List of Draft Appendices

Offshore Wind Roadmap Review Draft #2 (November 2025)

Appendix A: Enforceable Policy Assessment

[first draft for Roundtable review, including information removed from Section 3 of the Roadmap main body]

Appendix B: Capacity Assessment
[undergoing agency review and revisions and not included in this draft]

Appendix C: Research Agenda
[not yet available]

Appendix D: Offshore Wind Context for Oregon
[built on background information pulled from Section 1 of the main Roadmap body]

Appendix E: Offshore Wind Permitting Opportunities and Guidance
[Conceptual outline under development]

Appendix F: Community Engagement Report
[Report to be available in December 2025]

Appendix G: Responses to Public Comments
[To be created following public comment period in 2026]

APPENDIX A: POLICY ASSESSMENT

Introduction

As part of fulfilling the requirements of House Bill 4080 Section 4, DLCD conducted an "assessment of the state enforceable policies that may be used in the Federal Consistency review of offshore wind energy leasing decisions and any other actions related to offshore wind energy development off of the Oregon coast."

The purpose of the assessment is twofold:

1. To identify existing state policies relevant to the development and approval of future offshore wind projects. This information may be informative to prospective developers, project applicants, or federal agencies.
2. To identify gaps in existing policies or potential new policies that the state may wish to address through new rulemaking or legislative action prior to conducting a potential future offshore wind project review.

Assessment Participants

The assessment of state enforceable policies was reviewed and refined through conversations with the Offshore Wind Roadmap Roundtable, a core team of state agencies, Oregon's Ocean Policy Advisory Council working group, local government planning staff[1], attendees of three public meetings along the Oregon coast, engagement efforts with fishing industry representatives, consultation with the Nine Federally Recognized Tribes of Oregon, and other community focus group engagement conversations. In addition, DLCD consulted the Environmental Law Institute to review the list and identify key policy gaps and provide feedback. The assessment was also reviewed by the Oregon Department of Justice for accuracy. [Note for Reviewers: Some of the engagement activities described above are still underway. This paragraph was written from the perspective that these activities will be completed before the Roadmap is released for formal public comment.]

Assessment Process

The policy assessment was structured around a compilation of key effects to coastal resources and uses that are either reasonably anticipated or uncertain but possible to be evaluated as part of a future review. The term "effect" can mean either an event or

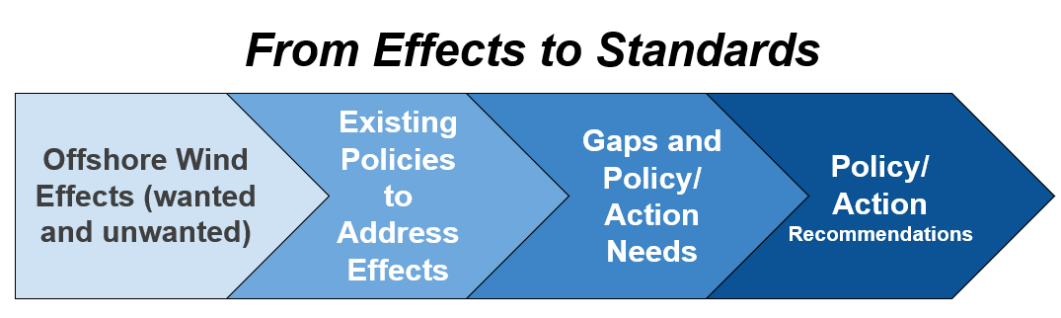
[1] Between November 2024 and May 2025, DLCD staff met with coastal communities that included 7 counties and 22 cities.

occurrence that should be avoided or a benefit that the state or a community may want to capture as a result of offshore wind development.

Callout: Coastal Effects in the context of state offshore wind energy review authority

The term "coastal effects" has a specific meaning and significance under the state's Federal Consistency review authority for offshore wind federal leasing and permitting actions. Under the Federal Consistency regulations[2], coastal effects include impacts in five major categories: natural resources, cultural resources, coastal economies, aesthetics, and recreation/public access. The review includes evaluation of direct and indirect impacts, including consideration of cumulative (impacts that add up) and secondary impacts (impacts that occur later in time or farther removed in distance) in or outside of the coastal zone that have 'reasonably foreseeable effects' on coastal resources or uses.

Federal Consistency review outcomes must be based on the "enforceable policies" of the state that have been approved by the NOAA Office for Coastal Management.[3] A state may not object to a project that has unacceptable coastal effects if there is not a corresponding enforceable policy that addresses the effect. An important step in the enforceable policy assessment in this Roadmap was to identify all reasonably foreseeable effects of interest so they could be compared to existing enforceable policies of the state. Effects not covered by an existing enforceable policy represent "gaps" that the state should consider addressing through formal policy amendments. Additionally, one of the key factors in the decision by NOAA to approve a state policy as an enforceable policy that may be used in Federal Consistency reviews depends on whether the policy in question relates to an effect on state coastal resources or uses.



The list of effects was developed from the following sources:

- Effects identified during the PacWave permit scoping process[4] (with amendments to be applicable to offshore wind instead of wave energy devices)

[2] eCFR :: 15 CFR Part 930 -- Federal Consistency with Approved Coastal Management Programs
[3] https://www.oregon.gov/lcd/ocmp/pages/enforceable-policies.aspx
[4] https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20140916-5198&optimized=false

- Effects identified in public and agency comments during the BOEM leasing Federal Consistency review in 2024[5]
- Section 3 of the Offshore Wind Roadmap Considerations document (2023)[6]
- Responses to the Roadmap Roundtable online survey conducted in December 2024
- Individual staff conversations and research into potential offshore wind effects from other projects on the East Coast and internationally, in support of future Federal Consistency reviews.
- Interviews with local government planning staff and state agencies

The list of effects was reviewed and refined over the course of one year through conversations with assessment participants identified above. DLCD staff compared these effects against existing enforceable policies of the Oregon Coastal Management Program and identified areas where policy gaps may exist to address those gaps in future offshore wind permit reviews. DLCD shared the results of this analysis with the Roundtable, core team of state agencies, and Oregon's Ocean Policy Advisory Council working group for initial feedback and engaged the services of the Environmental Law Institute to review the list and identify key policy gaps.

The full Enforceable Policy Assessment may be found below in Table A-1, with a summary of the identified gaps and opportunities found in Section 3.2 of the Roadmap.

Key Effects and Interests

Below are summaries of key effects to state coastal resources and uses that should be addressed and benefits that should be captured along a responsible path to offshore wind energy for Oregon. The effects are organized around objectives identified in House Bill 4080. An expanded presentation of effects considered in the policy gap analysis may be found in the Policy Assessment Table

Achieving State Energy and Climate Goals

As described in Section 1, Oregon is one of seven states in the Western US that has committed to achieving 100 percent clean electricity by 2040, on top of which recent demand forecasts predict that Oregon will need to double its current total energy generation by 2050 to meet rising demand. To participate in the clean energy transition, Oregon and the surrounding region need new renewable resources to supplement existing

[5] https://www.oregon.gov/lcd/OCMP/FCDocuments/OSW-FC-Public-Comments_COMPLETE.pdf
[6] https://oregonconsensus.org/wp-content/uploads/2024/04/Considerations_Oregon-FOSW-Roadmap-with-Exit-Ramps_04262024_final.pdf

energy sources (e.g. wind, solar, hydroelectric, geothermal) and meet increasing power needs.. OSW energy is one potential pathway to new renewable energy generation.

Following the 2024 BOEM Final Sale Notice for the Oregon Wind Energy Areas, four of the five eligible bidders signaled that they were no longer interested in participating in a lease sale process. Insufficient bidder interest was a leading contributor to BOEM's decision to postpone the lease sale for Oregon[7]. During development of this Roadmap, representatives of the OSW industry expressed that several aspects of the situation in Oregon posed a risk for investing in development as outlined below. As described in the ODOE Floating Offshore Wind Study (2022[8]), and through discussions supporting the development of this Roadmap, a number of specific benefits and challenges will need to be addressed through policies, investments, and actions in order to create an environment that can attract offshore wind energy investment in the future.

Access to Regional Markets

Currently, the market for buying and selling power in the Pacific Northwest is divided among 38 "balancing authorities" that face regulatory and economic barriers preventing open buying and selling of electricity across the region. One former representative of the offshore wind industry likened the situation of trying to sell large amounts of power from an offshore wind facility in Oregon to "selling a paper route," with multiple smaller customers who have individual needs rather than a larger buyer that can provide relative cost and demand stability and reduce investment risk. The fragmented market also presents challenges for intermittent resources like wind and solar that can lead to smaller grid areas having too much or not enough power at a given time and lead to imbalances in supply and demand that prevent renewables from producing at their full potential or selling power at reliable rates. Renewable energy policy advocates have envisioned the creation of a regional energy market that is "bigger than the weather" and that allows power to be sold across the region from the places that produce it to the places that need it – and can afford it.

Access to transmission grid capacity was also identified as a major barrier, with most of the transmission along the coast and between states owned by the Bonneville Power Administration, which is already facing challenges to connect new electricity sources.[9]

During Roadmap development conversations, the topic of out of state power purchasers came up frequently. Because Oregon has traditionally benefited from relatively lower electricity costs through the Pacific Northwest hydropower system, concerns were expressed about the potential for offshore wind to result in higher ratepayer costs if included in the mix offered by Oregon utilities. If offshore wind energy cannot be affordably

[7] https://www.boem.gov/newsroom/press-releases/boem-postpones-oregon-offshore-wind-energy-auction
[8] https://www.oregon.gov/energy/Data-and-Reports/Documents/2022-Floating-Offshore-Wind-Report.pdf
[9] https://www.opb.org/article/2025/05/12/oregon-washington-green-energy-bonneville/

sold in Oregon, future power may be purchased by ratepayers in other states under a regional market system. Under this scenario, the actual energy produced would be consumed at its nearest connection point, assumed to be the Oregon coastal grid, though the cost would appear on power bills elsewhere. Discussion around this scenario revealed a number of perspectives and considerations:

- There is no guarantee that the coastal power grid would receive any direct power, resiliency or reliability benefits from offshore wind. Potential benefits of an OSW support industry for Oregon coastal communities might include improving the resiliency or reliability of the coastal power transmission grid. However, building an OSW support industry might not be possible without an eligible in-state power purchaser available and willing to invest in an OSW project that would be economically feasible to operate. Without a policy requiring that wind power produced off the Oregon coast enters the West Coast power grid in Oregon, it remains possible that OSW power developed off Oregon could be transmitted directly to California or Washington by subsea cable..
- If offshore renewable energy is sold to another state, it is unclear whether this generation would count toward Oregon's non-greenhouse gas-emitting electricity goals under House Bill 2021 (2021[10]), or whether Oregon would still need to dedicate other space and resources to producing additional renewable energy for its own needs.
- Coastal communities may derive some economic benefit from "wheeling"[11] charges or franchise fees paid for the use of local grid infrastructure and rights-of-way to transmit power outside the state; however, representatives from local utilities expressed concern that these benefits may be relatively minor compared to potential losses in other existing coastal economic sectors.
- Some participants in the Roadmap process expressed a value that Oregon's coastal resources, uses, and community well-being should not bear adverse effects for the sake of meeting the energy demands of other states.

[10] https://www.oregon.gov/deq/ghgp/Pages/Clean-Energy-Targets.aspx#:~:text=In%202021%20Oregon%20State%20Legislature,with%20the%20electricity%20they%20provide

[11] Wheeling: The transmission of electricity over a third-party's grid from a generator to a purchaser who is not the grid owner. It allows a generator and consumer in different locations to transact power through an existing transmission network, typically for a fee, which facilitates the purchase of power from sources like renewable energy projects to remote end-users. (Source: https://www.eia.gov/tools/glossary/index.php)

Offshore Wind Industry Needs and Perspectives

At a February 2025 conference, renewable energy advocates and offshore wind industry representatives expressed the following priority needs for Oregon to reduce the risks to new generation projects[12]:

- **A state energy procurement strategy that includes:**
  - Clear Signals from the State that emerging renewable technologies such as Offshore Wind Energy is desired
  - A regional power market that addresses the fragmented procurement "paper route"
  - Amended policies that facilitate longer-range rate case planning than the 2-year horizon currently used in PUC review of utility resource plans
  - Procurement mandates from the state, similar to the California mandate for 25 GW of offshore wind energy by 2040
  - Consider combining procurement and supply chain investment pledges
  - Identification and facilitation of stable purchasers of power, such as large industries, data centers, or other large power consumers
- **Community acceptance for offshore wind, characterized as**
  - Support for offshore wind for its own sake - clean, reliable, resilient - without requiring that it solve other problems (but also not create other problems)
  - A willingness to build trust and invite renewable energy developers to the table;
  - Clear communication of the significant workforce, supply chain, and economic development that can benefit Oregon and coastal communities beyond negotiated community benefit agreements.
- **Regulatory Stability**, including clear, stable standards and clearly communicated information needs for state and local permitting processes.
- **Transmission Capabilities** to deliver offshore wind energy to the coastal grid and across the coast range to access additional markets in the state and region.
  - Responsibility for permitting, investing in, and constructing transmission infrastructure is typically beyond the scope of individual project developers and requires coordinated action involving utilities, communities, and state and federal entities.
  - Further study is needed to identify the transmission expansion necessary to deliver quantifiable energy resiliency and reliability benefits.
  - Regional collaboration to proactively plan and design offshore transmission configurations and onshore transmission expansion is also necessary to accommodate future energy needs of Oregon and other western states, including coordination with NorthernGrid, BPA, PacifiCorp, and interregional

[12] See Offshore Wind Roadmap Roundtable February 2025 Meeting Notes: https://www.oregon.gov/lcd/OCMP/Documents/OSW-Roundtable_April-MeetingMats.pdf

coordination with California and potentially other transmission planning regions.

