is that the construction and operation of wind installations will need to be carefully mitigated in order to avoid an unacceptable level of harm to wildlife, since the science thus far indicates that poorly-planned commercial wind energy generation arrays will otherwise threaten certain seabirds, as well as posing a hazard to various other ocean species, including marine mammals.

While the California State Lands Commission will clearly have full jurisdictional authority at any point where subsea power cables are routed within three miles of the shoreline. If there are project-associated situations where both state and federal waters are impacted by any OSW project element, cumulative impacts should be carefully evaluated in the EIR.

Onshore support facilities for the construction and maintenance of California's offshore wind arrays and associated cable landfalls will also need careful planning in concert with coastal local governments and with the California Coastal Commission, as will decisions about how and where subsea cable landfalls to onshore electrical substations are to be permitted and installed.

Enforceable Decommissioning Plans:

Regarding windfarm decommissioning in state waters, eventual OSW wind array site abandonment or equipment and cable recovery will involve engineering challenges associated with removal of seafloor cables and anchoring systems, since the floating wind turbine vessels are moveable and can theoretically be towed away and scrapped, recycled, or repurposed. Bonding may be needed to make certain that full decommissioning really will take place as required.

Many of the vessels and much of the equipment on which floating wind energy devices will be built for use in Pacific Coast waters are manufactured by, and the operational and maintenance supply chain emanates from, major oil companies within the conventional offshore petroleum industry. Legal constraints on the CSLC OSW lease contracts would be needed to ensure that any access to subsea state lands to be conveyed to the wind industry cannot be construed in such a way as to evolve over time, or even to be ever eventually amendable, into an OSW data-gathering entry point for any future rights to state waters to accommodate conventional offshore oil and gas drilling in the same or nearby locations. The longstanding underlying motive on the part of the petroleum interests in eventually gaining oil and gas drilling access to this particular region remains high.

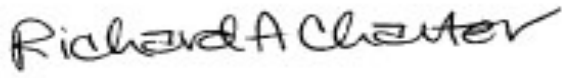
Precedents:

Regulatory precedents and safety standards now being set by the OSW industry will ultimately establish societal, technical, and safety parameters for this new industry and thus must fully prioritize avoiding impacts to California's environment from the earliest planning stages.

The state is obligated under the law to act in the interest of wildlife and ocean health as it opens any portion of the California coast to the offshore wind industry, purportedly in response to climate concerns and public policy priorities for reducing carbon emissions, see https://www.integratedecosystemassessment.noaa.gov/regions/california-current. In this context, it is clear that nature-based solutions that will benefit both wildlife and the public interest will require the proper mitigations based on peer-reviewed objective science. OSW wind activities at Pt. Arguello or anywhere off the California coast should fully comply with the principles and priorities advanced in "America the Beautiful" promulgated by the Biden Administration in E.O.14008 as well as with California Governor Gavin Newsom's "30-x30" order N-82-20 described at https://www.gov.ca.gov/2020/10/07/governor-newsom-launches-innovative-strategies-resilience/.

Thank you for this opportunity to provide these comments on the proposed Vandenberg Offshore Wind proposal draft PEA and the need for full EIRs for each proposed project.

Sincerely,



Richard A. Charter
Coastal Coordination Program
Box 583
Bodega Bay, CA 94923
waterway@monitor.net

FW: Offshore Wind Preliminary Environmental Assessment Survey and Feedback Form

stateapplications OSW@SLC <stateapplications.OSW@slc.ca.gov>
Wed 9/8/2021 3:57 PM
To: McInnis, Margarita@SLC <Margarita.McInnis@slc.ca.gov>

From: Andrew Rasmussen <tshark7@cox.net>
Sent: Monday, August 30, 2021 6:38 PM
To: stateapplications OSW@SLC <stateapplications.OSW@slc.ca.gov>
Subject: Re: Offshore Wind Preliminary Environmental Assessment Survey and Feedback Form

Bad idea best soulution is natural gas or nuclear MUCH MORE reliable AND Affordable

Sent from my iPhone

> On Aug 26, 2021, at 12:44 PM, California State Lands Commission Offshore Wind <stateapplications.osw@slc.ca.gov> wrote:

View this email in your browser

California STATE LANDS Commission

REMINDER TO PROVIDE FEEDBACK ON THE PRELIMINARY ENVIRONMENTAL ASSESSMENT

The California State Lands Commission (CSLC) released the Preliminary Environmental Assessment (PEA) for the proposed Vandenberg Offshore Wind Projects on Friday July 16, 2021, and the 60-day public review period ends September 13, 2021. CSLC staff has created a feedback form to widen the public's options for providing feedback. In addition to providing space for comments on the PEA, the form includes a short survey on offshore wind development in California and we encourage you to share your thoughts by

taking the survey. Commenters can still provide comment via email as described in the earlier notice, by using the feedback form, or both.

