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Item 6: CEC Presentation on Assembly Bill 525 and 2022 Bureau of Ocean Energy Management Lease Sale

Disadvantaged Communities Advisory Group: November 18, 2022



California's Climate and Energy Goals

"California is home to one of the world's best offshore wind resources in the world and I am confident that this clean, domestic source of electricity can play an important role in meeting our state's growing need for clean energy."

Governor Gavin Newsom, July 2022

Energy and Climate Goals:

- •Raise GHG emissions reduction targets to 40% below 1990 levels by 2030 (SB 32, 2016)
- •Increase the 2030 Renewables Portfolio Standard goal to 60% (SB 100, 2018)
- •Require all retail electricity to come from eligible renewable energy resources and zero-carbon resources by 2045 (SB 100, 2018)
- •Accelerate the SB 100 2045 goals (SB 1020, 2022)
- Achieve net zero GHG emissions as soon as possible (AB 1279, 2022)



Image Source: Principle Power



Offshore Wind Benefits for California



Provide economic and environmental benefits



Advancing climate goals and diversifying the energy portfolio



Improve grid reliability



Serve electricity needs and improve air quality in disadvantaged communities.



Stimulate state and local economic and workforce development



Offshore Wind Technology Overview

Spar-Buoy

- Cylindrical vertical platform with large draft
- Improved stability from ballast in lower part of platform
- Deep draft can limit port access

Catenary

- Commonly used with spar, semi-submersible, barge platforms
- Line forms a characteristic "S" shape between the platform and seafloor
- Each line segmented into light synthetic rope and heavy chain
- Line 3-5 times water depth resulting in largest physical footprint
- Installation relatively simple



Anchor point

Drag-embedded

- Function similar to boating anchors
- Require cohesive sandy sediment with adequate soil layering and depth, no bedrock
- Simple to install and remove

Tension Leg Platform (TLP)

- Tension in mooring lines and submerged buoyancy tank results in high stability
- High vertical loads due to tension
- Instability during assembly

Taut - leg

- Commonly used with TLP
- Lines pretensioned until taut and terminate at an angle with the seabed
- Tension results in large amount of force acting on anchors from wave action
- Synthetic or wire ropes with higher elasticity required

9

Piled (or drilled and grouted)

- Permanently piled or drilled and grouted into seabed
- Require cohesive sediment without rocks or boulders at the installation site
- High vertical load capacity and siting precision
- More complex installation compared to other anchor types

Semi-Submersible

- Combines elements of other technologies
- Distributes buoyancy widely at the surface to achieve high stability
- Wider subsea platform results in higher exposure to wind and sea conditions

Semi-taut

- Most commonly used on semi-submersible platforms
- Compromise between catenary and taut leg in relation to stability and forcing
- Requires synthetic fibers, chains, or wire moorings
- Intermediate benthic footprint

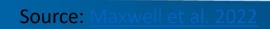


Suction caisson

- Embedded into seabed by negative pressure
- Require equal depth of non-consolidated clay and/or sands
- Technology and installation well understood from oil and gas



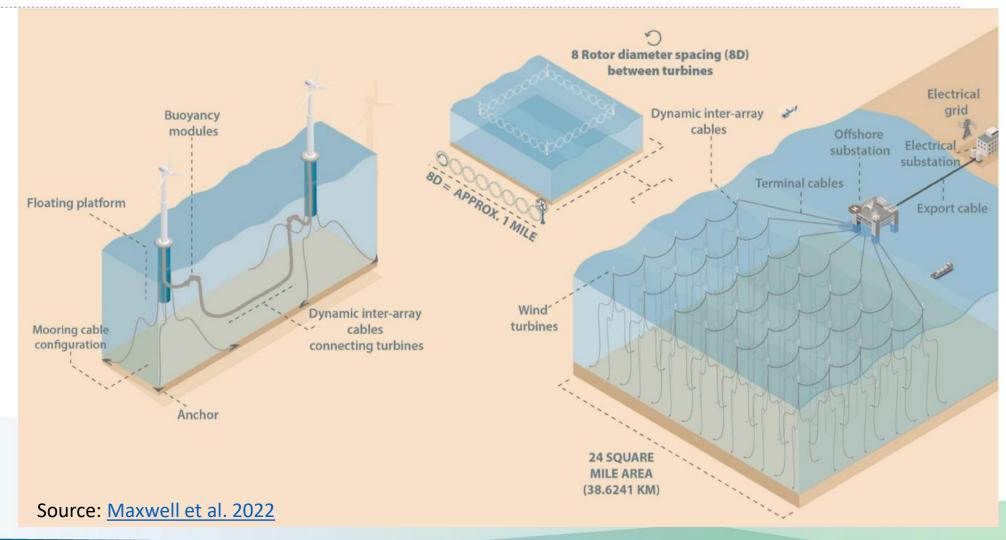
- Deadweight anchor
- Suitable for rocky or sandy soils with high bearing capcity
- Can be reused or repurposed
- May not require a crane for installation