Protecting the Environment and Species

Oregon's offshore waters host incredibly rich marine ecosystems that are part of the California Current Large Marine Ecosystem (CCLME)—one of the planet's four "eastern boundary upwelling systems" that comprise just 4 percent of the Earth's oceans but account for 20 percent of its productivity[13]. Birds, fish, and wildlife are drawn across the Pacific to forage in Oregon's productive waters as they transit the length of the CCLME. Some species of high concern include leatherback sea turtles, short-tailed albatross, green sturgeon, Southern Resident killer whales, and humpback whales.[14]

Floating offshore wind represents a relatively new human use of the ocean that is still evolving, and the effects are uncertain. Efforts are underway globally to study offshore wind installations – including the handful of floating arrays already in existence – to better understand how they affect/impact the environment. While some effects of potential concern are becoming better understood, many remain unclear. It is also true that not all scientific findings associated with these studies[15] are relevant to the eastern boundary zone of the CCLME and the specific species and habitats of this region. Effects of concern mentioned in the Roadmap process include behavioral/physiological impacts from noise, changes to benthic and pelagic habitats, food web alterations, primary productivity effects from changes in upwelling, risk of marine mammal collision from increased vessel traffic, risk of bird collisions from turbines (blade strike), release of contaminants from disturbance of seabed sediments, and invasive species introduction from vessels and imported components. Concerns were also raised regarding shoreside and estuary effects that may result from the development of support facilities and infrastructure at coastal ports and the modification of navigation channels to accommodate large vessels and structures.

Responsible development of offshore wind energy for Oregon should account for and protect the resources in the ocean and coastal environment and the people who rely on them for their many economic, cultural, spiritual, and aesthetic values. Protecting the environment means conserving wildlife (e.g., birds, fish, invertebrates, corals, marine mammals, etc.), their habitats (e.g., sand, reefs, essential fish habitats, etc.), and the

[13] https://oregonconsensus.org/wp-content/uploads/2024/04/Considerations_Oregon-FOSW-Roadmap-with-Exit-Ramps_04262024_final.pdf
[14] https://oregonconsensus.org/wp-content/uploads/2024/04/Considerations_Oregon-OSW-Roadmap-with-Exit-Ramps_04262024_final.pdf
[15] https://tethys.pnnl.gov/; https://tethys.pnnl.gov/us-offshore-wind-synthesis-environmental-effects-research-seer

ocean processes that are fundamental to food webs. Conservation means following a precautionary approach[16] and the mitigation hierarchy[17], starting with its foremost principle of avoiding harm and then being well prepared to minimize, rectify, reduce or eliminate, and compensate for any remaining unavoidable impacts over time. Successful mitigation also involves sufficient monitoring to identify and understand the effects of human actions in the environment and respond to unexpected change.

The ocean is currently facing a number of stressors that threaten its ecological future as well as existing industries that rely upon it (i.e., seafood). Many of these stressors are driven by climate change and its root causes and include ocean acidification, hypoxia, and marine heat waves[18]. There is also substantial uncertainty involved with developing the size and scale of proposed OSW energy in areas of the ocean that have not had permanent structures of this size and complexity before or at the depths considered off Oregon. There needs to be holistic planning, and consideration of cumulative impacts, not just within a single proposed wind farm but encompassing all reasonably expected wind energy developments within the CCLME. Because the impacts of commercial scale OSW energy might not be fully understood until the infrastructure is installed and the impacts occur, a precautionary approach is needed..

Shoreside Portions of Offshore Wind Facility Development

Based on the example of offshore wind Construction and Operations Plans (COP) approved on the east coast, the onshore components of a project reviewed by BOEM typically include a cable landing under the shore, an onshore transmission cable, and an onshore interconnection cable to connect to an existing electrical substation. The Sunrise Wind project, for example, included 17.5 miles of onshore transmission cable (6-inch diameter) buried to a depth of 6 feet. Similar components for a project in Oregon would need to obtain all necessary state and local permits and authorizations prior to approval of a COP.

Any other onshore support facilities or infrastructure necessary to support an offshore wind installation but are not included in a Construction and Operations Plan for an OSW facility (e.g., port staging and integration facilities, navigation channel modifications,

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[16] https://www.oregon.gov/lcd/OCMP/Documents/TSP_Part5_PublicationVersion_correctedEPs_01172023.pdf (see Definitions and Terms)

[17] https://oregon.public.law/rules/oar_635-415-0005; https://secure.sos.state.or.us/oard/displayDivisionRules.action?selectedDivision=2989; https://secure.sos.state.or.us/oard/displayDivisionRules.action?selectedDivision=350; https://www.oregon.gov/lcd/OCMP/Documents/TSP_Part5_PublicationVersion_correctedEPs_01172023.pdf; https://www.oregon.gov/lcd/OCMP/Documents/TSP%20Part%20Four%20-%20Uses%20of%20the%20Seafloor%20.pdf

[18] https://www.oregonocean.info/index.php/doclink/oah-2024-legislative-report-final-with-appendices/eyJ0eXAiOiJKV1QiLCJhbGciOiJIUzI1NiJ9.eyJzdWIiOiJvYWgtMjAyNC1sZWdpc2xhdGl2ZS1yZXBvcnQtZmluYWwtd2l0aC1hcHBlbmRpY2VzIiwiaWF0IjoxNzI5MDE3MzE2LCJleHAiOjE3MjkxMDM3MTZ9.VC7EQc-53PsjS8c-jqMJ35Jt0Zw3vzTpjliEx0NWaTE

manufacturing or fabrication facilities, or operations and maintenance facilities) would not be subject to review alongside the offshore wind energy proposal. These other components, if developed in Oregon, would undergo separate state and/or local permitting and review and may or may not trigger Federal Consistency review depending on whether a federal permit is also required. These additional related components of an offshore wind presence may also occur years apart from a decision whether to build an OSW array, either because a supply chain and support industry is developed to serve projects elsewhere, shoreside facility support would need to be already in place to speed construction, or the overall timing and logistics of lengthy permitting processes.

There is an interest in integrating the reviews of offshore generation facilities and onshore related support facilities as a single "decision package" for the state to consider. The purpose of this would be to account for all related system effects of offshore wind together, to consolidate community agreements, or to avoid taking actions with potentially significant environmental effects (such as estuary modification) before it is known if the purpose and need is fully realized. The practical and regulatory complications described above may hinder the ability to integrate these separate actions in a formal manner.

Protecting Tribal Cultural Resources and Other Interests of Tribes

The ocean is a source of life and subsistence for Tribes, and the ocean represents creation for many Tribal people. DLCD recognizes and respects that Oregon tribal nations are each separate and sovereign nations with deep cultural and historical connections to the Oregon Coast. The development of offshore wind has the potential to affect the interests of Tribes in myriad ways, and HB 4080 specifically directs this Roadmap to define standards for offshore wind that would accomplish, "Protection of tribal cultural and archaeological resources, culturally significant viewsheds and other interests of Indian tribes."

In discussions with representatives of the Nine Federally Recognized Tribes of Oregon, several interests were raised related to the potential for offshore wind energy development in Oregon. These issues apply to both the offshore and onshore aspects of development and are summarized below.

- Protection of Culturally Significant Viewsheds
    - Tribes have expressed an interest in preserving culturally significant coastal viewsheds from significant effects resulting from the presence of offshore wind turbines.
- Protection of Natural Resources as Cultural Resources
    - The State of Oregon respects that Tribes have a deep ongoing cultural and historical connection to the natural resources that have been an integral part of lifeways since time immemorial and are still important and relevant for

Tribes today. Natural resources should be protected for their cultural value as well as their intrinsic and economic value. Natural resources may include species, habitats, or other environments of natural value, including natural resources of cultural significance that are not harvested for human use by Oregon Tribes (e.g., whales).

- Protection of Archaeological Resources, including Underwater Villages
    - The State of Oregon considers archaeological sites and their contents to be irreplaceable, finite, and non-renewable resources that are part of Oregon's heritage. Native American archaeological and burial sites are not simply pieces of the tribe's cultural past - they are considered sacred and represent a continuing connection with their ancestors. The people of Oregon, and state agencies acting on their behalf, are stewards with a public trust responsibility towards these sites and their contents.
- Protection of Areas Used for Cultural Practices
    - Cultural resources are distinct from archaeological resources under Oregon laws and policies. Archaeological resource sites may be generally defined as those areas in the state that yield historical artifacts, whereas cultural resources may be broadly defined as places where Tribes engage or historically engaged in traditional activities such as food gathering but which may not leave behind a physical signature such as artifacts.
- Protection of Tribal Subsistence and Commercial Fishing
    - Tribes expressed concern about potential effects to commercial, subsistence, or ceremonial fishing practices that may result from offshore wind development. Effects of concern included area exclusion, concentration of fishing pressure, and effects to species from loss of habitat or effects to anadromous species like salmon or lamprey.
- Use Indigenous and Traditional Knowledge in State Decision-Making
    - Tribes have knowledge of the Oregon coastal and ocean environment that dates back to time immemorial. This knowledge can be an asset to the state in combination with new scientific research to better understand and value the potential effects of offshore wind development and the species and habitats that may be affected.
- Tribal Engagement Expectations in Future Offshore Wind Processes and Inclusion in Offshore Wind Decision-Making
    - Tribes expressed an interest in both engagement in offshore wind development and inclusion throughout the entire process of siting, exploring, permitting, operating, and decommissioning an offshore wind energy project. They emphasized that BOEM has a federal responsibility for government-to-government communication with Tribes as part of its tribal trust

responsibilities, and this responsibility should not be delegated to private leaseholders.

- Tribal Mitigation Agreements
    - Tribes have expressed an interest in negotiated agreements to address potential effects to Tribal community well-being or access to usual and accustomed places or resources of cultural significance. Tribal benefits are separate from other community benefits, and developers must engage with Tribes independently and separately from other communities. However, there may be opportunities to combine efforts while considering the unique interests of Tribes. A challenge was recognized that it is difficult to discuss Tribal mitigation agreements when impacts are not yet understood or disclosed at the leasing stage.
- Opportunities for Co-Stewardship and Business Partnership
    - Governor Kotek expressed in a March 2025 letter to Tribes an interest in strengthening the state's efforts to provide support for Tribal enterprises, including emerging industries such as renewable energy, sustainable tourism, and advanced manufacturing to support long-term economic resilience of Tribes. Tribes have expressed interest in being included in business partnership opportunities related to the many types of manufacturing, environmental, scientific, and other work that may arrive alongside any future offshore wind development. Opportunities for co-stewardship of resources and habitats are also of interest.
- Data Collection, Monitoring, and Access
    - There is strong interest from Tribes and members of the public to have access to the data and information supporting offshore wind permitting decisions, both to safeguard against bias in information collection and to allow independent assessment of potential effects from a proposed project. There was also interest expressed in Tribes having data sovereignty regarding information that is shared (i.e., that Tribes have the ability to host data themselves and privately evaluate it relative to their own sensitive historical or cultural information). A perspective was shared that when data has been collected on Tribal resources, Tribes should have independent access to that information for their own purposes. The state shares an interest in transparent decision-making and providing access to data and information whenever possible. At the same time, we acknowledge that some information may be proprietary in nature and not accessible due to existing legal protections for such information.
- State Role in Sovereign Communications between Tribes and Federal Government

