California North Coast Offshore Wind

An introduction

Presented by Arne Jacobson, Director
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Cal Poly Humboldt
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Overview of Webinar

1. Introduction to Offshore Wind in the Humboldt Bay region (15 min)
2. Presentation: *California North Coast Offshore Wind Transmission Alternatives* (45 min)
3. Panel Discussion (25 min)
    1. Ali Daneshpooy, Quanta Technology
    2. Aubryn Cooperman, NREL
    3. David Erne, CEC
4. Audience Q&A (30 min)
5. Closing remarks (5 min)

Status of offshore wind in California

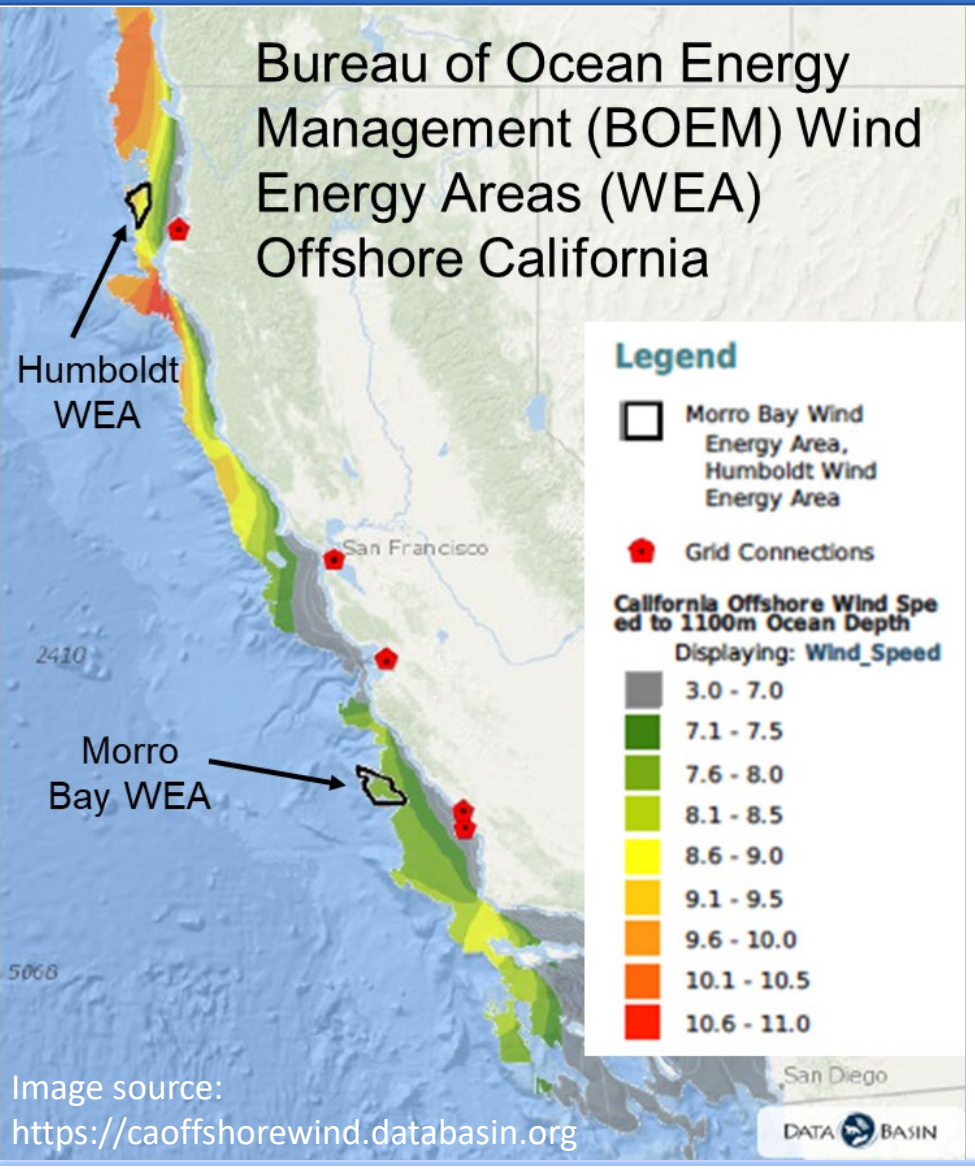

Image source: https://caoffshorewind.databasin.org

BOEM has designated two wind energy areas (WEAs) – Humboldt and Morro Bay – with lease auctions expected in 2022.

- The Humboldt WEA (HWEA) is 207 square miles, and begins 20 miles offshore from Humboldt Bay.
- The Morro Bay WEA is 376 square miles, and begins 20 miles offshore from San Luis Obispo County.

Recent and ongoing research

Schatz Energy Research Center

Over the past four years, the Schatz Center and partners have engaged in offshore wind feasibility studies covering:

- energy generation and transmission
- economics and job development
- port and coastal infrastructure
- environmental and geological systems
- stakeholder benefits and concerns
- seabird risk in relation to offshore wind

