

Informational Hearing on Offshore Wind Development

September 9, 2021



Agenda

- Federal and State Agency Presentations
 - Karen Douglas, California Energy Commissioner
 - Jean Thurston-Keller, Renewable Energy Specialist and CA Taskforce Coordinator, Bureau of Ocean Energy Management
 - Kate Huckelbridge, Holly Wyer & Amanda Cousart, Coastal Commission staff
- Public Comment
- Commissioner Questions and Comments



Commissioner Karen Douglas





Outer Continental Shelf Wind Energy Leasing in California

California Coastal Commission Information Briefing
September 9, 2021

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Jean Thurston-Keller, CA Intergovernmental Renewable Energy Task Force Coordinator | BOEM Pacific



Overview

- Offshore Wind Energy Overview
- California Planning Efforts
- California Offshore Wind Energy Gateway
- BOEM Offshore Wind Energy Authorization Process
- Potential Areas in California
- California Road Ahead – Next Steps
- Additional Resources and Information



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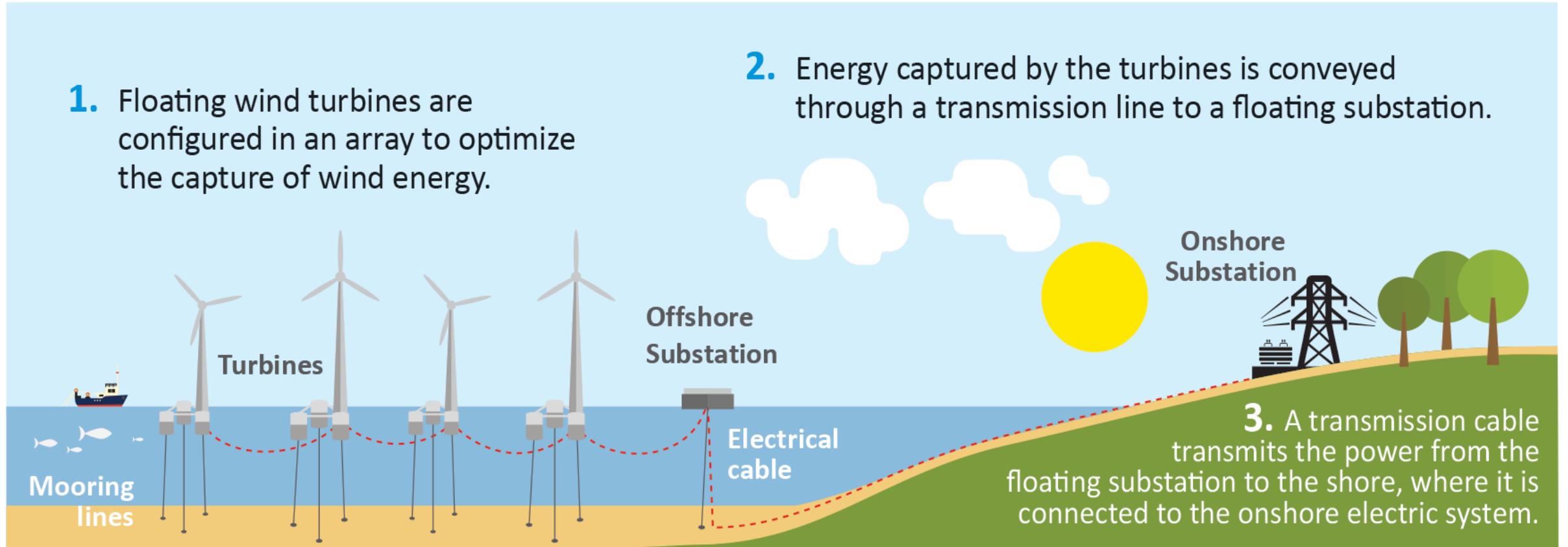