    - Tribes, the State of Oregon, and the Federal Government all have varying sovereign interests in the uses and resources of the coastal zone. While the offshore wind leasing and permitting process is federally-led, there are phases and aspects of the process for which a "three sovereigns" approach to coordination and communication would support the respective interests.
- Tri-Party Communication with Tribes, State, and Developers
    - Based on conversations with Oregon Federally-Recognized Tribes as part of developing this Roadmap, there is an interest in greater alignment with both the state and offshore wind developers regarding expectations for project design, survey activities, and project effects. This direct coordination should occur in the multi-year long period after the leasing stage before a Construction and Operations Plan has been submitted for BOEM review, as well as during the state's Federal Consistency review of the COP.
- Protection of Tribal People During Implementation of Offshore Wind-Related Projects
    - The California Assembly Bill 525 Strategic Plan[19] reported that, "Consultation with tribes and review of relevant research indicates a sharp increase of violence and missing Native American people during an influx of nonlocal workforce supporting the development of a new industry. Typically, the nonlocal workers are housed in areas called "man-camps," which can overburden local communities' public safety personnel and put Native American people at risk for sexual and gender-based violence. Additional research is necessary to fully understand if the increase of the offshore wind workforce in local communities will increase the MMIP crisis." The Strategic Plan, "Encourage[s] project proponents to continue to study and develop public safety measures to reduce violent crime and sexual and gender-based violence particularly against Native American and other vulnerable populations." A 2024 report by the Natural Resources Defense Council[20] reported that in June 2023, the Yurok Tribal Court published a report outlining recommendations for preventing MMIP in Humboldt and Del Norte Counties as a result of OSW development.[21]
- Tribal Capacity Needs to Support Offshore Wind Engagement
    - In order to participate fully in an ongoing engagement process for offshore wind planning and development, there is a recognized need for increased

[19] https://efiling.energy.ca.gov/GetDocument.aspx?tn=257404
[20] https://www.nrdc.org/sites/default/files/2025-05/CA_Offshore_Wind_R_25-05-A_06_locked.pdf
[21] https://lostcoastoutpost.com/loco-media/loco-media/blog/post/37499/How%2Bto%2BPrevent%2BMMIP%2Band%2BProtect%2BNative%2BWomen%2BGirls%2Band%2BPeople%2Bin%2BHumboldt%2B%2BDel%2BNorte%2BCounty%2Bas%2BMajor%2BDevelopment%2BProjects%2BCome%2BInto%2Bthe%2BRegion27%2B%2528002%2529.pdf

Tribal staff capacity at multiple phases of an offshore wind development lifecycle.

Supporting Coastal and Regional Communities

Offshore wind energy in Oregon presents both opportunities for coastal community benefit and concerns about potential unwanted effects from development. Offshore wind energy development should create opportunities and benefits that build on the existing strengths of coastal communities. Supporting communities means taking the time to understand existing socioeconomic context and to find solutions that do not overburden overtax local resources and that do not tear apart or degrade the community culture and economy. It means not pre-supposing that what is good for other communities or state goals is also a benefit for Oregon's small coastal towns. It means communicating forthrightly about potential impacts as well as benefits, and supporting coastal communities to have the opportunity for autonomy and input on decisions that shape their future. It means recognizing the need to communicate in ways that coastal communities can have meaningful input and be partners in shaping if and how OSW energy will be incorporated into the existing community fabric.

Through the involvement of the Roadmap Roundtable, focus group conversations with community groups, and comments received during public meetings, several topics were raised. A non-exhaustive list is summarized below.

- Travel Oregon reported that nearly $950 million in earnings per year come to the Oregon Coast via tourism, with $200 million per year coming to the south coast. On an average day, the overnight visitor population increases the coastal population by 22 percent more than the number of residents in the area (68 percent of overnight visitors stay in hotels, motels, or short-term rentals)[22]. The tourism economy supports 26,500 jobs on the coast, with 8,000 of those jobs coming in the last 20 years. The majority of those jobs are in the accommodation and food service sectors, but tourism also supports arts/entertainment, recreation, retail spaces like groceries and gasoline, and others. The reported revenue represents only the direct dollars from tourism, but there are secondary effects throughout a coastal community's economy tied to tourism.
- Travel Oregon reported that 96 percent of people surveyed who travel to the coast were motivated by the natural beauty of coastal environments, and 97 percent responded that they were highly satisfied with their experience of coastal scenery. This represents the largest attraction for coastal tourism. Concerns were expressed

[22] https://industry.traveloregon.com/wp-content/uploads/2025/05/Oregon_2024_2025-05-01.pdf

around the potential effects to natural beauty and tourism if turbines were visible or if a turbine experienced failure and had parts wash up on shore.

- The lack of housing availability was raised consistently in communities up and down the coast, specifically a lack of affordable, available housing to meet the needs of workers and their families, including the needs of first-time home buyers who are drawn to the Oregon coast by the availability of OSW-related employment. For example, the typical housing vacancy in Coos Bay is only 1-3 percent currently, and the pace of new housing development is already lagging far behind the projected need. Housing in turn affects the job market on the coast. For example, multiple communities expressed that they have a difficult time keeping teachers and other essential positions filled because the people in those positions can't find affordable housing. Many people raised concerns not only about what effect an influx of new workers might have on existing residents, but also several related issues that might result, such as:
    - If hotels or other temporary rentals are converted to long-term lodging for workers, those rooms are no longer available to support the tourism industry, which could have ripple effects through the tourism economy.
    - Converted long-term accommodations are not subject to lodging taxes, which can lead to deficits in local government services that rely on the lodging tax base. For example, Coos Bay retains 61 percent of lodging taxes for local community general funds. Lodging taxes are also used to support marketing for tourism, and if this support were to decrease or disappear, a community might suffer a compounded decline in tourism for years to come. Additionally, hotels would incur costs from needing to renovate their facilities after people had lived in them for sustained periods of time.
    - Communities lack the critical infrastructure to support significant housing expansion, including water availability, water and wastewater infrastructure, electricity and grid infrastructure, and available land.
    - If new housing is built to accommodate an increased workforce, it is important that it be quality construction that can be used by the community for years to come. Community members expressed concern about the creation of "man camps" like has occurred historically in other boom towns.
- Clear enforceable accountability measures need to be in place in the event that mishaps or unexpected harms result from offshore wind installation activities or from failures of turbines during the full operational life of a project. Community members cited a recent blade failure[23] during installation of a project on the east coast that led to fiberglass and foam blade fragments washing up on local beaches as an example of a situation where a developer should have a firm responsibility to

[23] https://nantucketcurrent.com/news/one-year-later-vineyard-wind-blade-failure-still-unfolding

communicate early, clean up messes, and compensate local businesses that might be affected by lost access and economic opportunity that results.

- Some community members expressed interest in the positive community effects that could come from jobs and economic development related to offshore wind. Offshore wind development could raise revenue and economic development for coastal and statewide communities, such as: State, county, and. Local revenue from income tax from workers building ports, transporting supplies and materials critical to offshore wind, and building and constructing turbines off Oregon's ports. Additionally state, county, and local revenue could be raised from co-ownership of building and upgrading transmission infrastructure. There may also be benefits to tocal tourism and business spending from an influx of workers and families to coastal areas.
- Some community members recognized the potential energy resilience from a reliable energy source that does not have to cross the Coast Range on limited transmission lines subject to disruption from events like winter storms or wildfires. Community members expressed concern that offshore wind may not be cost-competitive and could lead to higher local power bills. Several community members also stated that if offshore wind is located off Oregon, the power should land within the state and benefit the coastal grid rather than be routed offshore directly to other states like California where the cost of power is higher and offshore wind may be more competitive.
- In 2024, Coos and Curry counties each passed ballot measures advising county officials that voters want them to oppose offshore wind turbine projects in their areas. The measures were approved by 60 percent and 80 percent, respectively. While local ballot measures can't be used in state review processes as a basis to object to a project, they signal that community acceptance of offshore wind among voters is low. What is not clear from the results is whether they constitute permanent local opposition and whether community acceptance might change in the future as a result of better information, more inclusive engagement at the community level, or enforceable conditions or agreements that could safeguard community interests and secure benefits from development.
- Community members expressed value toward the continued ecological health of their estuaries, species, habitats, and other natural places in their local vicinity and do not want offshore wind development to irreparably harm these natural environments.
- Ports and fishing represent the heart of many coastal communities and contribute to local economies, culture, and tourism. Adverse effects to the various fishing communities from offshore wind development would have wide-ranging effects on community well-being.

- Community members and organizations in the Coos Bay area reflected that the local history has seen multiple new industries try to come in, including offshore wind, promising economic uplift but failing to communicate and collaborate early to understand the needs, infrastructure constraints, and questions of the community. These past experiences have eroded trust in private industries and government and led to broken relationships within the community whose effects lasted after the new industry eventually gave up and withdrew. Community members expressed a desire for thoughtful development, especially concerning housing needs and effects on existing economic drivers, and a meaningful engagement process that brings good information and resources well before it is time to make decisions about leasing or permitting for projects.

Protecting and Maintaining Oregon's Fisheries Uses

Recreational and commercial fisheries, subsistence fisheries, seafood processors, portside services, and other seafood industry businesses form the heart of many coastal communities. Oregon fisheries also contribute to food security in Oregon and beyond by providing sustainable seafood proteins. The development of offshore wind in Oregon would need to sustain the economy, culture, and character of the Oregon coastal fishing communities, as well as the long-term sustainability of Oregon fisheries.

Many fishing and seafood industry jobs are intergenerational jobs that require niche skill sets, with career opportunities that are distinct from energy related jobs. The fishing sector is supported by a number of secondary industries, including wholesalers, processors, markets, refrigerated warehouses, shipbuilding and boat repair establishments, heavy construction industries, and marine transportation services.

Fishery -- an activity leading to harvesting of fish; typically a unit defined in terms of people involved, species or type of fish, area, fishing method, gear, class of boats, and/or purpose (NOAA 2005).

Commercial fishing refers to the whole process of catching and marketing fish and shellfish for sale (NOAA 2005).

Recreational fisheries refers to non-commercial activities of fishermen who fish for sport or pleasure, as set out in the MSA definition of recreational fishing, whether retaining (e.g., consuming, sharing) or releasing their catches, as well as the businesses and industries (e.g., the for-hire fleets, bait and tackle businesses, tournaments) which support them (NOAA 2015).

Subsistence fishing – A fishery where the fish caught are shared and consumed directly by the families and kin of the fishers rather than being sold at the next larger market (NOAA 2005).

Figure 1. Fishery Types (source: NMFS, 2024. Socioeconomic Characterization of West Coast Fisheries in Relation to Offshore Wind Energy Development)

Oregon commercial and recreational fisheries are important contributors to the State's economy. Total Oregon marine commercial and recreational economic

contribution was $288 million in income, an estimated $625 million in output, and supported approximately 4,120 jobs at the statewide economy level in 2021.[24], [25]

The most important (highest harvest revenue generating) nearshore commercial fisheries are Dungeness crab, salmon troll, and nearshore groundfish. The coastwide total harvest value for nearshore fisheries was $128.5 million in 2021 which was 63 percent of the coastwide total of all commercial fisheries. In 2021, 123 buyers (e.g. processing plants, restaurants, and similar entities) each purchased at least $10,000 worth of Oregon commercial fishery landings. The economic value added from processing was estimated at $138 million.

The West Coast commercial fishery landings in 2021 were 144,000 metric tons, representing $205 million in revenue. The top three ports–in terms of both commercial landed weight and revenue in 2021–on the West Coast were Westport in Washington, and Astoria and Newport in Oregon (NMFS 2022b).

Additionally, in 2021, recreational ocean finfish fishing effort included approximately 98 thousand angler days targeting salmon (often combined with bottomfishing trips) and 111 thousand angler days targeting non-salmon species such as tuna, halibut, and bottomfish. This activity generated $50.9 million in trip spending, resulting in $17 million in income, an estimated $46 million in output, and supported approximately 310 jobs at the coastwide economy level.