schatzcenter.org/wind
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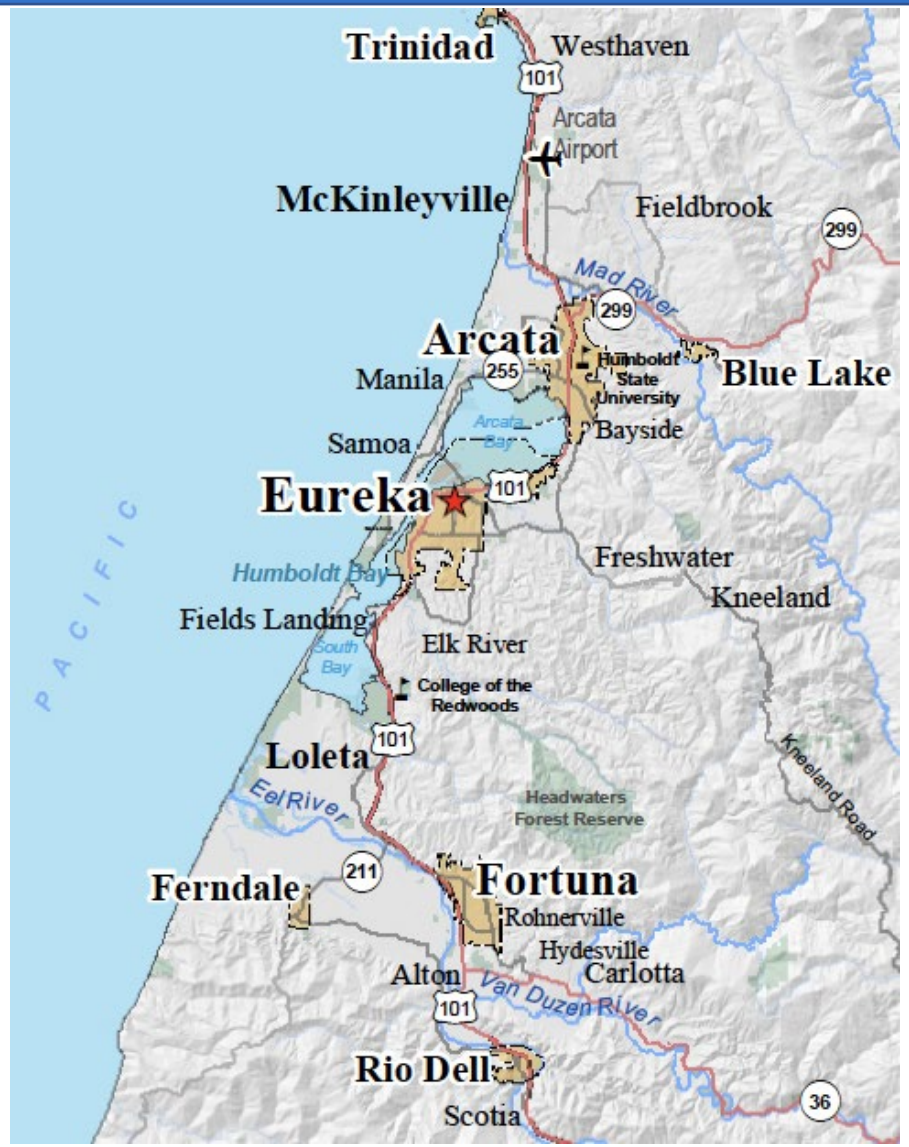
The Humboldt Bay area

California's north coast

Humboldt County is located in northwestern California and has a population of ~130,000 people



- The majority of the population of the county is concentrated around or near Humboldt Bay.
- The average regional electric load is ~100 MW.

Image source: https://humboldtgov.org/DocumentCenter/View/434/County-Display-Map---Color-PDF?bidId=

Tribal Nations of Humboldt Bay

Humboldt Bay is the ancestral and current home of the Wiyot People. There are three federally recognized tribes in Wiyot ancestral territory, including the Bear River Band of the Rohnerville Rancheria, the Blue Lake Rancheria, and the Wiyot Tribe.

Wind farm development and transmission expansion has relevance for multiple Tribes in the region, including in coastal and inland areas.

Regional readiness for offshore wind

Wind generation potential

The Humboldt Wind Energy Area (HWEA) includes one of the strongest wind resources in the United States.

An 1,800 MW wind farm in the HWEA could produce about 4% of California's electricity generation while contributing to the state's climate and clean energy goals.

Port of Humboldt Bay

Humboldt Bay is home to the only unobstructed port in Northern California with an adequate channel depth to deploy fully constructed floating offshore wind systems.

In 2022, the California Energy Commission awarded the Humboldt Bay Harbor District a $10.5M grant to support port redevelopment.

(At left is a portion of the anticipated wind system assembly site, which is now under redesign.)

Port of Humboldt Bay

With support from the state, the Humboldt Bay Harbor District has initiated planning, design, and permitting activities for a multi-purpose marine terminal that could support offshore wind development.

Jobs and economic development

Offshore wind development represents a significant opportunity for economic development and job creation in the region.

There are multiple, underutilized industrial spaces along Humboldt Bay – which could support not only assembly and maintenance for the wind turbines and their floating platforms, but also manufacturing for supply chain components.

Workforce development

In 2022, California State University formally designated Humboldt as its third polytechnic university. Cal Poly Humboldt's core research strengths include engineering, energy systems, fisheries, wildlife, biology, and environmental science.

The College of the Redwoods is a community college in the region with multiple programs relevant to workforce development in the building trades and other relevant professions.

Suitable development

Community and environment

Areas for attention include:

- Minimizing impacts to environmental and cultural resources
- Developing quality jobs and housing
- Mitigating marine, bay, and peninsula use conflicts
- Supporting port-adjacent communities and minimizing construction impacts
- Protecting vulnerable populations from harassment and violence
- Expanding public services to reflect impacts on community resources
- Preparing for sea level rise

Shared benefits and partnership opportunities

Opportunities to collaborate with the community include development that supports:

- oyster and seaweed aquaculture
- fisheries
- restoration of culturally and ecologically significant areas
- expansion of recreational and public fishing sites
- bay tourism
- affordable housing
- public services and infrastructure
- workforce development

For more information,
visit schatzcenter.org/wind
or email schatzenergy@humboldt.edu

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At Cal Poly Humboldt

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