Offshore Wind Energy Overview

How Offshore Floating Wind Farms Work

1. Floating wind turbines are configured in an array to optimize the capture of wind energy.

2. Energy captured by the turbines is conveyed through a transmission line to a floating substation.



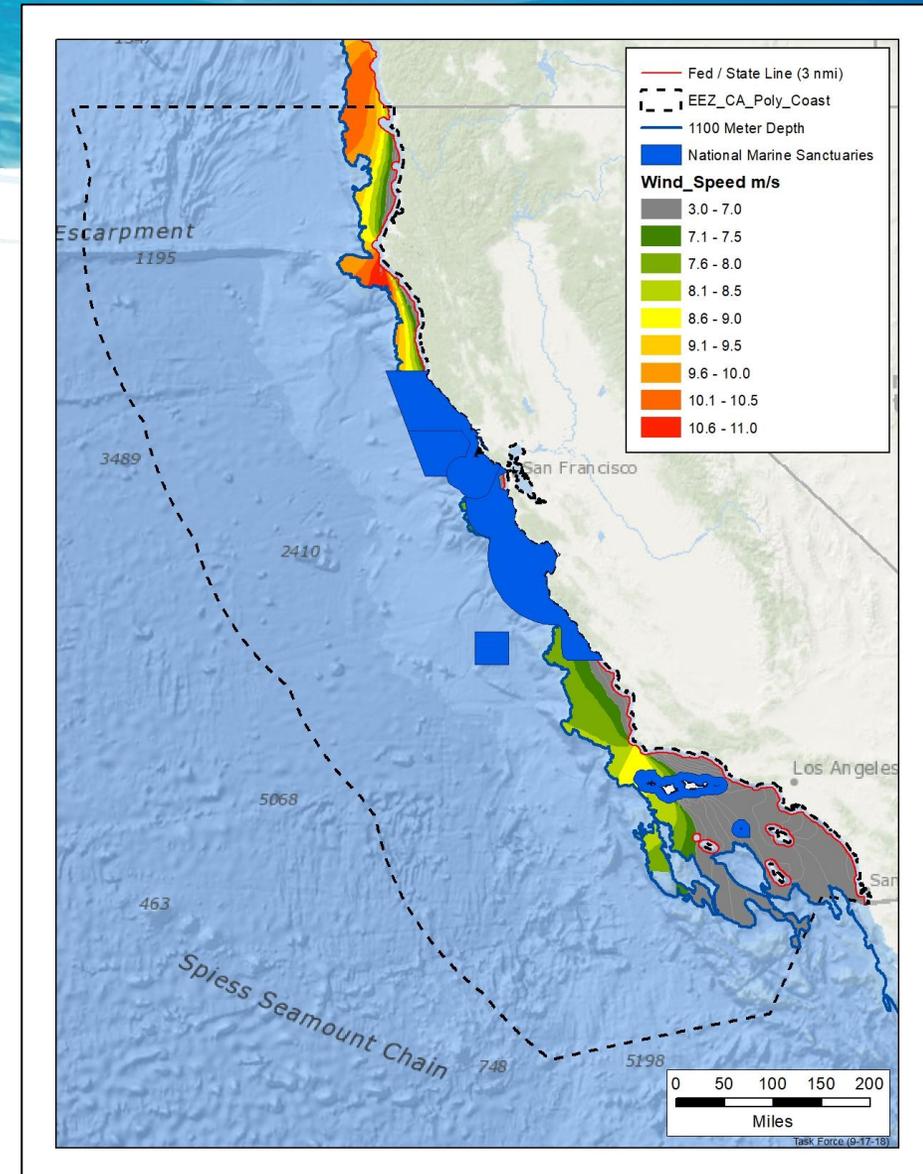
3. A transmission cable transmits the power from the floating substation to the shore, where it is connected to the onshore electric system.



California Planning Efforts

○ Call Area considerations

- Wind resource
- Water depths compatible with available technology
- Avoided National Marine Sanctuaries
- Interconnection locations for electrical grid access
- Avoided areas closer to shore that tend to have higher concentrations of commercial and recreational fishing activities
- Avoided areas of high concentrations of submerged cables





California Planning Efforts

- Established the BOEM California Intergovernmental Renewable Energy Task Force in 2016 with request by Governor Brown
- Conducted extensive outreach and engagement with stakeholders based on joint outreach plan with state
- Created Offshore Wind Energy Gateway for data collection in 2017, a publicly accessible website: www.caoffshorewind.databasin.org
- Published Call for Information and Nominations in the Federal Register in October 2018: 118 comments, 14 nominations
- Ongoing coordination, outreach and engagement with Tribal Governments, State of California, Federal agencies, State agencies and the public since 2017
- Outreach Summary Report (and updates) for California Offshore Wind Energy Planning available online at www.boem.gov/california



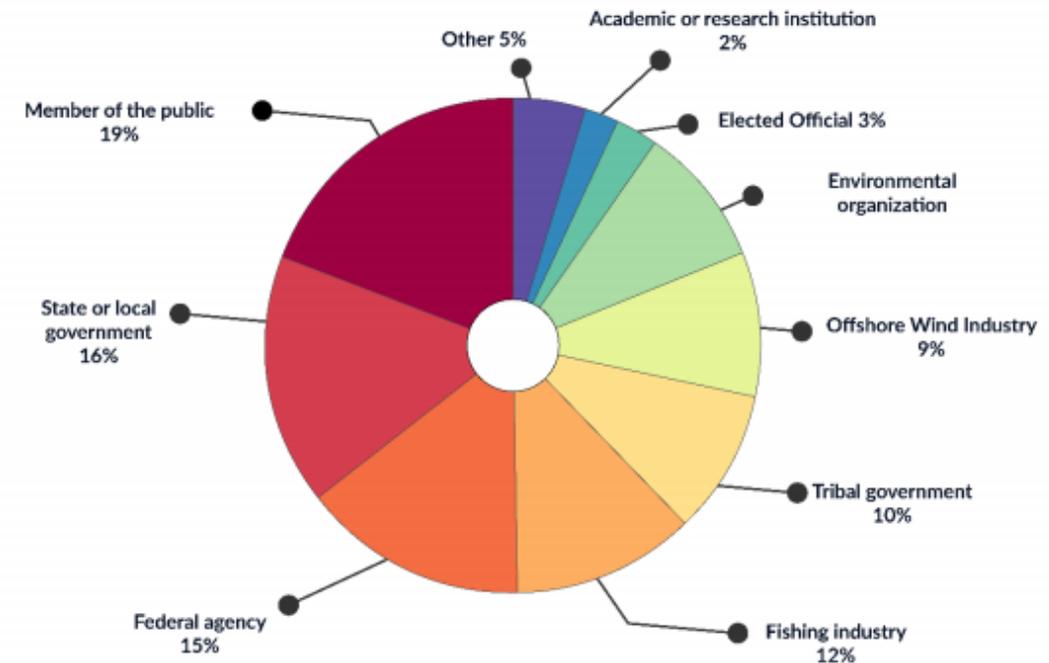
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Collecting and Providing Information

- Overview of key input from 2018-2021
 - Fishing concerns about potential impacts to current activities
 - Concerns about environmental, visual, and noise impacts from offshore wind development
 - Concerns with maritime vessel traffic patterns and navigation safety
 - Interest in potential economic impacts to ports from development
 - Recommendations for BOEM Auction format to consider local benefits or other local agreements
 - Military testing and training activity concerns
 - Update to Outreach Summary Report published June 2021

BOEM CA Offshore Wind Energy Planning Outreach
Participation: October 2018—December 2020



California Offshore Wind Energy Gateway

Web-Based Data Gateway

- Publish spatial datasets
- Create maps using geospatial data
- Converse in working groups with data and maps
- Available to the public