Fishing Community Concerns around Offshore Wind Development

Conversations with fishing community members during the development of this Roadmap revealed a number of concerns related to potential future offshore wind projects. One participant summarized:

> *One of the primary concerns is whether the tradeoff between ocean users who produce sustainable proteins to Oregon and beyond is worth risking ocean health and an as-yet unproven industrial development that could disrupt ocean systems for years to come . . . The state needs to carefully consider the tradeoffs of healthy, sustainable protein (and the state programs it benefits) and renewable energy that can be replaced with other forms of energy. It must be considered holistically.*

Other specific concerns include:

- Uncertainty about how the extraction of wind energy from the California Current Large Marine Ecosystem might affect natural upwelling processes and the

[24] https://www.dfw.state.or.us/agency/docs/TRG%20Oregon%20fishing%20industry%202020-2021%20ES.pdf
[25] https://www.dfw.state.or.us/agency/docs/TRG%20Oregon%20fishing%20industry%202020-2021%20Report.pdf

corresponding primary productivity that supports the marine food web off the Pacific coast

- Concern about direct exclusion of certain types of fishing vessels from wind farm areas. While BOEM has stated that they would not explicitly restrict vessel movement within offshore wind arrays, it is not clear whether the Coast Guard would establish navigational exclusion areas for safety or national security purposes. Fishing community members also expressed concern about the presence of mooring lines and intra-array electrical cables in the water column interfering with mid-water and bottom trawling operations. Others also expressed concern that vessel insurance companies may restrict navigation through offshore wind arrays due to increased risk and liability.
- Uncertainty about the effect on fishing If offshore wind arrays act as "fish attraction devices" that draw more fish from unrestricted areas into an array footprint. There is concern that this may create a compound effect on catch efficiency that "hits twice".
- Concern that as offshore areas become restricted for fishing uses, the remaining unrestricted areas may experience a "squeeze" of vessels that could increase conflict and reduce catch efficiency.
- Concern about interference with vessel radar around offshore wind arrays affecting safety at sea and rescue operations.
- Concern that placement of offshore wind arrays within historical stock assessment sampling locations may affect the scientific accuracy of annual quotas for species catch.
- Concern regarding gear loss or vessel damage from entanglement in offshore wind equipment
- Concern about the potential for port space competition with offshore wind installation or maintenance vessels in Oregon ports. This competition could affect both Oregon vessels and transient moorage for visiting fishing fleets.
- Concern about effects on catch efficiency and safety at sea related to the need to transit around offshore wind areas.
- Concern about potential for changes to whale migratory patterns, moving further inshore where an increased potential for interactions with fishing vessels might occur.
- Uncertainty and concern about electromagnetic field effects on certain crustacean species at different life stages
- Concern that area exclusion from lower-risk bycatch areas may increase risk of bycatch for certain fisheries that have to move into higher bycatch risk areas.
- Compound effects of offshore wind development and changing ocean conditions (e.g., fish migration, acidification, hypoxia, marine heat waves) on available catch.

- Secondary effects to processing and support economies resulting from reduced catch efficiency or relocation of fishing effort away from restricted areas.
- Perception and concern that the BOEM-led spatial planning process that identified the Oregon WEAs did not account for all areas important to fishing, such as spawning grounds for certain species.
- Uncertainty whether impacts to protected species from offshore wind operations would affect or restrict the allowable take for fishing uses (e.g., would it result in a "splitting" of allowable take between industries for species such as the short-tailed albatross under the Endangered Species Act).
- Concern about cumulative or multi-generational effects related to the loss of livelihoods, effects on national food security provided by fisheries, generational effects on the fisheries, etc.

Fishing community members routinely expressed that they did not feel the Bureau of Ocean Energy Management had heeded their recommendations to avoid certain areas important to fisheries uses or the species they rely on (e.g., spawning grounds for Dover Sole within the Coos Bay WEA). They also emphasized that the fishing effort datasets used by BOEM in the siting process did not adequately account for certain types of fishery uses, most notably the recreational fishing fleet.

Furthermore, the lack of a cumulative impact assessment during the leasing phase meant that uncertainties regarding the cumulative effects of species location changes, fishing area squeeze, and regional industry effects were not adequately considered.

In 2025, the Government Accountability Office (GAO) corroborated these findings in its report titled "Offshore Wind Energy: Actions Needed to Address Gaps in Interior's Oversight of Department"[26] The GAO noted gaps in the federal oversight process by BOEM and BSEE, particularly regarding meaningful Tribal consultation, engagement with the fishing industry, community outreach, and regional capacity. Fisheries representatives specifically reported vague incorporation of their input during leasing stages. The GAO recommended that BOEM take steps to ensure that it adequately demonstrates and publicly reports its consideration of fishing industry input.

Create Economic Opportunity and Sustain Existing Economies

Under most alternative future scenarios in the Roadmap, Oregonians would have the opportunity to benefit from the economic opportunities associated with OSW development and generation, including opportunities from manufacturing components and vessels,

[26] https://www.gao.gov/products/gao-25-106998

providing maintenance and operations offshore, portside services, and supporting power and utility operations onshore. To capitalize on these opportunities responsibly, Oregon should thoughtfully plan for the additional investments in infrastructure, housing, and social services that will be required in Oregon's coastal communities to support a new responsibly developed OSW energy industry. The state should learn from experiences in other similar new industries that promised new development and economic opportunity on the coast, to compare what was expected versus actual experiences.

[Note for Reviewers: A supply chain focus group is scheduled for October 2025 with the intent to seek additional perspectives on the challenges and benefits of offshore wind economic opportunities. A future revision of the Roadmap will contain more information in this section.]

Develop Oregon's Offshore Wind Energy Workforce

Achieving Oregon's clean energy mandates requires a skilled and trained statewide workforce, ready to meet the full spectrum of needs in this rapidly growing sector. This is particularly true in the OSW energy industry, where Oregon workers will potentially be involved in everything from the manufacturing, fabrication, and installation of platforms, turbines, transmission lines, and other components, as well as their repair, maintenance, decommissioning, and replacement.

Along with achieving Oregon's climate goals, the State has a responsibility to set standards for these historic public investments and support the sharing of economic benefits broadly across Oregon. This requires a comprehensive plan for developing and supporting the clean energy workforce, including the infrastructure, housing, and social services in Oregon's coastal communities that this future workforce will require. This step is critical for the transition to clean energy to create good jobs and lasting community benefits, particularly for Oregon's most impacted communities.

- Construction, Operations/Maintenance, and supply chain jobs should create family—specifically union—wage careers for coastal communities and Oregonians. Holistically, approaches to blue- and white-collar careers for coastal and stateside Oregonians in offshore wind should lead to: 1) tuition-free or debt-free apprenticeship training, 2) Apprenticeship training that leads to a job with living wages and family health and retirement, 3) and on-going workforce protection and worker-to-worker union support.
- An offshore wind workforce would need to be properly trained with apprenticeship opportunities to sustain an ongoing level of opportunity and expertise. This workforce preparation requires years of planning and coordination with local

communities, training programs through local and regional education institutions, and a reliable pipeline of work post-training.

- The growth of an offshore wind workforce would require community and social services such as housing, healthcare, childcare, transportation, public safety, and other essential services
- An offshore wind workforce would need to be supported by enforceable project labor agreements that uphold a living wage, equitable hiring practices, and good benefits

Key Existing Policies

The State of Oregon recognizes the need to address and protect coastal values of land and water, through the Oregon Coastal Management Program. The Program is made up of 41 partners at the county and city level and 11 state agency partners. Each local entity has documents governing how they operate and guiding how they administer land use in their community. Each state agency has chapters of statutes guiding operations and helping them administer state law. These documents include comprehensive plans and land use regulations, state statutes, and statewide planning goals. The following identifies key existing enforceable policies as they relate to offshore wind energy development. Other existing state policies may also be relevant to aspects of offshore wind development, such as energy or labor policy and are referenced here where appropriate.

What are Enforceable Policies?
The Oregon Coastal Management Program (Program) is made up of 41 partners at the county and city level and 11 state agency partners. Each entity has documents governing how they operate and guiding how they administer their authorities. These documents include comprehensive plans and land use regulations, state statutes, and statewide planning goals.

Within the various statutes, goals, plans, and ordinances only certain elements meet the criteria to be used for Federal Consistency review. These special policies are called enforceable policies. A legal definition of enforceable policies is available in the federal regulations. Enforceable policies are the parts of the Program that are legally binding and can be enforced. Enforceable policies are used during the Federal Consistency review process. The federal activity (e.g., offshore lease or federal permit) is compared to the enforceable policies that apply to it. This review determines whether a project is consistent with the enforceable policies of the management program.

Meaningful Engagement

Statewide Planning Goal 1: Citizen Involvement

The foundation of the statewide program for land use planning in Oregon is the 19 Statewide Land Use Planning Goals, with citizen involvement being integral in land use planning in Oregon. This requirement is one of the things that make Oregon's land use planning program unique. The requirement for public participation is written in the first goal of nineteen in the statewide land use planning system. Goal 1 calls for "the opportunity for citizens to be involved in all phases of the planning process." It requires each city and county to have a citizen involvement program that addresses:

1. Opportunities for widespread public involvement
2. Effective two-way communication with the public
3. The ability for the public to be involved in all phases of the planning process
4. Making technical information easy to understand
5. Feedback mechanisms for policymakers to respond to public input, and
6. Adequate financial support for public involvement efforts

There have been changes in population and diversity as well as substantial shifts in public engagement since its 1988 adoption. Goal 1 is not always effectively implemented in fostering meaningful public engagement. Establishing relevant engagement standards that reflect the needs of the citizens of Oregon and the Nine Federally Recognized Tribes of Oregon is important.

Oregon Public Review Process.

For general permits issued by Department of State Lands (DSL) that is for a project within waters of the state, OAR 141-093-110 regulates the public review process. Regulatory agencies such as DSL implement this process when a public comment period opens for a project.

Territorial Sea Plan, Parts Four and Five

In both Part Four and Part Five of the Territorial Sea Plan, the Joint Agency Review Team (JART), is in place to facilitate coordination and communication between state agencies and representatives of other affected jurisdictions throughout the pre-application and application process. Oregon Department of State Lands is the convenor of the JART and if a project is associated with a renewable energy facility, such as offshore wind, the JART convened under TSP Part Five shall also serve as the JART for purposes of Part Four coordination. In addition, DSL may convene the JART as necessary for follow-up meetings. Notwithstanding the existing JART process, the components and procedures of the JART could be reviewed to improve, expand, or clarify aspects of the process (e.g., timing,

number of meetings, etc.). This includes expanding the JART composition to include all Nine Federally Recognized Tribes in Oregon.

Federal Consistency Regulations and Procedures

The federal regulations governing Federal Consistency review by states under the Coastal Zone Management Act[27] require timely public notice of a proposed federal action for areas of the coastal zone with reasonably foreseeable affects from the proposed activity. At the discretion of the State agency, public participation may include one or more public hearings. States are advised to restrict the period of public notice, receipt of comments, hearing proceedings and final decision-making to the minimum time necessary to reasonably inform the public, obtain sufficient comment, and develop a decision on the matter. Beyond these requirements, states have discretion regarding additional public participation measures they undertake before, during, and after a Federal Consistency review.

Oregon Statewide Planning Goals

The foundation of statewide program for land use planning in Oregon is a set of 19 Statewide Land Use Planning Goals[28]. In addition to Goal 1, Citizen Involvement, which is discussed above, the goals express the state's policies on land use and related topics, like housing and natural resources. Most goals are accompanied by guidelines, which are suggestions about how a goal may be applied. Oregon's statewide goals are achieved through local comprehensive planning. State law requires each city and county to adopt a comprehensive plan and the zoning and land-division ordinances needed to put the plan into effect. Local government jurisdiction is limited to those areas landward of the coastal shore, so Statewide Planning Goal 19: Ocean Resources is implemented under the jurisdiction of the state.

Multiple Statewide Planning Goals and their local implementations may play a significant role in the review of offshore wind energy facilities and related shoreside development. The Goals are summarized below. Selected Goals are discussed in further detail where especially relevant to one of the key objective areas of the Roadmap in following subsections.

Goal 2: Land Use Planning. Goal 2 requires each local government in Oregon to have and follow a comprehensive land use plan and implementing regulations. Cities and counties must build their comprehensive plans on a factual base and follow their plan when making

[27] See 15 CFR 930.42 and 930.61.
[28] https://www.oregon.gov/lcd/op/pages/goals.aspx

decisions on appropriate zoning. City and county plans must be consistent with one another.

Goal 3: Agricultural Lands. Goal 3 protects farmland for continued production of food and fiber.

Goal 4: Forest Lands. Goal 4 protects working forest land around the state, preserving it for commercial forestry while recognizing its value for fish and wildlife habitat, recreation, and protection of air and water quality.

Goal 5: Natural Resources, Scenic and Historic Areas, and Open Spaces. Goal 5 is a broad statewide planning goal that covers more than a dozen resources. The resources range from wildlife habitat to historic places, and gravel mines. To protect and plan for them, local governments are asked to create a number of inventories.

Goal 6: Air, Water and Land Resources Quality. Goal 6 instructs local governments to consider protection of air, water and land resources from pollution and pollutants when developing comprehensive plans. The pollutants addressed in Goal 6 include solid waste, water waste, noise and thermal pollution, air pollution, and industry-related contaminants.

Goal 7: Areas Subject to Natural Hazards. Goal 7 requires local comprehensive plans to address Oregon's natural hazards. Protecting people and property from natural hazards requires knowledge, planning, coordination, and education. Goal 7 is primarily a process-based goal supported by guidance rather than rules.

Goal 8: Recreational Needs. Goal 8 requires local governments to plan for the recreation needs of their residents and visitors. The goal places priority on non-motorized forms of recreation, and recreation areas that serve high-density populations with limited transportation options and limited financial resources. It also places priority on recreation areas that are free or available at a low cost to the public.

