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AB 525 Workshop: Assessing Transmission Upgrades and Investments for Offshore Wind

November 10, 2022



Overview of Assembly Bill 525

Rhetta deMesa



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.



Offshore Wind Strategic Plan Priorities

- Shall emphasize and prioritize near-term actions, particularly related to port retrofits and investments and the workforce, to accommodate the probable immediate need for jobs and economic development.
- Shall strive for compatibility with other harbor tenants and ocean users to ensure that the local benefits related to port retrofits and construction complementing other local industries.
- Shall emphasize and prioritize actions that will improve port infrastructure to support land-based work for the local workforce.
- Shall include consultation with representatives of key labor organizations and apprenticeship programs that would be involved in dispatching and training the construction workforce regarding workforce development.



AB 525 Required Work Products

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



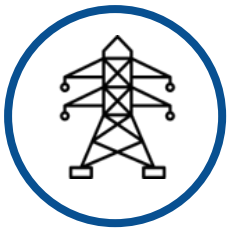
Additional AB 525 Requirements



Identify suitable Sea Space for wind areas in federal waters sufficient to accommodate the planning goals.



Develop a plan to improve waterfront facilities that could support a range of floating offshore wind development activities.



Assess the transmission investments and upgrades necessary, including subsea transmission options, to support the offshore wind planning goals.



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](#)



Thank You

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AB 525 Transmission Assessment

Melissa Jones



AB 525 Offshore Wind Transmission



AB 525 requires CEC to:

- Assess transmission investments and upgrades necessary to support the 2030 and 2045 offshore wind planning goals
- Identify relevant information on the cost of subsea high-voltage transmission
- Assess the existing transmission infrastructure and associate upgrade costs to support offshore wind energy development
- Consult with CPUC and CAISO



Goals and Objectives for Assessment

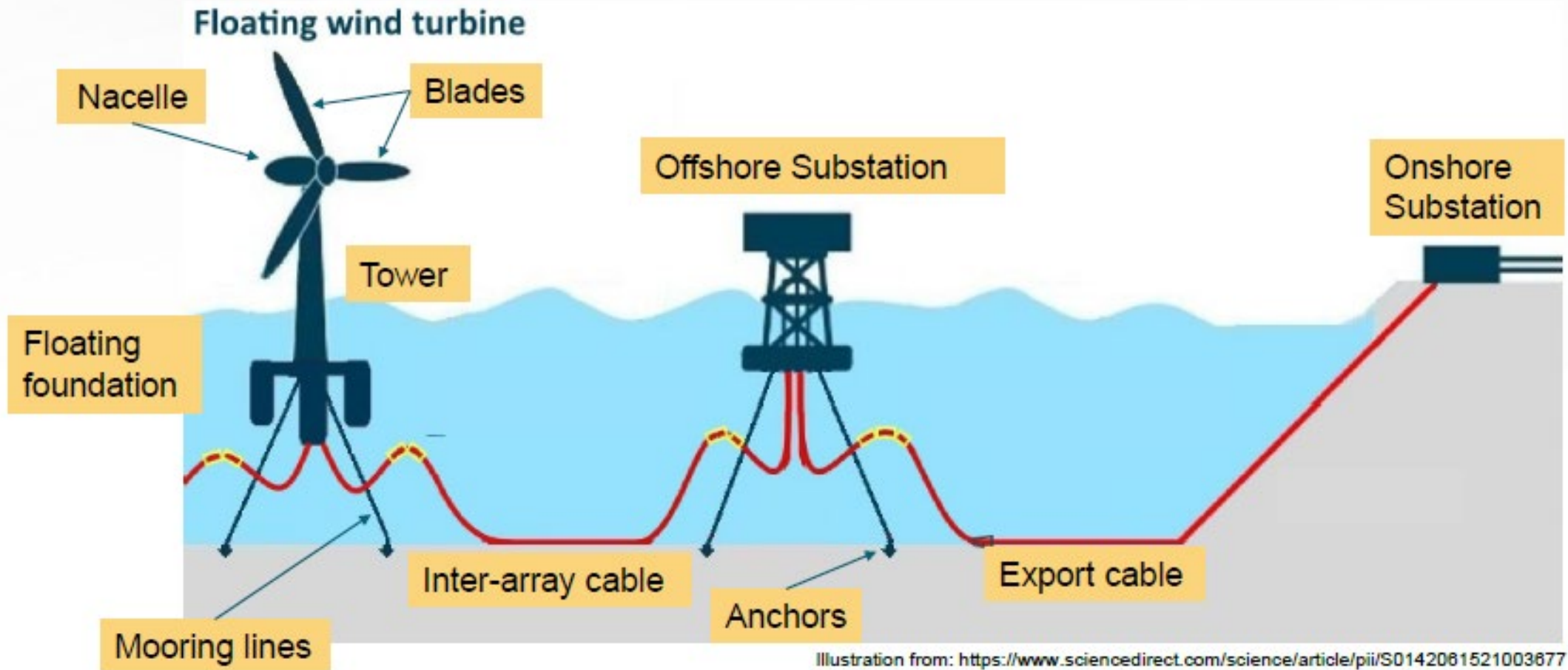
- Identify and assess existing transmission capabilities.
- Assess need and costs for transmission upgrades and new investments, including subsea cables, to meet the 2030 and 2045 offshore wind energy planning goals.
- Ensure the strategic plan captures adequate transmission solutions to deliver offshore wind resources to load centers.
- Identify longer-term strategies and approaches to ensure needed transmission is developed expeditiously.
- Build upon current and support future transmission planning efforts to access offshore wind resources, including information necessary to inform other pertinent topics (e.g. permitting roadmap and sea space).



Scope of Transmission Assessment

Illustration of Key Components for FOSW

The diagram summarizes the components of a semi-submersible platform OSW system.





Tasks and Timelines

- Develop analytical approach and initiate work efforts to support transmission chapter – September and October 2022
- Host public workshop on our approach to preparing the AB 525 Offshore Wind Strategic Plan.
- Conduct research and analysis – October 2022 through March 2023
- Host public workshop/webinar on approach and scope – November 10, 2022
- Draft transmission chapter – January through March 2023
- Host public workshop/webinar on research results and study findings – March 2023
- Release draft transmission chapter – April/May 2023
- Host public workshop on draft chapter – Late April to early May
- Present for Consideration at CEC business meeting – by June 30, 2023



Key Inputs

- CPUC Integrated Resource Planning (IRP)
- CAISO Transmission Planning Process (TPP) Offshore Wind Transmission Studies
- 2020/2022 Studies by Schatz Energy Research Center, Cal Poly Humboldt
- Current DoD funded Schatz Energy Research Center
 - Northern California & Southern Oregon Mission Compatibility and Transmission Infrastructure Assessment
- Transmission Infrastructure Research specific to – Subsea cable technology and costs, interconnection technologies and costs, etc.
- Others



Public Engagement

- Webinars and workshops
- State agency working group and coordination with federal partners
- Stakeholder Touchpoints – targeted stakeholder meetings with interested entities including:
 - industry representative and project developers;
 - environmental and conservation NGOs
 - local government and community organizations
 - others
- Engagement with Native American Tribes on transmission



Focus of Today's Workshop

- CPUC will present on the resource portfolio in recent IRP ruling that is critical input to TPP
- CAISO will review past offshore wind transmission studies from TPPs and 20 Year Outlook and work currently underway
- Schatz Energy Research Center will present on 2020 and 2022 transmission studies and DOD funded study underway
- The Danish Energy Agency will discuss their transmission approaches and experience



Thank You

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