Assemble geospatial information on:

- Physical setting
- Energy resources
- Marine policy and management
- Ecological and natural resources
- commercial and recreational uses

Use data and information to:

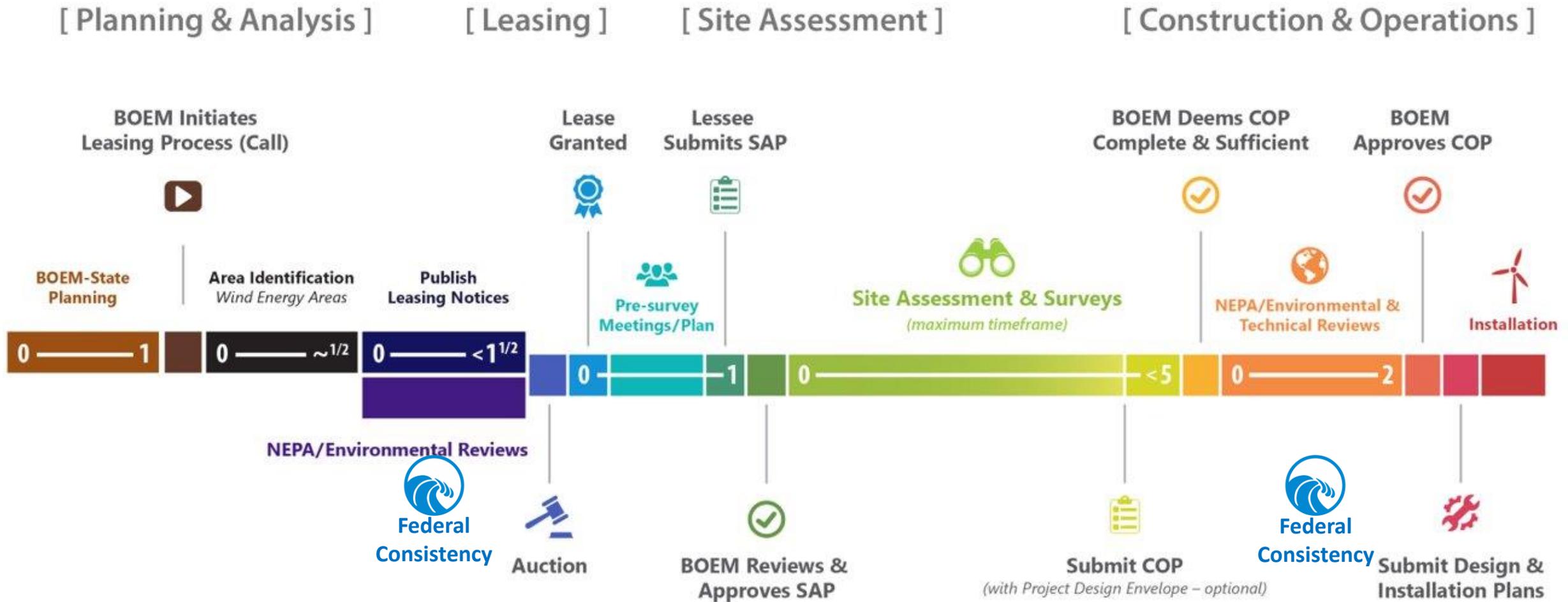
- Inform offshore wind energy leasing process

www.caoffshorewind.databasin.org

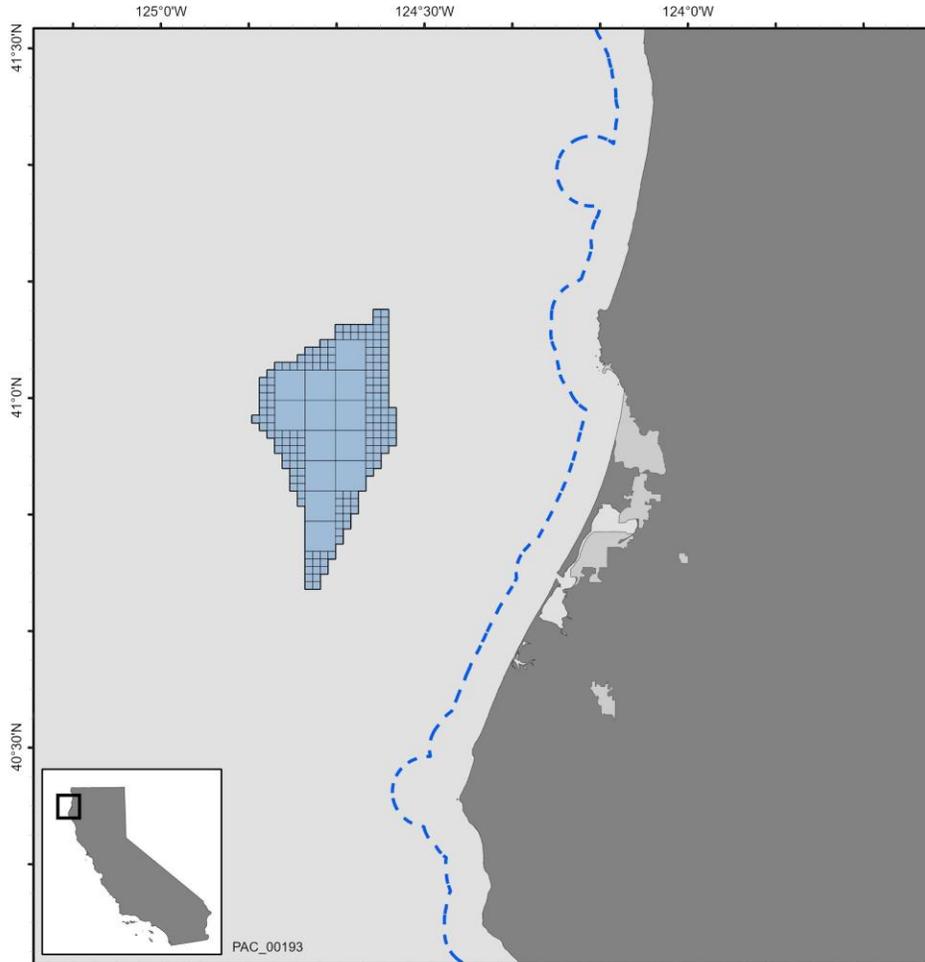
The screenshot shows the homepage of the California Offshore Wind Energy Gateway. At the top, there is a search bar and a navigation menu with tabs for 'Get Started', 'Explore', 'Create', 'Community', and 'My Workspace'. Below the navigation, a main content area features a large introductory text block on the left and a large image of a wave on the right. The text block includes a 'What can I do?' section and a 'How do I start exploring?' section. Below this, there are four smaller map thumbnails representing different data categories: 'California Marine & Coastal Energy', 'California Marine & Coastal Management', 'California Marine & Coastal Ecology and Natural Resources', and 'California Marine & Coastal Community Values and Traditional Uses'. Further down, there are sections for 'Featured Items' and 'California Off-Shore Wind Resources'. The 'Featured Items' section displays five dataset thumbnails: 'Essential Fish Habitat', 'Marine Protected Areas Inventory, March 2012', 'NOAA California Ocean Uses Atlas - Non-consumptive (dominant areas)', 'NOAA California Ocean Uses Atlas - Industrial (dominant areas)', and 'NOAA California Ocean Uses Atlas - Fishing (dominant areas)'. The 'California Off-Shore Wind Resources' section features a large map of the California coast with highlighted wind resource areas. Below the map, there is a caption: 'This map is comprised of spatial datasets provided by BOEM to highlight wind resources along the coast of California along with some other designations.' At the bottom of the page, there are two buttons: 'Download the Fact Sheet & Get Involved' and 'Follow Progress'. The footer includes the BOEM logo and the California Energy Commission logo.