Goal 9: Economic Development. The purpose of Goal 9 planning is to make sure cities and counties have enough land available to realize economic growth and development opportunities.

Goal 10: Housing. Goal 10 planning, at a local level, asks that cities inventory their "buildable lands", this refers to land inside an urban growth boundary that is suitable and available for residential use.

Goal 11: Public Facilities and Services. Goal 11 addresses planning for basic public facilities including water and sewer services, police and fire protection, health services, recreation facilities, energy and communication services, and services provided by the local government like building permitting or public works.

Goal 12: Transportation. Goal 12 requires cities, counties and the state to create a transportation system plan that considers all relevant modes of transportation including mass transit, air, water, rail, highway, bicycle and pedestrian.

Goal 13: Energy Conservation. Goal 13 encourages communities to look within existing urban neighborhoods for areas of potential redevelopment before looking to expand, to "recycle and re-use vacant land." The goal also directs cities and counties to have systems and incentives in place for recycling programs. Goal 13 was not written to govern or direct the production of energy, but rather its conservation.

Goal 16: Estuarine Resources. Goal 16 provides the principal guidance for the planning and management of Oregon's estuaries. The overall objective of Goal 16 is to "to recognize and protect the unique environmental, economic and social values of each estuary and associated wetlands; and to protect, maintain, where appropriate develop, and where appropriate restore the long term environmental, economic and social values, diversity and benefits of Oregon's estuaries".

Goal 17: Coastal Shorelands. Goal 17 outlines planning and management requirements for the lands bordering estuaries as well lands bordering the ocean shore and coastal lakes. In general, the requirements of Goal 17 apply in combination with other planning goals to direct the appropriate use of shoreland areas with a focus on the protection and management of resources unique to shoreland areas.

Goal 18: Beaches and Dunes. Goal 18 focuses on conserving and protecting Oregon's beach and dune resources, and on recognizing and reducing exposure to hazards in this dynamic, sometime quickly changing environment.

Goal 19: Ocean Resources. The Pacific Ocean offers both commercial and recreational opportunity and has a profound impact on Oregon's identity. Goal 19 addresses matters related to open ocean resources and aims "to conserve the long-term values, benefits, and natural resources of the nearshore ocean and the continental shelf."

Local Regulations

Applicable Statewide Planning Goals are implemented through acknowledged comprehensive plans and land use regulations of local jurisdictions. Elements of these plans and regulations are recognized as state enforceable policies. Any comments or concerns raised by local jurisdictions have been noted and are identified in the gaps and opportunities table in this section or in the full Enforceable Policy Assessment found in the appendices.

Geographic Location Description

The state obtained a "Geographic Location Description"[29] in 2015 applicable to marine renewable energy projects in federal waters, which granted the state automatic review of any federal actions or authorizations related to offshore wind out to a depth of 500 fathoms. (3,000 ft). When conducting this Federal Consistency review under its Coastal Zone Management Act authority, the state is able to apply its enforceable policies to that action, even in federal waters. The DLCD Oregon Coastal Management Program plans to submit an application to the NOAA Office for Coastal Management to extend the outward boundary of the GLD beyond 500 fathoms to the currently expected technological extent of potential offshore wind energy development (1,300 meters).

State Energy and Climate Objectives

Regulation of Energy Facilities (related or supporting facilities) - ORS 469; OAR 345

The Energy Facility Siting Council reviews applications for large energy facilities by using a set of standards designed to protect natural resources and ensure public health and safety. The siting standards for energy facilities do not apply in the Territorial Sea, including subsea cables associated with the facility, but they would apply to any transmission line on land greater than 230kV longer than ten miles. Oregon Revised Statutes (ORS) Chapter 469 focuses on energy conservation programs and energy facilities. It establishes policies to promote the efficient use of energy resources and develop sustainable energy options. The Oregon Coastal Management Program relies on the 1987 edition of ORS chapter 469 and includes policies that have since been replaced or codified.

Oregon Administrative Rule (OAR) 345, Energy Facility Siting Standards, outlines the standards for siting energy facilities in Oregon, including requirements for compliance with state statutes and administrative rules. No provisions of OAR Chapter 345 are included in the Oregon Coastal Management Program,, but it is identified as a policy gap.

HB 2021 - Oregon 100 Percent Clean Electricity Law

An existing state energy law and program under the Oregon Public Utility Commission's (OPUC) authority that could relate to OSW is Oregon's "100 percent Clean Electricity Law." Oregon HB 2021(2021) established a clean energy program overseen by OPUC and in part by Oregon Department of Environmental Quality (DEQ). This law requires Oregon's largest investor-owned utilities (Portland General Electric (PGE) and PacifiCorp), and power suppliers for some large energy users to reduce greenhouse gas emissions associated with the generation of electricity sold in Oregon. Greenhouse gas emissions must be reduced,

[29] https://www.oregon.gov/lcd/ocmp/pages/where-fc-applies.aspx

relative to baseline emissions levels established by ODEQ, 80 percent by 2030, 90 percent by 2035, and 100 percent by 2040.

The law requires PGE and PacifiCorp to develop Clean Energy Plans, which OPUC must review and acknowledge. These plans are included in their Integrated Resource Plans and contain the following:

- Include annual goals/actions that make progress towards the clean energy targets,
- Examine costs and opportunities of offsetting energy generated from fossil fuels with community-based renewable energy,
- Include an examination of resiliency opportunities based on industry resiliency standards and guidelines established by the OPUC, and
- Result in an affordable, reliable, and clean electric system.

Protection of the Environment and Species

The State of Oregon has several strong policies to protect species and habitats offshore, onshore, and within rivers and estuaries. The following policies give the state a broad ability to object to or place conditions on a project if it has reasonably foreseeable effects to natural and ecological resources inconsistent with the policies. This includes effects to anadromous species like salmon and lamprey, resident and migratory whales, and others, plus effects to their critical habitats offshore and within estuaries.

Goal 16: Estuarine Resources

Goal 16 provides the principal guidance for the planning and management of Oregon's estuaries. To implement this Goal, local governments develop Estuary Management Plans that establish areas designated for development, conservation, or natural uses (i.e., zoning in the water), as well as development restrictions or requirements appropriate to these designations. While not likely to be as significant to the review of an offshore wind facility's Construction and Operation Plan or Army Corps permit, Goal 16 and its local embodiments would likely be instrumental in the review of separate port developments or estuary alterations (e.g., dredging and material placement) associated with offshore wind industry support facilities onshore. For example, modification of the navigation channel in Coos Bay would require an exception to Goal 16 that meets the criteria in Statewide Planning Goal 2 and other local estuary plan requirements.

Goal 17: Coastal Shorelands

Goal 17 outlines planning and management requirements for the lands bordering estuaries as well lands bordering the ocean shore and coastal lakes. In general, the requirements of Goal 17 apply in combination with other planning goals to direct the appropriate use of

shoreland areas with a focus on the protection and management of resources unique to shoreland areas.

Goal 18: Beaches and Dunes

Goal 18 focuses on conserving and protecting Oregon's beach and dune resources, and on recognizing and reducing exposure to hazards in this dynamic, sometime quickly changing environment.

Goal 19: Ocean Resources

Goal 19 is a key enforceable policy for the review of offshore renewable energy activities within the Territorial Sea and in federal waters out to a depth of 500 fathoms consistent with the state's federally-approved Geographic Location Description. Goal 19 addresses matters related to open ocean resources and aims "to conserve the long-term values, benefits, and natural resources of the nearshore ocean and the continental shelf." Key excerpts include:

> *State and federal agencies shall carry out actions that are reasonably likely to affect ocean resources and uses of the Oregon territorial sea in such a manner as to:*
>
> *a. maintain and, where appropriate, restore the long-term benefits derived from renewable marine resources;*
>
> *b. protect:*
>
> *1. renewable marine resources— i.e., living marine organisms from adverse effects of development of non-renewable resources, uses of the ocean floor, or other actions;*
>
> *2. the biological diversity of marine life and the functional integrity of the marine ecosystem;*
>
> *3. important marine habitat, including estuarine habitat [see policy for full list];*
>
> *4. areas important to fisheries [see policy for full list]*

Territorial Sea Plan, Parts Four and Five

Regarding undersea cables, TSP Part Four has the following policy:

> *An applicant for a project or development action within or affecting the Oregon Territorial Sea shall:*
>
> *Design and site projects and infrastructure responsibly such that proposed seafloor development actions will maintain and protect to the maximum extent practicable, natural resources, ecosystem integrity, marine habitat, and areas important to fisheries, navigation, recreation, and aesthetic enjoyment from adverse effects that may be caused by said development actions. For purposes of this section, 'Maintain*

and protect' requires mitigation, in order of priority [Avoid, Minimize, Rectify, Reduce or eliminate over time, Compensate].

TSP Part Five has numerous policies for renewable energy facilities including the "Special Resources and Use Review Standards" found under Policy B.4.g, which states,

> *The state shall protect living marine organisms, the biological diversity of marine life, the functional integrity of the marine ecosystem, important marine habitat and associated biological communities by using the following ecological resource protection standards to evaluate marine renewable energy project proposals.*

In addition, potential renewable energy facilities, "shall have no significant adverse effect on ecological resources of concern." The definition of "significant adverse effects" can be derived from the Adverse Effect for Ecological Resource Protection Standards, which means,

> *degradation in ecosystem function and integrity (including but not limited to direct habitat damage, burial of habitat, habitat erosion, reduction in biological diversity) or degradation of living marine organisms (including but not limited to abundance, individual growth, density, species diversity, species behavior)*

Part Five also addresses cumulative effects of potential renewable energy project, analyzing biological, ecological, physical, and socioeconomic effects when evaluating "the shoreland component, in conjunction with effects of any prior phases of the project, past projects, other current projects, and probable future projects."

Wildlife Policy, ORS 496.012

Oregon Revised Statutes (ORS) 496.012, known as the Wildlife Policy, states, "Wildlife shall be managed to prevent serious depletion of any indigenous species and to provide the optimum recreational and aesthetic benefits for present and future generations of the citizens of this state."

Fish and Wildlife Habitat Mitigation Policy, OAR 635-415

Oregon Administrative Rule (OAR) 635-415, addresses habitat mitigation, including the following provision.

> *It is the fish and wildlife habitat mitigation policy of the Oregon Department of Fish and Wildlife to require or recommend, depending upon the habitat protection and mitigation opportunities provided by specific statutes, mitigation for losses of fish and wildlife habitat resulting from development actions. Priority for mitigation actions shall be given to habitat for native fish and wildlife species. Mitigation actions for nonnative fish and wildlife species may not adversely affect habitat for native fish and wildlife.*

Removal-Fill Policy, ORS 196

Oregon's removal-fill law, found in ORS 196, protects wetlands and waters by requiring a permit for most projects that add, remove, or move more than 50 cubic yards of material. This threshold is any amount greater than zero for removal-fill activities related to an ocean renewable energy facility within the Territorial Sea[30]. Some protected areas require permits for activities that add or remove any amount of material. Wetlands and waters provide numerous benefits to people, fish, and wildlife. Impacting these resources affects their health and reduces the benefits they provide.

States Lands, OAR 141

The following policies, found in OAR 141 are used for reviewing effects of a project.

- Rules for granting easements for fiber optic and other cables on state-owned submerged and submersible land within the Territorial Sea, OAR 141-083
- Administrative rules governing the issuance and enforcement of removal-fill authorizations within waters of Oregon, including wetlands, OAR 141-085
- Oregon essential indigenous anadromous salmonid habitat, OAR 141-102
- Authorizing special uses on state-owned land, OAR 141-125
- Rules governing the placement of ocean energy conversion devices on, in or over state-owned land within the Territorial Sea, OAR 141-140

Water Quality, ORS 468b and OAR 340

Policies related to water quality, ORS 468b and OAR 340, can be used for reviewing effects of a project but it also depends on the geographic location of the project work (disturbance and development), such as in the territorial sea, waters of the state, or federal waters and the type of federal permitting nexus (e.g., CWA 404 or other). Applicable policies are the following:

- Prevention of pollution, ORS 468b.020
- Entry of oil into waters of state, ORS 468b.305
- Oil spill continency plan, ORS 468b.345
- Turbidity, OAR 340-041-0036
- Oil Spills, OAR 340-141
- Ballast Water Management, OAR 340-143

[30] https://secure.sos.state.or.us/oard/viewSingleRule.action?ruleVrsnRsn=238571

Information Requirements and Uncertainty Management

In addition to the protection standards, state policies include comprehensive information requirements identifying potential that the effects of a project that should be reasonably well understood so that uncertainties are responsibly managed. Goal 19: Ocean Resources requires an information and effects assessment that, "shall assess the reasonably foreseeable adverse effects of the action as required in the Oregon Territorial Sea Plan. The effects assessment shall also address reasonably foreseeable adverse effects on Oregon's estuaries and shorelands as required by Statewide Planning Goal 16, Estuarine Resources; Goal 17, Coastal Shorelands; and Goal 18, Beaches and Dunes."