4



Example of a Floating Offshore Wind Energy Development





Advancing Offshore Wind in California

Background:

- October 2016: BOEM-CA Intergovernmental Renewable Energy Task Force established
- October 2018: BOEM Call for Information and Nomination
- May 2021: announcement from Biden and Newsom Administrations
- January 2022: Assembly Bill 525 took effect
- October 21, 2022: BOEM issues Final Sale Notice
- December 6, 2022: BOEM Lease Sale

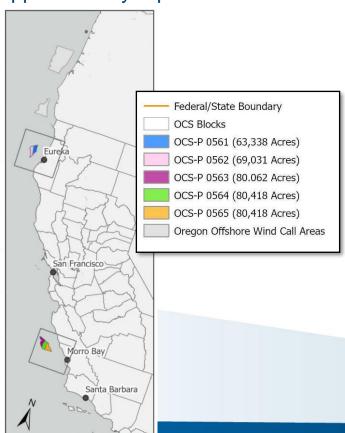




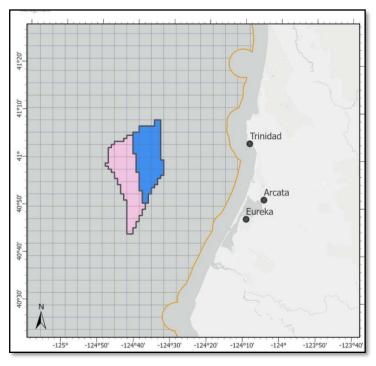
BOEM Lease Areas

Delineation Goals

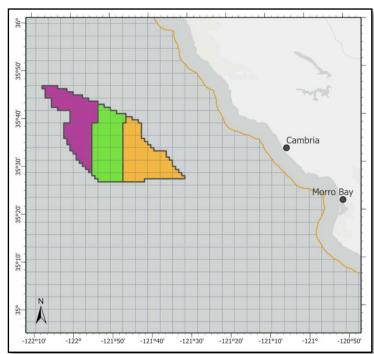
- Maximize energy generation
- Equal commercial viability
- Approximately equal size



2 Lease Areas within the Humboldt Wind Energy Area



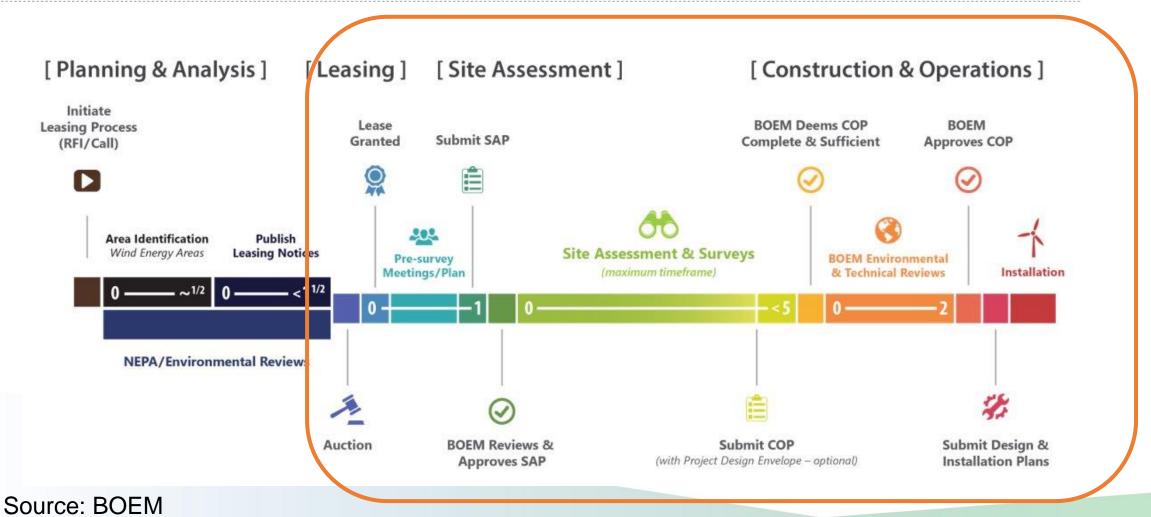
3 Lease Areas within the Morro Bay Wind Energy Area