BOEM's Renewable Energy Authorization Process:

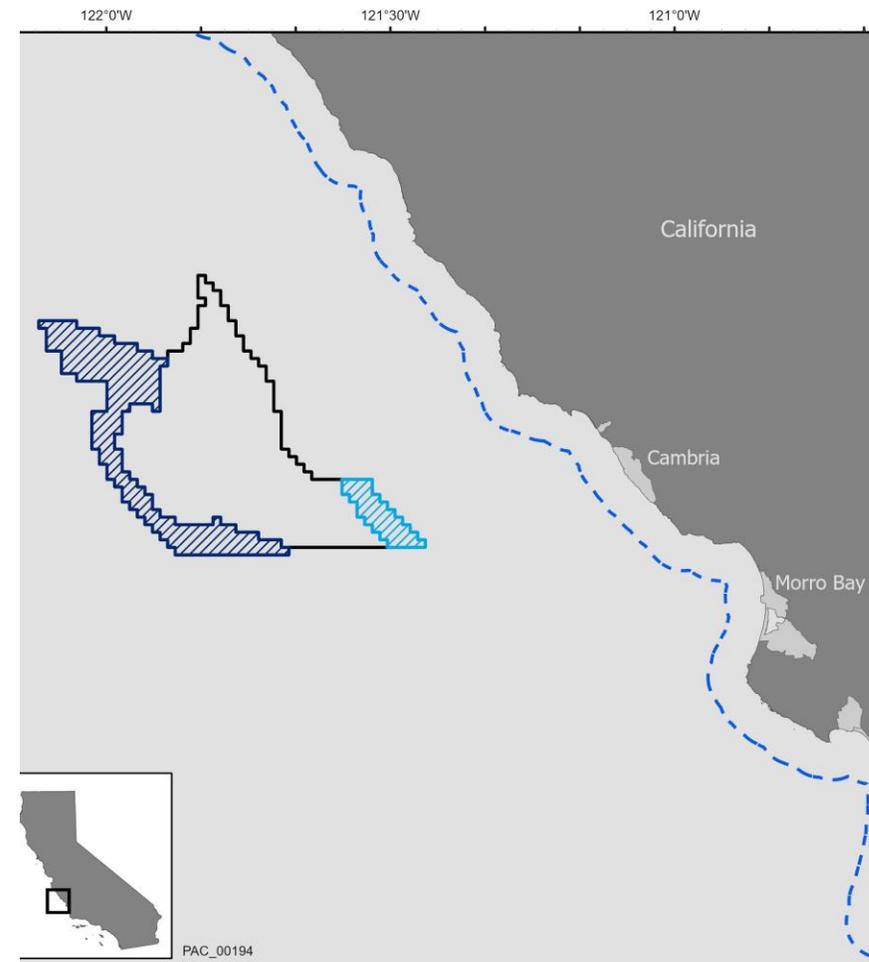
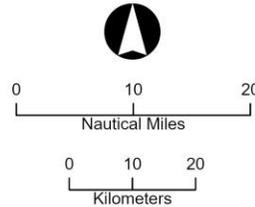


Northern California and Central California Areas



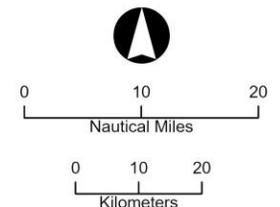
Humboldt Wind Energy Area

- - - Federal / State Boundary
- Humboldt Wind Energy Area (132,369 Acres) (207 sq mi)



Morro Bay Call Area Extensions

- - - Federal / State Boundary
- East Extension (14,589 Acres) (23 sq mi)
- West Extension (75,436 Acres) (118 sq mi)
- Morro Bay Call Area 2018