The Territorial Sea Plan further specifies numerous information requirements, including:

1. Information regarding the development, placement, operation, maintenance, and decommissioning of the project:
2. Location and description of all affected areas
3. Physical and chemical conditions
4. Bathymetry (bottom topography) and Shoreline Topography
5. Geologic structure
6. Biological features, including habitats and species stocks
7. Cultural, economic, and social uses affected by the renewable energy facility
8. Significant historical, cultural or archeological resources.
9. Other data that the regulating agencies determine to be necessary and appropriate to evaluate the effects of the proposed project

In addition to the inventory information listed above, a permit for an offshore wind facility would need to provide a written evaluation of, "all the reasonably foreseeable adverse effects associated with the development, placement, operation, and decommissioning of the proposed renewable energy facility." This includes effects to:

1.) Biological and Ecological Effects:
2.) Current Uses
3.) Natural and Other Hazards
4.) Cumulative Effects, including other past, current, or potential future projects; confounding effects from other existing and future human activities; and regional effects of climate change.

The Territorial Sea Plan further requires the development of an **Adaptive Management Plan** and requires the project developer to monitor and evaluate the project at each subsequent phase to "account for variable conditions in the marine environment, the changeable status of resources and individual or cumulative effects of uses" in their management plan.. The intent of such evaluation is to inform the design, installation and operation of successive phases. The Territorial Sea Plan also requires a **Contingency Plan,**

Inspection Plan, Monitoring Plan, Decommissioning Plan, and Financial Assurance Plan.

State Ability to Require Sufficient Information

Under the state's Federal Consistency authority, the state may object to a federal authorization or permit that does not demonstrate consistency with the above information requirements. The state expects that the above requirements in Part Five of the Territorial Sea Plan take effect after site characterization surveys are complete when data are used to develop an energy project proposal (i.e., after a lease area is assessed and before finalization of a COP). Because the state of Oregon has an approved "Geographic Location Description" with the National Oceanic and Atmospheric Administration (NOAA) Office for Coastal Management for marine renewable energy projects, the state's enforceable policies may be applied to an offshore wind facility permit or lease action out to an ocean depth of 500 fathoms[31].

Federal Consistency reviews at the permit review stage (approximately 5 years after leasing) may be extended indefinitely until sufficient information to establish consistency is obtained, or the state may object based on insufficient information to establish coastal effects and/or consistency with a policy standard that relies on the information.

The Federal Consistency regulations in 15 CFR 930.58 state:

> *(c)* A.State.agency.objection.may.be.based.upon.a.determination.that.the. applicant.has.failed?following.a.written.State.agency.request?to.supply. the.information.required.pursuant.to.° .596¡14or.other.information. necessary.for.the.State.agency.to.determine.consistency¡.*If the State agency objects on the grounds of insufficient information, the objection shall describe the nature of the information requested and the necessity of having such information to determine the consistency of the activity with the management program.*

A notable recent example of a state Federal Consistency objection based on insufficient information was the proposed Jordan Cove Liquid Natural Gas Export facility in Coos Bay. The state's objection was appealed to the US Secretary of Commerce, who upheld the state's objection on the basis that the applicant had failed to provide sufficient information to establish coastal effects relative to the state enforceable policies or the national interest.

The Federal Consistency provisions are a powerful tool to obtain the necessary information to make responsible decisions, either prior to a permit decision or after a decision through

[31] https://www.oregon.gov/lcd/ocmp/pages/where-fc-applies.aspx; https://www.oregon.gov/lcd/OCMP/Documents/OCMP_MarineRenewable_GLD_final.pdf

monitoring and adaptive management. The most efficient way to protect state interests and meet information needs without project delays is for developers to learn about Oregon inventory and policy requirements before conducting surveys and site assessment activities. In the 2024 BOEM leasing Federal Consistency review, the state was able to secure multiple conditions to include state agency staff early in the information collection process, to enhance developers' understanding of the information needs the state will have during its Federal Consistency review of a Construction and Operations Plan, years after a lease is issued.

One area of concern has been the question of how much information must be known before leasing may proceed. In the state's 2024 Federal Consistency decision for offshore wind leasing, it was reasoned that the issuance and exploration of a lease is an action that may be taken wholly at the risk of the project developer, with no guarantee that a lease will result in approval of a project application in a later review. It is at BOEM's discretion whether to offer an exclusive right, via a lease, to conduct survey activities for site characterization and site assessment, as it is within the voluntary discretion of project developers to bid on lease offerings at the risk that a project may never materialize or may ultimately be found inconsistent with state enforceable policies. Therefore, the state found that the scope of the effects of a full offshore wind project is not committed by the issuance of a lease and

decided that allowing leases to proceed at the developer's risk, absent full knowledge of an offshore wind project at the time of leasing, was consistent with enforceable policies. The completion of project studies and site characterization activities following the lease were also expected to contribute valuable data and information to support future permitting decisions.

In addition, Section 5 of the Roadmap identifies some potential actions that may be taken to improve the knowledge base prior to any need to consider future leasing.

Protection of Archaeological and Cultural Resources and Other Interests of Tribes

The excavation, destruction, or alteration of any known archaeological site or collection of archaeological objects located on public or private land without the issuance of a state archaeological permit is prohibited (Oregon Revised Statutes, ORS 358.920 and ORS 390.235). Destruction or damage to any human burial site, human remains, or Native American sacred or special objects associated with those burial sites is also prohibited (ORS 97.745). Note that there may be criminal penalties for violating these laws.

Goal 5: Natural Resources, Scenic and Historic Areas, and Open Spaces.

Regarding the protection of culturally significant areas, Goal 5 requires the inventorying of "cultural areas", and the rules in Oregon Administrative Rule, OAR 660 Division 23 (Procedures and Requirements for Complying with Goal 5) require cities and counties to follow procedural steps and standards prescribed in OAR 660 Division 23 when developing programs to protect resource categories outlined in Goal 5. A rule specific to cultural areas is expected to be added to Division 23 in 2026. When filed, the rules in OAR 660 Division 23 (Procedures and Requirements for Complying with Goal 5) require local governments to provide notice to Tribes for ground disturbing and other applications and require cities and counties to follow procedural steps and standards prescribed in rule when asked to add a culturally specific landscape features to a local Goal 5 inventory. Under this new rule, Cultural Areas are defined as, "*archaeological sites, landscape features of cultural interest, and sites where both are present. Also referred to as "cultural resource site.'"* A "Potentially Significant Cultural Landscape Feature is defined as*, "a landscape feature that is: integral to a tribe's history, legends, traditions, and stories; traditionally used for wayfinding; traditionally used for gathering first foods and materials; integral to ongoing tribal cultural practices; traditional trails; . . ."* These definitions and the associated rules would provide a means to consider and adopt protection measures for landscape areas of cultural significance.

Local Regulations

Statewide Planning Goal 5 is implemented through acknowledged comprehensive plans and other land use regulations in local coastal communities. Some deficiencies or opportunities for improvement have been identified in the gaps and opportunities table in this section or the full Enforceable Policy Assessment found in the appendices.

Policy 18 within the Coos County Estuary Management Plan is an example of an enforceable policy that is used to protect cultural resources. Policy 18 requires that, "Local government shall provide protection to historical, cultural and archaeological sites and shall continue to refrain from widespread dissemination of site-specific information about identified archaeological sites." This policy is accomplished by reviewing all development proposals involving a cultural, archaeological, or historical site to determine whether the project, as proposed, would protect the cultural, archaeological, and historical values of the site. Tribes have the right to submit a written statement to the local government within 30 days of receipt of a notification about a project in a cultural site, "stating whether the project as proposed would protect the cultural, historical, and archaeological values of the site or, if not, whether the project could be modified by appropriate measures to protect those values."

Indian Graves and Protected Objects, ORS 97

The State of Oregon protects archaeological resources within state jurisdiction via ORS 97, which includes the following:

- Recognition of duties relating to the disturbance of Native American cairns or burials
- Complement to the Native American Graves Protection and Repatriation Act (NAGPRA) by increasing visibility regarding requirements on state and private lands
- Documentation of process for notification of Tribes, State Historic Preservation Officer, Commission on Indian Services, and Oregon State Police in the event of discovery of human remains

Public Records Conditionally Exempt from Disclosure, ORS 192.345

- Establishing responsibilities of applicants regarding the disposition of potentially sensitive information.

Archaeological Objects and Sites, ORS 358

- Documents the state of Oregon's policy and responsibilities in the protection of cultural and archaeological resources
- Provides further detail on the applicability and intent of ORS 390.235
- Establishes procedures for notification following discovery of sacred objects
- Documents requirement to coordinate with Tribes as condition of archaeological permit

Archaeological Permits, OAR 736-051

- Provides administrative basis for permits required under ORS 390.235
- Clarifies requirements and thresholds for archaeological permits on private versus public lands

In the context of offshore wind, the state would apply archaeological protection policies for both offshore turbines, cables, and any onshore support facilities or port development projects that may be subject to separate review.

Protection of Tribal Fishing

To protect the interests and optimal use of the ocean for food fish harvest, the state has a combination of protection policies and coordination agreements. See the section below on State Fisheries Protection Standards for more information on these policies.

Effects on Culturally Significant Views

The state Territorial Sea Plan identifies high value visual resources and includes strong protection policies that would be applicable to offshore wind; however, these policies do not explicitly mention culturally significant views to Tribes or establish separate criteria that would guide decisions affecting these views. While specific viewing locations of cultural significance to Tribes are not explicitly included in the Territorial Sea Plan, it is expected that many of the viewpoints inventoried by the state in the highest quality (Class 1) would be similar to or overlap with some if not all sites of historical or cultural importance to Tribes.

The viewshed classes designated in state policies were mapped using an approximate device height based on wave energy devices, which are significantly shorter than floating offshore wind infrastructure (9 ft high vs. ~500 ft high at a turbine hub). BOEM provided visual simulations of hypothetical wind arrays for the Coos Bay Wind Energy Area (WEA) 32 miles offshore and Brookings WEA 18 miles offshore[32], which indicated that turbines would be visible at certain times of day in clear conditions. The simulations also showed that the aircraft lighting from turbine hubs may be visible at night. Additionally, a DLCD staff GIS exercise conducted in support of the Roadmap effort estimated that if the viewshed classification areas were to be expanded consistent with taller offshore wind structures. The results indicated that nearly all areas that are currently technically viable for offshore wind development would likely fall within the most stringent Class I Viewshed criteria if within viewing range of Special Area Viewsheds. Other high value viewpoints outside of special areas would likely fall in Class II for objects on the horizon considered to be in the background. As a result, under this premise, offshore wind energy may not be allowed purely for visual purposes only. The visual standards in Part Five do include project-specific contrast criteria to assist in determining whether the proposed project meets the standards defined for each Class of viewshed, but these contrast criteria were similarly developed in the context of wave energy, and it is not clear whether there is an interpretation of the contrast criteria that would allow an offshore wind array within a Class I viewshed. There is value in revisiting the Part Five visual classification modeling and criteria to clarify for the public and potential future offshore wind developers how the state's visual protection criteria would apply to offshore wind.

Protection of Natural Resources as Cultural Resources

The State of Oregon recognizes the need to protect natural resources for their many values, including intrinsic, economic, recreational, aesthetic, spiritual, and cultural values. The state also recognizes that natural resources are cultural resources to Tribes. Natural

[32] link to timelapse videos of large-scale offshore wind development in the two Oregon WEAs: https://www.boem.gov/renewable-energy/state-activities/oregon-offshore-wind-visual-simulation

resources may include species, habitats, or other environments of natural value, including natural resources of cultural significance that are not harvested for human uses by Oregon Tribes (e.g., whales).

The state already has several strong policies to protect species and habitats offshore, onshore, and within rivers and estuaries. See the Protection of the Environment and Species section for a more detailed discussion.

Support Coastal and Regional Communities

Local Regulations Implementing the Statewide Planning Goals

The Oregon Coastal Management Program consists of a network of partners with authority in the coastal zone. There are 7 oceanfront counties and 33 cities in the Coastal Zone, and all are coastal program partners. The applicable Statewide Planning Goals are implemented through acknowledged comprehensive plans, estuary plans, and other land use regulations of these jurisdictions and are elements of the coastal program recognized by NOAA as state enforceable policies. Local jurisdiction does not apply in the ocean and would only be applicable to land-side aspects of OSW development such as shoreside support facilities, cable landing sites, and onshore transmission. Policies related to offshore visual resource standards are within state jurisdiction under Goal 19 and the Oregon Territorial Sea Plan, but local jurisdictions may include policies addressing the visual standards for landside development or activities.