If you would like to use the feedback form to provide comments on the PEA, please click on the button below! A link to the feedback form is also available on our website.

PEA Survey and Feedback Form

All comments, via the feedback form or a comment letter, need to be received **by 5:00 PM Monday, September 13, 2021,** to stateapplications.OSW@slc.ca.gov or mailed to:

California State Lands Commission
Attention: Eric Gillies
100 Howe Ave., Suite 100-South
Sacramento, CA 95825-8202

If you have any questions on providing feedback on the PEA, contact stateapplications.OSW@slc.ca.gov.

Subject: FW: Offshore windfarms
Date: Tuesday, September 14, 2021 at 8:13:49 AM Pacific Daylight Time
From: stateapplications OSW@SLC
To: Gillies, Eric@SLC, Dobroski, Nicole@SLC, McInnis, Margarita@SLC, Mattox, Jennifer@SLC, Abedi, Jalal@SLC, Ramos, Jason@SLC, Foster, Kenneth@SLC, Huber, Patrick@SLC, Ramirez, Yessica@SLC, Wong, Joo_Chai@SLC

From: Michael <captainmikec@gmail.com>
Sent: Monday, September 13, 2021 4:57 PM
To: stateapplications OSW@SLC <stateapplications.OSW@slc.ca.gov>
Subject: Offshore windfarms

Hello,
My name is Michael Cohen. I strongly oppose offshore windfarms in California and anywhere else in the Unites States. I have done extensive research concerning offshore windfarms and windfarms in general.

My conclusion is, they are not the answer we are looking for. With windfarms we are running backwards as far as "green" energy goes. Anyone who conducts research on their own and does it with an open mind will soon find out that it's all a sham.

1, windfarms don't produce enough energy to be profitable. That means they are all about government subsidies.
2, with the material needed, extensive mining is done all over the world to produce a wind turbine. The carbon footprint, fossil fuels, and mining that it takes to create a wind turbine is enormous.
3, the blades are not reusable or recycled. They are buried. They only last around 15 years. Each turbine has 3 blades each and they are getting bigger. Think about that on a large scale.
4, the maintenence cost will be enormous. Proper maintenance will not be done as needed. The ocean is a place that eats all materials all day long. That means the maintenence will be all day every day. The ocean is not a lake. The ocean tells you when you can and when you can't be on it. Especially hundreds of feet up on a floating platform.
5, the ocean will become a windfarm junkyard. Just like all the other windfarms but, this will be worse. What happens when one collapses into the ocean depths? Who's going to clean that up? What happens when a blade breaks off? They do that. What happens when one turbine lights on fire? They do that.

I can go on and on about how this is a bad decision. God help us of we think this is the answer.

Michael Cohen

Forms (https://www.office.com/launch/forms?auth=2) Offshore Wind PEA Survey and Feed - Saved ? MM

Respondent

9 Anonymous

09:33
Time to complete

About

Tell us about yourself and how you heard about the PEA.

1. First Name

Michael

2. Last Name

Cohen

3. Email Address

Captainmikec@gmail.com

4. Organization/Entity

5. What is your interest in offshore wind development and how did you become interested in it?

I have no interest in offshore wind development. It's the worst idea ever.

6. How did you hear about the PEA?

- [ ] I found out about the PEA via a State Lands Commission meeting
- [ ] I found out about the PEA through a colleague of mine
- [x] I've been following offshore wind activities in CA for a long time
- [ ] I am subscribed to State Lands Commission updates on offshore wind and received the PEA via email
- [ ] I sought out the PEA on the State Lands Commission website
- [ ] Other

Overall Impressions of Offshore Wind

This section aims to gauge overall impressions of floating offshore wind in California, and of its impacts on the environment and ocean users.

7. What was your overall impression of floating offshore wind development in California state waters?

Rate your impression before reading the PEA versus after reading the PEA.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Before reading the PEA	◉	○	○	○	○
After reading the PEA	○	○	○	○	○

8. As California advances floating offshore wind development, I would rather see development in...

- ○ State waters (0-3 nautical miles offshore)
- ○ Federal waters (3-200 nautical miles offshore)
- ○ Both
- ◉ Neither

9. Please indicate your overall support or opposition to these floating offshore wind state applications.

- ○ I would like to see the Commission proceed with the EIR
- ◉ I would like to see the Commission terminate the applications
- ○ Other

10. Explain your response to the question above.

Optional.