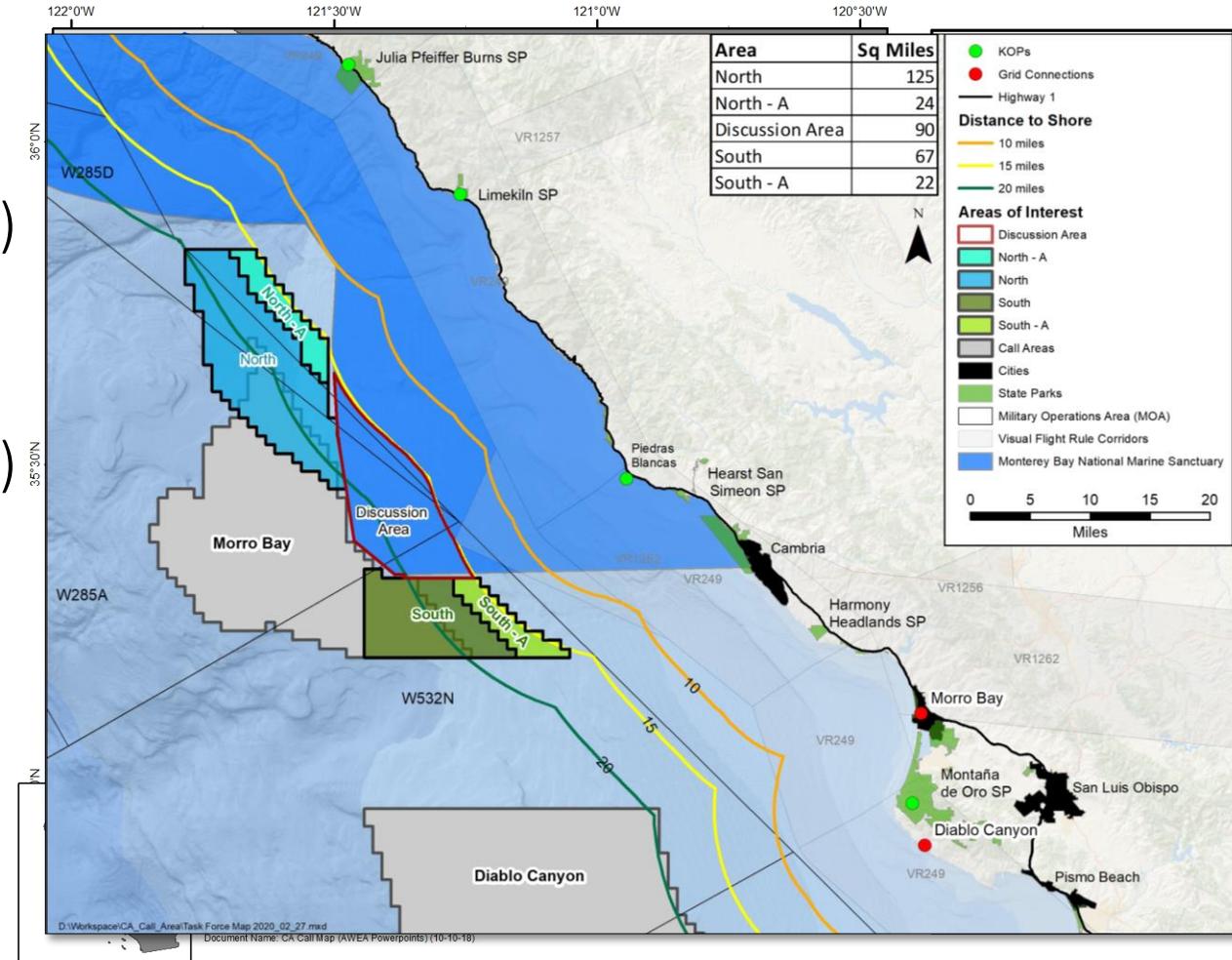
Morro Bay Call Area Development

Central Coast Call Areas in 2018:

- Morro Bay
 - Size: 199,266 acres (311 square miles)
 - Nearest distance to shore: ~20 miles
- Diablo Canyon
 - Size: 356,188 acres (556 square miles)
 - Nearest distance to shore: ~20 miles