Many of the local regulations, too many to identify here, are enforceable policies. Some deficiencies have been noted and are identified in the gaps and opportunities table in this section or in the full Enforceable Policy Assessment found in the appendices.

It is worth noting that in 2024, Curry County and Coos County passed ballot measures advising their respective county commissions to oppose offshore wind leasing[33]. Both measures passed with sizeable support (80% and 60%, respectively); however, these voter initiatives would not qualify as Enforceable Policies that could provide a valid basis for a state objection to leasing in a Federal Consistency review. A local government's land use regulations are its strongest tool to approve, condition, or oppose certain types of development, but those policies would only apply to portions of projects on land within their jurisdiction (e.g., cable landings, shoreside facilities, or estuary modifications). Regardless of the inapplicability of local opposition voter initiatives in the formal state and federal review process for offshore wind, the state recognizes the sentiment expressed by

[33] https://ballotpedia.org/Curry_County,_Oregon,_Measure_8-116,_BOEM_Offshore_Wind_Turbine_Project_Advisory_Question_(November_2024); https://ballotpedia.org/Coos_County,_Oregon,_Measure_6-219,_BOEM_Offshore_Wind_Turbine_Project_Advisory_Question_(November_2024)

these measures. Questions remain as to whether a local community's opposition to an offshore wind project might change in the future as more information about costs and benefits of development are known. Additionally, a concept discussed in the Roadmap to potentially establish a net-benefit policy for communities potentially affected by offshore wind development may provide an additional avenue for local participation in the permitting process through Community Agreements and community cost-benefit evaluations that would inform the state's review (See Section 5.5.4 of the Roadmap).

Ocean Shores, ORS 390

Oregon Revised Statutes 390.235, under the authority of Oregon Parks and Recreation Department, is a policy protecting archaeological sites that restricts excavation or alteration of an archaeological site on public lands without first obtaining a state-issued permit by OPRD.

State Fisheries Protection Standards and Policies

To protect the interests and optimal use of the ocean for food fish harvest, the state has a combination of protection policies and coordination agreements. Any OSW development needs to be consistent with Oregon policies for protecting areas important to commercial, cultural, and recreational fisheries and for food fish species management goals. Any potential impacts to fishing should also consider impacts to secondary and support industries, such as seafood processing and commercial fishing suppliers.

Territorial Sea Plan Part Five contains Fisheries Use Protection Policies in its implementation of Statewide Planning Goal 19: Ocean Resources. These fishery protection policies include a general fisheries use protection standard and additional standards specific to geographically identified areas within the state's territorial sea boundary. The area-specific standards would not be applicable in federal waters as currently written. Generally speaking, the state would expect to apply the General Fisheries Use Protection Standard for an offshore wind project in federal waters.

> Fisheries.Use.Protection.Standards *The regulating agencies shall protect areas important to fisheries using the following use protection standards to evaluate the impact an individual renewable energy facility would have on fisheries use.*
> (b).General.Fisheries.Use.Protection.Standard
> *The following standards must be considered in determining the possible adverse effects a renewable energy facility might have on fisheries use, and are applicable to applications in all resource and use areas unless otherwise designated by the plan:*

i. Minimize the displacement of fishers from traditional fishing areas, and the related impact on the travel distance and routing required to fish in alternative areas;

ii. Minimize the compaction of fishing effort caused by the reduction in the areas normally accessible to fishers;

iii. Minimize the economic impact resulting from the reduction in area available for commercial and recreational fishing for the affected sectors and ports.

iv. Mitigate possible hazards to navigation and provide practicable opportunities for vessel transit at the project location.

v. Limit the number and size of projects that are located in an area to minimize the impact on a particular port or sector of the fishing industry. Consider the distribution of projects and their cumulative effects based on the criteria listed in (i) through (iv).

The geographically specific "Area Designation Fisheries Use Protection Standards" apply within state waters in certain locations and place additional requirements on projects. Most notably, projects in areas known as Resources and Uses Conservation Areas are presumptively excluded unless, "To overcome the presumptive exclusion, an applicant must demonstrate and the regulating agency must concur that the project will have no reasonably foreseeable adverse effect on areas important to fisheries and there is no practicable alternative site."

In addition to the Territorial Sea Plan and Goal 19, the state may also use **ORS 506.109: Food Fish Management Policy**, during the review of offshore wind projects. This policy is broad in scope and establishes that, "food fish shall be managed to provide the optimum economic, commercial, recreational and aesthetic benefits for present and future generations of the citizens of this state." The policy includes additional specific management goals such as:

(1) To maintain all species of food fish at optimum levels in all suitable waters of the state and prevent the extinction of any indigenous species.
(2) To develop and manage the lands and waters of this state in a manner that will optimize the production, utilization and public enjoyment of food fish.
(3) To permit an optimum and equitable utilization of available food fish.
(4) To develop and maintain access to the lands and waters of the state and the food fish resources thereon.
(5) To regulate food fish populations and the utilization and public enjoyment of food fish in a manner that is compatible with other uses of the lands and waters of the state and provides optimum commercial and public recreational benefits.
(6) To preserve the economic contribution of the sports and commercial fishing industries in a manner consistent with sound food fish management practices.

(7) To develop and implement a program for optimizing the return of Oregon food fish for Oregon's recreational and commercial fisheries.

Conditions on State Concurrence

Through its Federal Consistency review authority, the state has the ability to require a federal agency to place conditions on the issuance of an authorization or permit as a way to bring a proposed project that would otherwise be inconsistent with a state enforceable policy into consistency, such that the state would not formally object to the project. This "yes if" outcome of the state's review provides the opportunity to work with developers and federal agencies on behalf of affected users of coastal resources, such as the fishing community, to avoid, reduce, or mitigate potential adverse effects from the project.

In the case of fishing interests, potential conditions for the state to explore may include the following, in coordination with fishing communities, depending on the specific details of any future offshore wind project proposals.

- Establishing transit corridors through offshore wind arrays to support safety at sea and catch effort efficiency;
- Setting maximum spatial extent or design limitations for any given offshore wind array to minimize effects to species, habitats, or at-sea vessel operations;
- Requiring that developers establish and maintain 24-hr hotlines or other communication methods for fishing vessel owner/operators to report problems or lost gear;
- Other measures identified by fishing communities or other ocean users during project review.
- Requiring reports from independent monitors of species interactions or take from offshore wind at-sea operations, entanglement detection and reporting, and other data transparency and reporting measures.

Use of Fisheries Agreements

The Territorial Sea Plan Part Five includes a section focused on agreements with traditional ocean users. The requirement states:

> *Agreements: Applicants shall communicate with traditional ocean users and stakeholders with an interest in the area of the proposed project to address issues of concern. Applicants are encouraged to memorialize agreements with those ocean users and stakeholders on specific actions, including conducting the adaptive management and monitoring plan, that the applicant is required to perform.*

Policies of the Department of State Lands similarly require coordination with ocean users for actions taking place on state submerged lands:

The Department of State Lands rule on Pre-Application Requirements, OAR 141-140-0040, provides: "Before submitting an application to the Department, a person wanting to install, construct, operate, maintain or remove ocean energy monitoring equipment or an ocean energy conversion facility for a research project, demonstration project or commercial operation shall meet with: "(a) Department staff to discuss the proposed project; and "(b) Affected ocean users and other government agencies having jurisdiction in the Territorial Sea to discuss possible use conflicts, impacts on habitat, and other issues related to the proposed use of an authorized area for the installation, construction, operation, maintenance or removal of ocean energy monitoring equipment or an ocean energy facility."

These policies do not allow the state to strictly require the existence of an agreement between affected ocean users and developers, but absent an agreement the state may be in a position to find that there is not sufficient evidence to determine whether the fisheries protection policies in the Territorial Sea Plan and Goal 19 have been satisfied.

One recent example of a fisheries agreement comes from the PacWave wave energy testing facility operated by Oregon State University. The University negotiated an agreement with representatives of the local fishing industry to address lost gear or other damages that may result from interactions with the project. This agreement was submitted to the state as evidence of coordination and resolution of key potential conflicts. Oregon also has a long history of agreements between cable operators and the fishing industry through the Oregon Fisherman Cable Committee[34]. Although limited to cables, these agreements have a long successful history since 1998 and satisfy the DSL requirements. The state would highly encourage developers to seek similar agreements with multiple fishing communities as part of any future project review.

Fisheries Compensatory Agreements

As has been the case in east coast states that consented to offshore wind projects, as well as the 7C Fisheries Working Group currently underway in California[35], it is expected that the state of Oregon may use its Goal 19/TSP fisheries protection policies as a legal basis to require compensatory agreements (i.e., financial compensation or other mitigation measures) between affected fisheries users and developers, as "evidence" that the project would not result in unmitigated effects to the fishing users that would be inconsistent with fisheries protection policies. Oregon has never had occasion to require compensatory agreements of this nature but is learning from examples in other states and would expect to follow best practices in the negotiation and evaluation of such agreements.

[34] https://www.ofcc.com/

[35] https://www.californiafishermensresiliencyassociation.com/7c-fishermen-s-working-group

In Oregon, fishing communities have clearly expressed that they are not interested in being "bought out" of a multi-generational way of life. Effects to secondary industries such as seafood processing are also likely not suitable for compensation because of the millions of dollars invested over many years to establish the infrastructure, improvements, and markets of their current business structure. It is also important to incorporate the concept that projects with generational impact should have generational oversight and benefit.

Economic Opportunity and Sustainment

Enforceable policies related to creation of new economic opportunities and sustainment of existing economies include local embodiments of the Statewide Planning Goals and policies within the Oregon Territorial Sea Plan related to protection of fisheries uses, recreation, visual resources, and agreements with existing ocean users. The labor provisions in HB 4080 also relate to creation of new economic opportunities by establishing standards for a future workforce serving the offshore wind industry and related construction activities. No other relevant policies have been identified.

Offshore Wind Workforce

The labor provisions in HB 4080 relate to creation of new economic opportunities by establishing standards for a future workforce serving the offshore wind industry and related construction activities. The HB 4080 and HB 2021 labor provisions to the fullest extent possible to require any future developer and contractors of all tiers to offer Oregonians:

- Registered apprenticeship programs;
- Workforce opportunities for frontline communities, including women, indigenous, and people of color;
- Prevailing wages;
- Family health and retirement benefits;
- Responsible contractor history that demonstrates a history of compliance of state and federal laws; and
- Workforce Agreements that include both a project labor agreement and a labor peace agreement.

While these standards are not currently enforceable policies of the state coastal program, the gaps and recommendations table and recommended actions in Section 5 provide further detail on methods to implement the HB 4080 provisions in the state.

Policy Assessment Table

The policy assessment table is shown below. This table includes key effects of interest, details for those effects, corresponding policies and the most applicable excerpt of the policy and notes that indicate where policies have issues or gaps. Please note that several effects and their gaps overlap key topical areas. A summary of the potential policy gaps is found in Section 3.1, Identified Policy Gaps and Opportunities, of the Roadmap.