Offshore windfarms are NOT economically viable nor do they help with our energy

needs. They are not green at all if you do some research. It's all about government subsidies. That's the readers digest version.

11. What potential environmental impacts do you have concerns about as they pertain to floating offshore wind development in state waters?

The following impacts are listed and described in Section 4 of the PEA. Check all that apply.

- [ ] Aesthetics
- [ ] Air Quality & Greenhouse Gas Emissions
- [x] Biological Resources (Marine)
- [x] Biological Resources (Terrestrial)
- [ ] Cultural Resources
- [x] Energy, Utilities, & Service Systems
- [ ] Geology, Soils, & Paleontological Resources
- [x] Hazards & Hazardous Materials
- [x] Hydrology, Water Quality, & Coastal Processes
- [ ] Land Use and Planning
- [x] Noise
- [ ] Population & Housing
- [ ] Recreation
- [ ] Transportation
- [ ] I have no concerns

12. Many of the aforementioned impacts can coalesce to create additional impacts that involve multiple key communities and ocean users. In addition to the impacts above, do you have concerns about any of the following as they pertain to floating offshore wind development in state waters?

Check all that apply.

- [x] Commercial & Recreational Fishing
- [ ] Tribal Cultural Resources
- [x] Environmental Justice
- [ ] I have no concerns related to these areas

General PEA Feedback

This section aims to understand how useful the PEA was in helping the public understand various aspects of floating offshore wind technology, benefits and impacts, and approval/leasing processes.

13. The PEA helped me better understand...

	Disagree	Agree	No Opinion
Floating offshore wind technology	○	○	◉
Potential benefits of floating offshore wind	◉	○	○
Potential impacts of floating offshore wind	○	○	◉

The public perception of floating offshore wind (from the stakeholder comments)	○	○	◉
The approval and leasing process for development in CA state waters	○	○	◉
The approval and leasing process for development in federal waters	○	○	◉

Specific PEA Feedback

The following questions allow you to provide comments and feedback pertaining to specific PEA sections. All of the questions below are optional - you can leave some or all of them blank.

If you have no specific comments about the PEA, you can skip to the end of the form to submit.

14. Section 1: Purpose of Report

Please enter any comments you have on Section 1 of the PEA.

15. Section 2: Introduction

Please enter any comments you have on Section 2 of the PEA.

16. Section 3: Description of the Two Proposed Projects

Please enter any comments you have on Section 3 of the PEA.

17. Section 4: Assessment of Potential Environmental Impacts

Please enter any comments you have on Section 4 of the PEA.

18. Section 5: Commercial and Recreational Fishing, Tribal Consultation, and Environmental Justice

Please enter any comments you have on Section 5 of the PEA.

19. PROJECT ALTERNATIVES: In addition to the alternatives for the proposed projects described in Section 3 of the PEA, what other alternatives to the proposed projects would you recommend?

Comment Letter Submission Instructions

Thank you for completing this form! Your feedback is valuable and will help Commission staff with the evaluation of these projects.

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Forms (https://www.office.com/launch/forms?auth=2) Offshore Wind PEA Survey and Feed - Saved ? MM

Respondent

4 Anonymous

30:54
Time to complete

About

Tell us about yourself and how you heard about the PEA.

1. First Name

BILL

2. Last Name

VARNEY

3. Email Address

FISHTHESURF@MAIL.COM

4. Organization/Entity

CCA CALIFORNIA

5. What is your interest in offshore wind development and how did you become interested in it?

As a taxpayer and angler my interest is whether the project if economically viable and what effect will the project have on the marine environment and both commercial and recreational activities.

6. How did you hear about the PEA?

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- [ ] I found out about the PEA through a colleague of mine
- [x] I've been following offshore wind activities in CA for a long time
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Rate your impression before reading the PEA versus after reading the PEA.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Before reading the PEA	○	○	◉	○	○
After reading the PEA	○	◉	○	○	○

8. As California advances floating offshore wind development, I would rather see development in...

- ○ State waters (0-3 nautical miles offshore)
- ○ Federal waters (3-200 nautical miles offshore)
- ○ Both
- ◉ Neither

9. Please indicate your overall support or opposition to these floating offshore wind state applications.

- ○ I would like to see the Commission proceed with the EIR
- ○ I would like to see the Commission terminate the applications
- ◉ I do feel the concept may be viable but we neec

10. Explain your response to the question above.

Optional.

Not enough information has been presented as to the cost/benefit analysis of the project and whether it will actually work from an engineering standpoint, especially in the saltwater environment.