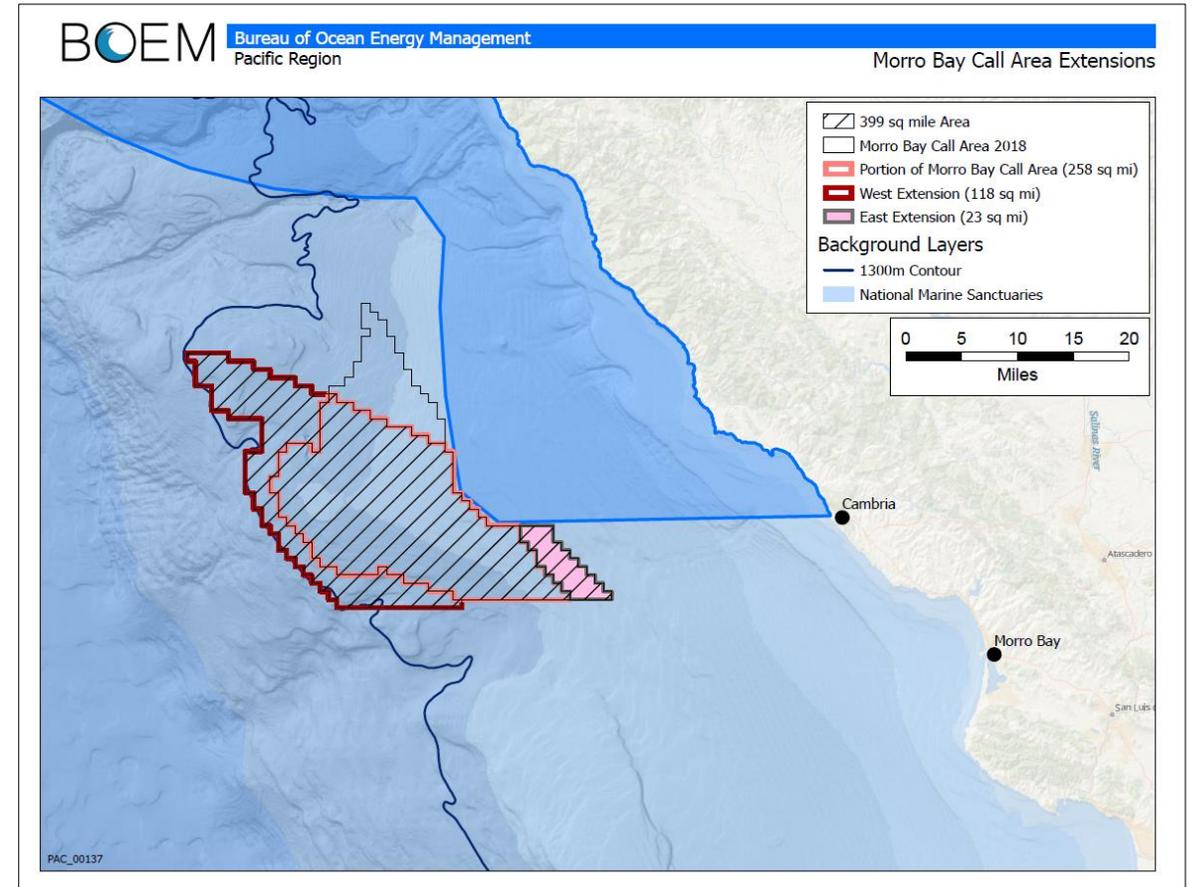
Additional Areas for Consideration

- Working Group led by Congressman Carbajal's Office



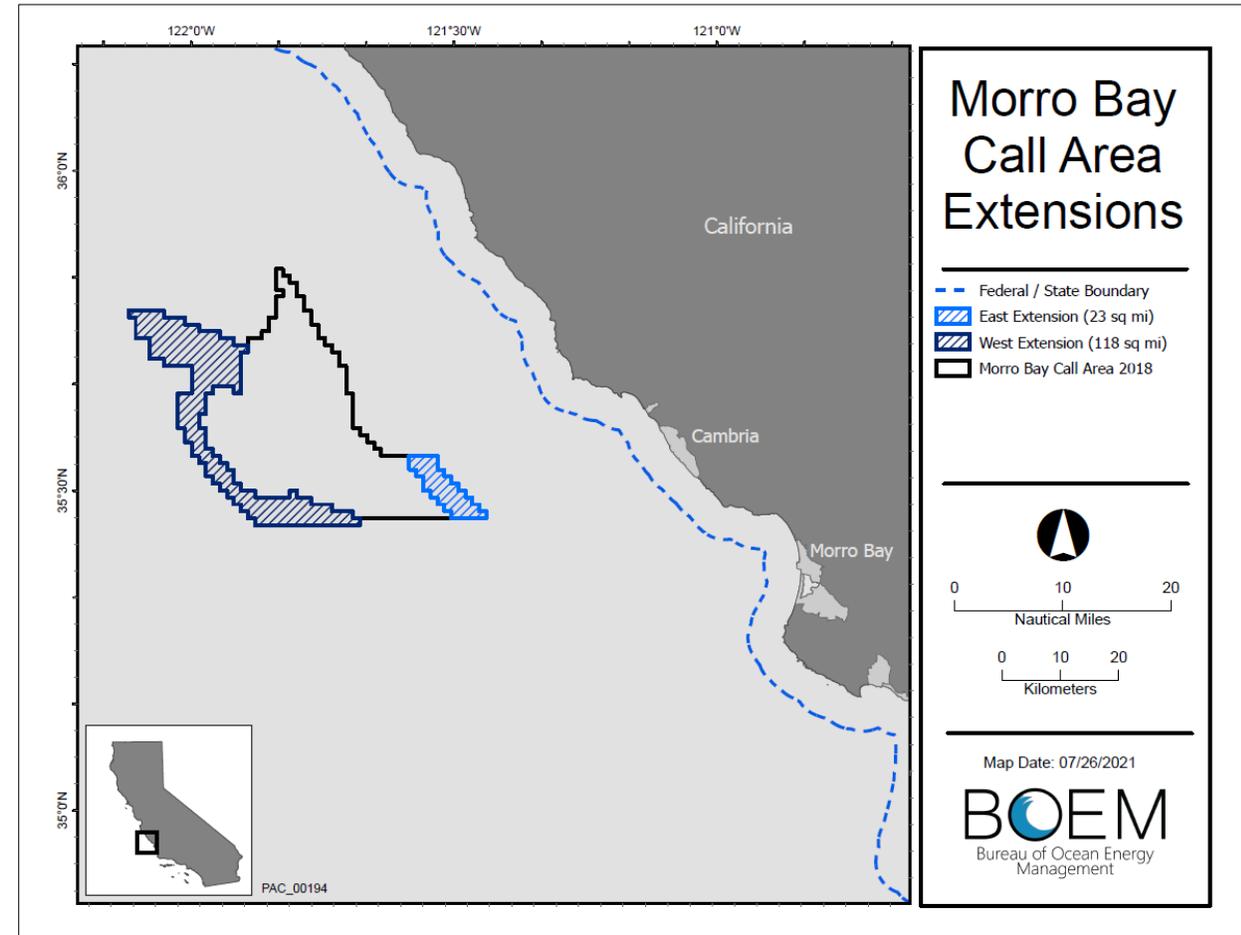
Morro Bay Call Area Development, continued