Source: BOEM, 2022



BOEM Lease Process Overview





BOEM's Final Sale Notice (FSN)

- Published in the Federal Register on October 21, 2022
- Lease auction will be held on December 6, 2022
- The FSN describes:
 - 5 areas that will be available for commercial wind energy leasing
 - Leasing conditions and stipulations
 - Bidding credits that could be available to qualified bidders
 - Auction format and procedures
 - Process for issuing a lease



Lease Bidding Credits and Stipulations

Bidding Credits:

- 20% bidding credit to advance floating offshore wind workforce training and/or supply chain development
- 5% bidding credit for a Community Benefit Agreement (CBA) with those whose use of the geographic space or resources from the lease areas may be impacted by potential offshore wind development
- 5% bidding credit for a CBA with those potentially impacted within the marine, coastal, and/or human environment resulting from potential offshore wind development.

Lease Stipulations:

- Engage with Tribes and parties that may be potentially affected by the Lessee's activities
- Report on engagement and make reasonable efforts to implement projects in a manner that minimizes and mitigates their projects' adverse effects, if any, on these parties.
- Report on the conditions required by the California Coastal Commission's concurrence on BOEM's consistency determination.
- Submit a supply chain Statement of Goals



CA Coastal Commission – Conditions for Coastal Zone Management Act Consistency Determination

- 1. Plan Review and Coordination
- 2. No Bottom Contact
- 3. Minimizing the risk of vessel strikes
- 4. Safe Navigation
- 5. Engagement with environmental justice and local communities
- 6. Engagement with California Native American Tribes
- 7. Impacts to Fishing and Fishing Communities



AB 525 Legislative Findings

- Provide economic and environmental benefits.
- Advance progress toward California's renewable and climate goals.
- Diversify the state's energy portfolio.
- Realize economic and workforce development benefits.
- Contribute to renewable resource portfolio that can serve electricity needs and improve air quality in disadvantaged communities.
- Offer career pathways and workforce training opportunities.



Requirements of AB 525

June 1, 2022

Evaluate and quantify maximum feasible capacity and establish megawatt planning goals for 2030 and 2045

December 31, 2022

- 1) Complete and submit a preliminary assessment of economic benefits as they relate to seaport investments and workforce development needs
- 2) Complete and submit a permitting roadmap

June 30, 2023

Develop a strategic plan for offshore wind off the California coast in federal waters

Strategic Plan Chapters:

- 1. Identification of sea space
- 2. Economic and workforce development and identification of port space and infrastructure
- 3. Transmission planning
- 4. Permitting
- 5. Potential impacts on coastal resources, fisheries, Native American and Indigenous peoples, and national defense, and strategies for addressing them



CEC Established OSW Planning Goals



CEC Report: Offshore Wind Energy Development off the California Coast: Maximum Feasible Capacity and Megawatt Planning Goals for 2030 and 2045



Coordination, Outreach, and Engagement



Interagency Working Groups: Topically focused interagency working groups on permitting, seas space, transmission, and economic benefits

Targeted Outreach: Engaging with stakeholers and tribal representatives based on legislative directive, technical expertise, interest, etc.

Broader Public Outreach: Engaging broader stakeholders and interested parties



Workshops and Milestones

Workshop/Milestone	Key Dates
Establish OSW Planning Goals for 2030 and 2045	August 10, 2022
Workshop on Preparing a Strategic Plan for OSW	October 6, 2022
 Topical Workshops Sea Space, held October 26 Assessing Sea Ports, held October 31 Transmission Assessment, held November 10 Preliminary Assessment of Economic Benefits, proposed for early December Permitting Roadmap, proposed for early December 	October – December 2022
Consideration of Preliminary Assessment of Economic Benefits and Permitting Roadmap at CEC Business Meeting	December 2022



Thank You!

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https://www.energy.ca.gov/programs-and-topics/topics/renewable-energy/offshore-renewable-energy