11. What potential environmental impacts do you have concerns about as they pertain to floating offshore wind development in state waters?

The following impacts are listed and described in Section 4 of the PEA. Check all that apply.

- [ ] Aesthetics
- [ ] Air Quality & Greenhouse Gas Emissions
- [x] Biological Resources (Marine)
- [ ] Biological Resources (Terrestrial)
- [ ] Cultural Resources
- [ ] Energy, Utilities, & Service Systems
- [ ] Geology, Soils, & Paleontological Resources
- [ ] Hazards & Hazardous Materials
- [ ] Hydrology, Water Quality, & Coastal Processes
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- [ ] Noise
- [ ] Population & Housing
- [x] Recreation

- [ ] Transportation
- [ ] I have no concerns

12. Many of the aforementioned impacts can coalesce to create additional impacts that involve multiple key communities and ocean users. In addition to the impacts above, do you have concerns about any of the following as they pertain to floating offshore wind development in state waters?

Check all that apply.

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Potential impacts of floating offshore wind	○	◉	○
The public perception of floating offshore wind (from the stakeholder comments)	○	◉	○
The approval and leasing process for development in CA state waters	○	○	◉
The approval and leasing process for development in federal waters	○	○	◉

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Forms (https://www.office.com/launch/forms?auth=2) Offshore Wind PEA Survey and Feed - Saved MM

Respondent

5 Anonymous

27:40
Time to complete

About

Tell us about yourself and how you heard about the PEA.

1. First Name

2. Last Name

3. Email Address

4. Organization/Entity

5. What is your interest in offshore wind development and how did you become interested in it?

As a native Californian raised in the coastal zone, I am interested in renewable energy for California. As a marine scientist, I am interested in the effects of existing and potential energy structures (oil, wind, and wave) on marine populations.

6. How did you hear about the PEA?

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- ◉ Both
- ○ Neither

9. Please indicate your overall support or opposition to these floating offshore wind state applications.

- ◉ I would like to see the Commission proceed with the EIR
- ○ I would like to see the Commission terminate the applications
- ○ Other

10. Explain your response to the question above.

Optional.

Despite the fact that the projects are pilot in nature, their progress begins the path to renewable energy for California through offshore wind generated electricity. This approach has worked successfully for decades in European and Scottish marine waters and needs to be a component of our renewable energy endeavor. An EIR is a necessary in-depth impact evaluation for these initial projects.

11. What potential environmental impacts do you have concerns about as they pertain to floating offshore wind development in state waters?

The following impacts are listed and described in Section 4 of the PEA. Check all that apply.

- [ ] Aesthetics
- [ ] Air Quality & Greenhouse Gas Emissions
- [x] Biological Resources (Marine)
- [ ] Biological Resources (Terrestrial)
- [ ] Cultural Resources
- [ ] Energy, Utilities, & Service Systems
- [ ] Geology, Soils, & Paleontological Resources
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- [ ] Land Use and Planning
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- [ ] Population & Housing

- [ ] Recreation
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Check all that apply.

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The approval and leasing process for development in CA state waters	○	◉	○
The approval and leasing process for development in federal waters	○	○	◉

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Please enter any comments you have on Section 1 of the PEA.

Well done

15. Section 2: Introduction

Please enter any comments you have on Section 2 of the PEA.

Well done

16. Section 3: Description of the Two Proposed Projects

Please enter any comments you have on Section 3 of the PEA.

Well done. Consider inclusion of information on a few similar floating project from U.S. Atlantic and Europe. Not the extent or number of OFW turbines; a general description and comparison of present projects to existing installations.

17. Section 4: Assessment of Potential Environmental Impacts

Please enter any comments you have on Section 4 of the PEA.

Well done. The level of detail was appropriate. You may have to address cost of electricity per kW hour from OFW versus cost from natural gas power plants.

18. Section 5: Commercial and Recreational Fishing, Tribal Consultation, and Environmental Justice

Please enter any comments you have on Section 5 of the PEA.

Well done. With addition of Appendix C the level of detail for a PEA was appropriate.

19. PROJECT ALTERNATIVES: In addition to the alternatives for the proposed projects described in Section 3 of the PEA, what other alternatives to the proposed projects would you recommend?

Discuss a no 'action alternative' that would then potentially require continued use of more fossil based components in the available energy mix.

Comment Letter Submission Instructions

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If you would like to provide more detailed comments than is available on this form, you can email a comment letter to stateapplications.OSW@slc.ca.gov (mailto:stateapplications.OSW@slc.ca.gov) or mail to:

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