- White House Announcement
 - May 25, 2021
 - Includes 399 square mile area
 - Nearest distance to shore: ~17 miles
 - Includes Call Area Extensions
 - East Extension: 14,589 acres (23 square miles)
 - West Extension: 75,436 acres (118 square miles)



Morro Bay East and West Extensions

- Call for Information and Nominations for Morro Bay Extension Areas
 - East Extension: 17 miles from shore
 - West Extension: 35 miles from shore
 - Published in Federal Register on July 29, 2021
 - Soliciting comment and industry nominations on the Extension Areas
 - Public comment period closes on **September 13, 2021**



California Road Ahead – Outlook and Next Steps

- Morro Bay Wind Energy Area Identification
- Conduct Environmental Assessments
- Publish Proposed Sale Notice
 - Humboldt and Morro Bay Areas will be combined into one Proposed Sale Notice for a single California lease auction that includes both areas together
 - 60-day comment period
 - Last opportunity for developers to provide interest
- Publish Final Sale Notice
- Lease Auction (Fall 2022)



BOEM Pacific OCS Region Environmental Studies

BOEM develops, funds, and manages scientific research to inform policy decisions on the development of energy and mineral resources on the OCS.

Research Areas

Physical Oceanography
 Atmospheric Sciences
 Biology
 Protected Species
 Social Sciences & Economics
 Submerged Cultural Resources
 Environmental Fates & Effects

All Pacific Studies

1973 – 2021
 > 330 Studies Completed > \$150 M
 27 Ongoing Studies \$24.8 M
 17 Renewable Energy \$14.4 M
 4 Conventional Energy \$2.9 M
 6 Both Energy Programs \$7.5 M

Ongoing Pacific Studies

Conducting Organizations

Universities (9 studies) 30%
 USGS (8 studies) 27%
 NOAA (5 studies) 17%
 Consultants (3 studies) 10%
 DOE (2 studies) 7%
 USFWS (1 study) 3%
 Udall Fdn. (1 study) 3%
 In-house (1 study) 3%

Some studies conducted by more than one organization through multiple awards. Percentage value is the portion of all ongoing study awards to an organization.
 9/7/2021



Additional Resources and Information

- BOEM Renewable Energy California Website: www.boem.gov/california
- BOEM's Renewable Energy Program: www.boem.gov/renewable-energy
- Selected BOEM-funded Research Informing Renewable Energy Offshore California: www.boem.gov/sites/default/files/documents/renewable-energy/Selected-BOEM-Research-Renewable-CA_0.pdf
- California Offshore Wind Energy Gateway: <https://caoffshorewind.databasin.org/>
- California Offshore Wind Energy Planning Outreach Summary Report (Updated June 2021): www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/Offshore-Wind-Outreach-Addendum.pdf
- Morro Bay Call Area Extensions: www.boem.gov/renewable-energy/state-activities/morro-bay-call-extension-areas
- Humboldt Wind Energy Area Environmental Assessment: www.boem.gov/HumboldtEA



Additional Resources and Information

- BOEM-State of California Programmatic Agreement / Section 106 of the National Historic Preservation Act: www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/CA-Sect-106-Programmatic-Agreement.pdf
- California Visual Simulations: www.boem.gov/renewable-energy/state-activities/california-visual-simulation
- Information on Local Outreach and Offshore Working Group Visual Simulations: www.boem.gov/march-9-2020
- BOEM Environmental Studies – Pacific (Final Reports and Publications): www.boem.gov/environment/environmental-studies-pacific
- National Renewable Energy Laboratory Floating Offshore Wind webinar: www.youtube.com/watch?v=58EYcYbRKqk
- A Citizen's Guide to BOEM's Renewable Energy Authorization Process: www.boem.gov/renewable-energy



BOEM

Bureau of Ocean Energy
Management

BOEM.gov



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The State's Role in Reviewing Offshore Wind Development in California's OCS

Kate Huckelbridge, Deputy Director
Holly Wyer, Senior Environmental Scientist
Amanda Cousart, Environmental Scientist

Presentation Overview

- Federal Consistency primer
- CCC Role in planning and permitting for offshore wind
- Scope of the federal consistency review prior to leasing
- Outreach and engagement efforts
- Research and data collection



Coastal Zone Management Act (CZMA)

- Creates a federal and state partnership for management of coastal resources
- Describes process for state review of federal projects or federally permitted projects for consistency with a state's Coastal Management Program (CMP).
- Enforceable policies of CA's CMP = Chapter 3 policies of the Coastal Act



Federal Consistency Review

- Consistency Determination (federal projects) vs. Consistency Certification (federally permitted or funded project)
- Applicable if a project results in spillover effect into the Coastal Zone
- Effect, not location, is key



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CCC Jurisdiction

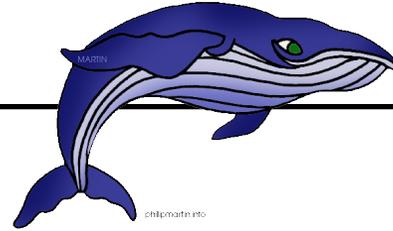
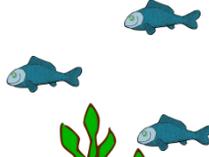
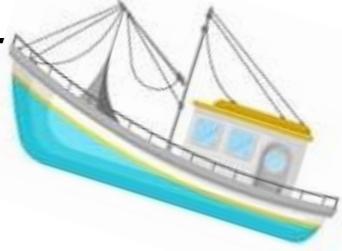
Offshore Wind Project Component

