Understanding Potential Impacts to the Marine and Coastal Environment of Offshore Energy Projects

Presented by:

Brian DeSanti II, Renewable Energy Specialist

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Hawai‘i’s Energy Policies

- 100% Renewable energy portfolio standard by 2045
- Decarbonization goals

Photo: US Department of Energy

Hawai‘i’s Energy Landscape

- 33% Renewable energy generation in 2023
- No commercial scale marine energy projects
- HECO IGP

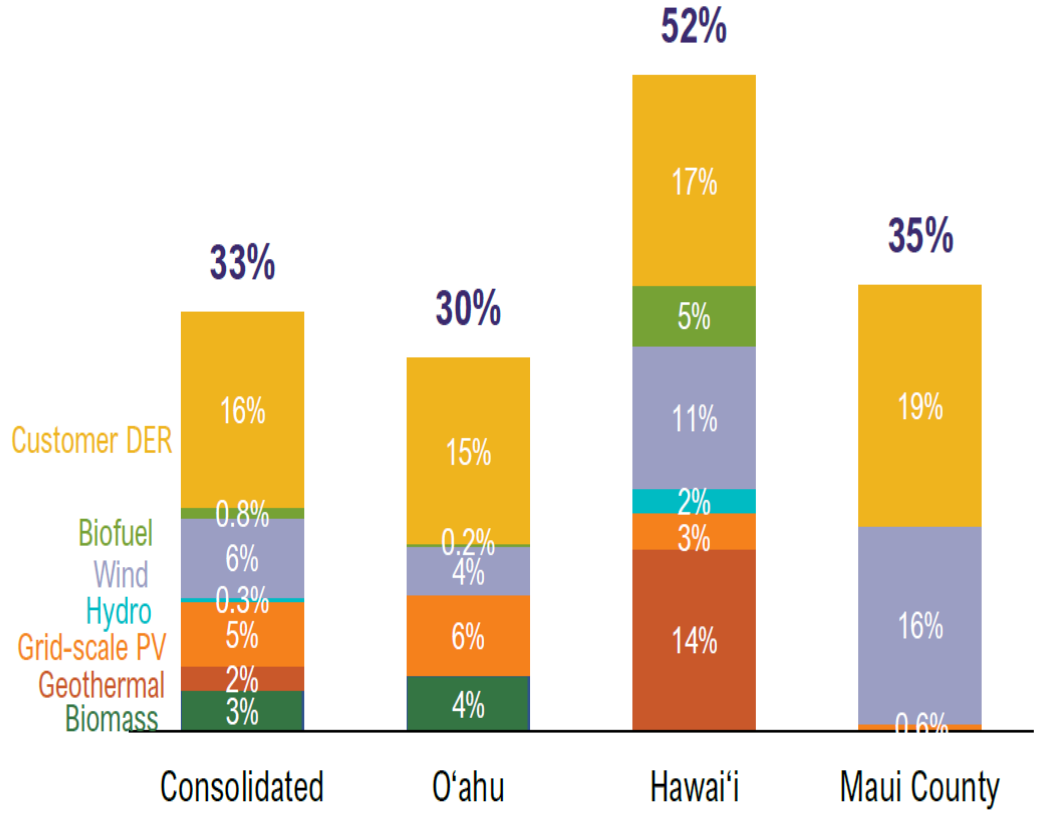

Figure 1: Renewable Portfolio Standards by Energy Source[4]

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Offshore Wind Industry

- No bids in Denmark
- Most mature ocean energy technology
- BOEM Guam Call for Information
- BOEM Hawai‘i Activities – 2024 Intergovernmental Task Force Meeting


Photo: Wind Europe

Offshore Wind – Hawai‘i

- Attached to the seafloor via cables – not fixed as in the Northeastern US
- Cable array interconnection
- Port space
- No access to regional supply chain


Photo: Ocean News

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Offshore Wind – Environmental Impact Considerations

- Fish aggregating devices (FADs)/No fishing zone
- Bird impacts
- Seafloor disturbances
- Electromagnetic Fields (EMFs)
- Cetacean migration routes
- Onshore connection points
- Cultural Impacts

Photo: David Fleetham/Getty Images

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Wave Energy

- Current project in Kāneʻohe
- 1.2 MW “test” buoy
- No standard design for industry
- CETO system in Australia

Photo: Ocean Energy USA LLC

Other Ocean Technologies

- Ocean Thermal Energy Conversion
- Current
- Tidal

Photo: Makai Ocean Engineering

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Mahalo & Questions

Brian.a.desanti@hawaii.gov

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