Federal
Consistency



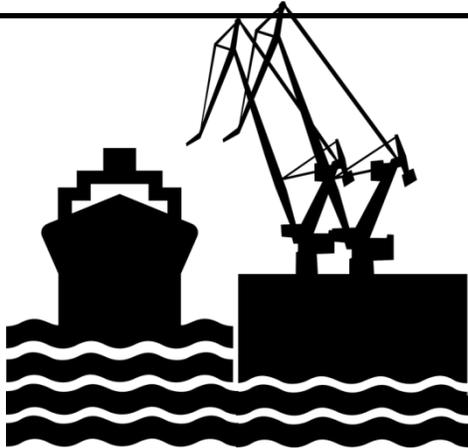
Federal
Waters

CDP



State
Waters

CDP/PMPA/
Appeal



Onshore
(within the
Coastal Zone)

Offshore Wind and Federal Consistency

Two opportunities for state review of activities in federal waters:

1. CD prior to leasing
2. CC prior to BOEM approval of a COP for a specific project

Earliest potential timing:

March 2022: North Coast

June 2022: Central Coast



Federal Consistency Review Prior to Leasing

Scope: *Siting-level analysis of impacts to coastal resources*

- How were the proposed lease areas determined?
- What impacts can we anticipate from offshore wind development in these lease areas?
- Are these the right areas to site offshore wind development in CA?
- What can we do to avoid or minimize impacts?



Federal Consistency Review

- Marine Resources and Water Quality
- Commercial and Recreational Fishing
- Tribal and Cultural Resources
- Scenic and Visual Resources
- Public Access and Recreation
- Coastal Hazards
- Air Quality

- Assessment of existing resources
- Impact identification
- Identification of potential mitigation needs and approaches
- Consistency with Coastal Act & other CCMP policies
- Analysis of data gaps
- Expectations for information needed for project-level analysis



Marine Resources and Water Quality

- Benthic Habitat & Aquatic Vegetation
- Marine Species
 - Pelagic & Benthic Fish
 - Marine Mammals
 - Sea Turtles
 - Birds
- Water Quality Impacts
- Fill of Coastal Waters



Photo Credit : Ronnie Goyette



Scenic and Visual Resources

- Focus on visually sensitive areas
- Using visual simulations to understand impacts
 - Both day and night views
- Considering how lease areas and turbines can be sited to minimize impacts

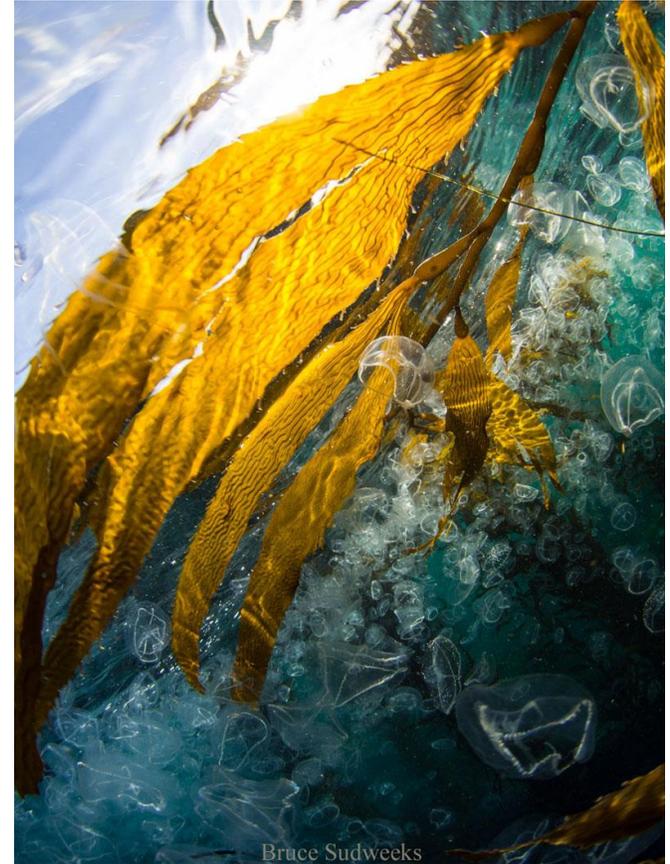


Photo Credit : C T Bui



Tribal and Cultural Resources

- Tribal consultation will focus our analysis
 - Identifying cultural uses and resources
 - Understanding impacts
 - Understanding how to avoid or minimize impacts



Bruce Sudweeks



Commercial and Recreational Fishing

- Identifying impacts by fishery
- Indirect impacts to the broader seafood industry
- Considering the cumulative impact of ocean space use conflicts
- Programmatic impacts analysis at this phase
- Developing a process to inform future consistency analysis and mitigation



Photo Credit : Frank Slack



State Agency Coalition on Offshore Wind

- Coastal Commission
- Energy Commission
- State Lands Commission
- Public Utilities Commission
- Dept. of Fish and Wildlife
- Ocean Protection Council



OCEAN PROTECTION COUNCIL



Outreach and Engagement

- Tribal: North and Central Coast state and federally recognized tribes.
- Fishing Industry: Commercial, Charter, and Recreational Fishermen. Collaboration with state partners to conduct outreach and engagement in the coming months.
- Local Communities
- General Public Outreach



Photo credit: Fishbio



Ongoing and Future Studies

Environmental

- Feasibility analysis of OSW development in the North Coast Region
- Mapping Ocean fishing grounds west of CA coastal counties of Del Norte, Humboldt and Mendocino
- Seabird 3D distribution and relative risk from OSW turbines
- Effects of OSW farms on the CA upwelling ecosystem
- Potential fishing grounds mapping study for central coast*

Data Integration

- Analysis of existing marine environmental data in relation to BOEM Call areas
- Identifying OSW least conflict areas & integrating existing data into online planning tools



Ongoing and Future Studies

Technology

- Fiber optic sensing research (ie: OSW monitoring)
- Onsite manufacturing techniques
- Energy Portfolio diversity*

Other

- BOEM funded studies
- Floating OSW technology advancements/cost competitive studies*
- Possible cultural studies*

*indicates future study



Photo credit: GE





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For more information, contact:
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