Table A-1, Offshore Wind Enforceable Policy Assessment

Effect of Interest	Effect Details	Enforceable Policies (existing and potential)	Policy Strongest or Most Applicable Excerpt	Policy Strengthening Issues, Needs, Gaps, or Wishlist
ENVIRONMENTAL PROTECTION - Protection of the environment and species (marine, terrestrial, estuarine, freshwater)				
Aquatic Geology - Effects on **geology** and soils of Project presence, installation, and removal activities.	> Impacts of cables on seafloor, anchor chain sweep, shoreline, reef (if fixed). > Related effects to terrestrial resources, including cultural resources, are addressed elsewhere in this table.	**Statewide Planning (SP) Goals 16, 17, 18, 19** **Territorial Sea Plan (TSP) Parts 2, 3, 4, 5** **ORS 273** – State Lands Generally **ORS 274** – Submersible and Submerged Lands **ORS 196** – Removal-Fill **OAR 141-083** – Rules for Granting Easements for Fiber Optic and Other Cables on State-Owned Submerged and Submersible Land within the Territorial Sea **OAR 141-085** - Administrative Rules Governing the Issuance and Enforcement of Removal-Fill Authorizations Within Waters of Oregon, Including Wetlands **OAR 141-125** – Authorizing Special Uses on State-Owned Land **OAR 141-140** – Rules Governing the Placement of Ocean Energy Conversion Devices On, In Or Over State-Owned Land within the Territorial Sea **Local Plans and Codes** (primarily related to SP Goals 17, 18)	**TSP Part 3**, Rocky Habitat Management Strategy > **Policy 6.b.B** Protection of rocky habitat resources (i.e. living marine organisms and their habitat) shall be prioritized over development of non-renewable ocean resource uses. **TSP Part 4**, Uses of the Seafloor > **Policy D.4.3.2** (information requirement) Geologic structure, including, but not limited to: * **4.3.2.1** Geophysical imaging and geotechnical investigation of full planned HDD routes across the shoreline sufficient to characterize subsurface geotechnical properties and plan HDD construction in a way that avoids drill pipe breakage, inadvertent return, surface settlement, and other complications. * **4.3.2.2** Geologic hazards, such as faults or landslides; Page 9 | 19 4.3.2.3 Mineral deposits; and 4.3.2.4 Seafloor substrate type **Dept. of State Lands** > Acts through the State Land Board > Application process for removal-fill permit and undersea cables easement authorization within the territorial sea > Short-term access authorization for geological or other type of survey > Decommissioning requirements for undersea cables > Requirement to include the Resource and Use Inventory and Effects Evaluation, as well as the Operation Plan under the JART review **Local plans and codes** may require geotechnical reports and include geophysical hazard polices, primarily related to SP Goals 17 and 18 and any overlap with Goal 7, Hazards. Development in hazardous areas is discouraged or restricted under Goals 7, 17 and 18.	**GAP** > DSL - Authority to charge fees and compensation rates for the easement (Legislation Session 2025 SB 793 regarding undersea cables will hopefully address this issue). DSL did not have the authority to establish fees and compensation rates for easements in the Territorial Sea before. There was only one time application fee of $ 5,000 established by the statute in 1999, and the company received authorization to use the seabed for 20 years. SB 793 (2025) passed the Oregon Senate and House in June 2025. > ORS 273 (DSL) - Could be an appropriate action to amend and add a section about renewable energy facilities/structures on state lands. > DSL - Decommissioning and removal of cables together with the Emergency Response Plan requirements. DSL does not have a single Emergency Response Plan requirement at this time. As part of the application package, DSL may require a Drill Break Avoidance and Response Plan and a Site-Specific Geologic Assessment. DSL could use having a single plan that covers both man-made and natural hazards and their response actions in case of an emergency. This would also align with the updated TSP Parts 4 and 5 and JART support. > DSL - Separation standards between cables. DSL policy does not include a minimum width/separation established in OAR 141-083. It was not an issue in 1999 with just a few cables in Oregon. Current easements have a broad range of widths. 15 feet is the standard minimum width for other easements issued by DSL on land. DSL will need to make it clear and include a minimum width for the cables in the Territorial Sea in their updated Division 83. This information should be revised later on after the Division 83 rulemaking. **STRENGTHEN** > Policy around decommissioning and major repair with added scrutiny before equipment is installed that it is feasible equipment can be successfully removed and decommissioned (reuse, recycle or disposal), if required (there are additional decommissioning or removal effects identified in this table) > Engage local governments and state agencies regarding the effects and potential gaps resulting from 1) construction, 2) natural disaster, 3) failure, 4) decommissioning of offshore and onshore components, and 5) waste management. Some policies may be better addressed at the state level, while onshore components may warrant local government policies to address impacts. Local governments are concerned about construction impacts (lights, transportation, frac-out, drilling fluids and waste), natural disaster or failure waste, decommission waste, waste disposal site limitations or nonexistent (trucked out), recycling of materials, response plan and clean up, and inaccessible beach due to emergency event. Therefore, it will be beneficial to work with local governments to identify and amend policy gaps in their compatibility standards applicable to onshore components of an offshore energy project.

Effect of Interest	Effect Details	Enforceable Policies (existing and potential)	Policy Strongest or Most Applicable Excerpt	Policy Strengthening Issues, Needs, Gaps, or Wishlist
Aquatic Geology - Effects on **geology** of sediment transport processes (erosion, accretion, scour) of Project.	> Sediment transport impacts in riverine, riparian, wetland, estuarine and marine areas	**SP Goals 16, 17, 18** **TSP Part 4** **OAR 635-415** – Fish and Wildlife Habitat Mitigation Policy **Local Plans and Codes** (related to SP Goals 16, 17, 18)	**SP Goal 16,** Estuarine Resources, requires proposed actions to be, "consistent with the resource capabilities of the area and the purposes of [the applicable] management unit." **TSP Part 4**, Uses of the Seafloor > **Policy D.4.2** (information requirement) Location and description of all affected areas, including, but not limited to: * **4.2.1** Proposed route of the cable, pipeline, or other utility; and * **4.2.2** Onshore facilities. Additionally for pipelines or other utilities or fixtures: (a) Adjacent areas that may be affected by physical changes in currents and waves caused by the project or development action; > **Policy D.4.3** (information requirement) Physical and chemical conditions including, but not limited to: * **4.3.1** Bathymetry (bottom topography) and Shoreline Topography, including profile of water depth along the route; Additionally for pipelines or other utilities or fixtures: (a) wave regime; (b) typical and maximum current velocities; and (c) dispersal characteristics. **OAR 635-415**: It is the fish and wildlife habitat mitigation policy of the Oregon Department of Fish and Wildlife to require or recommend, depending upon the habitat protection and mitigation opportunities provided by specific statutes, mitigation for losses of fish and wildlife habitat resulting from development actions. Priority for mitigation actions shall be given to habitats for native fish and wildlife species. Mitigation actions for nonnative fish and wildlife species may not adversely affect habitat for native fish and wildlife.	**GAP** > ODFW has an existing Habitat Mitigation Policy (OAR 635-415) for effects of development on habitat with a long history of application onshore, but the existing policy is difficult to fully apply in the marine environment." **ISSUE/NEED** > Mitigating and Operating procedures should consider fish/wildlife seasonal/temporal impacts > When does sediment transport effect become an issue that interacts with a policy? Habitat effects? Property effects? > Additional refinement needed to identify all potential policy connections (e.g., Ocean Shores, DOGAMI policies, etc.) depending on location and type of effect.
Water Quality - Effects to **water quality** from a variety of Project-related activities or development including surveys, facility development, activities in estuaries, seafloor anchor placement, cable installation, or other work, including sediment suspension. This also includes effects of anchor chain sweep (specific to water quality).	> Release of elements (naturally occurring or otherwise) from sea floor > Destruction of benthic habitat is addressed later in this table	**SP Goal 19** **TSP Parts 2, 4, 5** **ORS 468b, OAR 340** – Water Quality > **340-041-0036** Turbidity	**TSP Part 4**, Uses of the Seafloor **> Policy D.4.3** Inventory Content, Biological and ecological features affected by the project or development action, including, but not limited to: *** 4.3.3.3** Benthic flora and fauna that may be affected by the project or development action; and *** 4.3.3.4** Other ecosystem elements that may be affected by the project or development action. > See policies related to benthic community effects. > See policies related to aquatic species effects. **TSP Part 5**, Uses of the Territorial Sea (Appendix C) **> Policy B.4.d** Inventory Content. Subsections 3 and 6 **3.)** Physical and chemical conditions including but not limited to… **6.)** Biological features, including, but not limited to… **ORS 468b, OAR 340**, Water Quality. Policies can be used for reviewing this effect but regulating this effect depends on the geographic location of the work/disturbance/development (e.g., territorial sea, waters of the state, waters of the US) and type of federal permitting nexus (e.g., CWA 404 or other). **OAR 340-041-0036**, Turbidity Turbidity (Nephelometric Turbidity Units, NTU): No more than a ten percent cumulative increase in natural stream turbidities may be allowed, as measured relative to a control point immediately upstream of the turbidity causing activity. However, limited duration activities necessary to address an emergency or to accommodate essential dredging, construction or other legitimate activities and which cause the standard to be exceeded may be authorized provided all practicable turbidity control techniques have been applied and one of the following has been granted: **(1)** Emergency activities: Approval coordinated by the Department with the Oregon Department of Fish and Wildlife under conditions they may prescribe to accommodate response to emergencies or to protect public health and welfare; **(2)** Dredging, Construction or other Legitimate Activities: Permit or certification authorized under terms of section 401 or 404 (Permits and Licenses, Federal Water Pollution Control Act) or OAR 14l-085-0100 et seq. (Removal and Fill Permits, Division of State Lands), with limitations and conditions governing the activity set forth in the	**GAP** > TSP Parts 2, 4, 5 - Information requirements do not specify water quality effects unless they have an ecological effect. Develop standards that apply to survey activity (requiring a survey plan). > SP Goal 19 - Does not specify water quality unless it is related to ecological effects. **ISSUE/NEED** > DEQ/DSL - Support and establish a stand-alone state-based water quality standards and permit that would evaluate compliance with water quality standards and laws in a manner similar to CWA Section 401, but be applicable in absence of any Federal permit. It would be nice to have a 401-like certification that would look at the overall project (similar to how DEQ can use the FERC license process for wave energy). Currently the 401 cert is based on the USACE 404 scope and DEQ may only see pieces of a larger project and not the whole project. There may be some legal issue with the idea because the project is out in the ocean, but [maybe] the case could be made that the state wants to look at the impact of the entirety of the project. > DEQ - Look at Hydroelectric standards, ORS 543A for ideas to incorporate into offshore wind. Hydroelectric Application Review Team (HART) regulations are currently in Rule related to how OWRD, DEQ, ODFW work together when looking at a hydro project. ORS 543 (new hydro) and ORS 543A (relicensure hydro), https://www.oregonlegislature.gov/bills_laws/ors/ors543.html. There is extensive process with permits and it might be something to consider creating for OSW review process. Currently ORS 543A-013 is not applicable to ocean projects if in territorial sea or in an estuary. When a 401 cert for a hydroelectric project is issued, DEQ will look at 1) water quality, and 2) other water related requirements of state law. This allows the concept of beneficial uses to come into evaluation with how water is there to support fish use, for example, which allows a hook for ODFW to require a fish passage.

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			permit or certificate. **OAR 340-041-0004**, Antidegradation (only applicable to nearshore aspects of an OSW project that fall within the waters of the state) (1) Purpose. The purpose of the Antidegradation Policy is to guide decisions that affect water quality to prevent unnecessary further degradation from new or increased point and nonpoint sources of pollution, and to protect, maintain, and enhance existing surface water quality to ensure the full protection of all existing beneficial uses. The standards and policies set forth in OAR 340-041-0007 (Statewide Narrative Criteria) through 340-041-0350 (The Three Basin Rule: Clackamas, McKenzie (above RM 15) & the North Santiam) supplement the Antidegradation Policy. Note: **OAR 340-041-0002**, Definitions. "Waters of the state" means lakes, bays, ponds, impounding reservoirs, springs, wells, rivers, streams, creeks, estuaries, marshes, inlets, canals, the Pacific Ocean within the territorial limits of the State of Oregon, and all other bodies of surface or underground waters, natural or artificial, inland or coastal, fresh or salt, public or private (except those private waters that do not combine or effect a junction with natural surface or underground waters) that are located wholly or partially within or bordering the state or within its jurisdiction.	
Water Quality - Effects to **water quality** from construction, including dredging, and operation and maintenance. This includes effects of accidental spills of fuel, lubricants, marine debris, PFOAs, bisphenols (BPA), and hydraulic oil on water quality in event of release and effects of toxins introduced by the Project (e.g., antifouling paint or coatings) on water quality.	> Includes ballast water, inadvertent spills, in estuarine and open sea, temperature changes from water used in cooling structures > Changes to species composition from altered water quality parameters, temperature in particular.	**SP Goals 16, 19** **TSP Part 5** **ORS 465** – Hazardous Waste **ORS 468b, OAR 340** – Water Quality **ORS 496** – Wildlife Policy **ORS 783** – Ballast Water **OAR 340-141** - Oil Spills **OAR 340-143** – Ballast Water Management **OAR 345** - Energy Facility Siting Standards (related or supporting facilities) (?) > **345-022-120** - Waste Minimization **Local Plans and Codes** (related to SP Goal 16)	**SP Goal 16**, Estuarine Resources **SP Goal 19**, Ocean Resources > **Policy 1**, Uses of Ocean Resources **TSP Part 4**, Uses of the Seafloor > **Policy D.4.1** Inventory Content. Information to be provided by applicants about the proposed project or development action within the Oregon Territorial Sea: (f) Physical and chemical properties of materials, if any, to be used or produced (e.g., chemicals used in horizontal directional drilling (HDD), materials which may be transported by a pipeline, etc.)… **TSP Part 5**, Uses of the Territorial Sea > **Policy B.4.g.3**, Ecological Resources Protection Standards [in designated areas]: Renewable energy facilities shall have no significant adverse effect on ecological resources of concern. > **Policy B.4.g,** Special Resources and Uses Review Standards. **1.)** The following siting and development requirements apply to the construction, deployment or maintenance of a renewable energy facility: **(a)** Consider practicable alternative deployment and placement of structures in proximity to the Project area that would have less impact on identified resources and uses. **(b)** Minimize construction and installation activities during critical time periods for the resources and uses as identified by appropriate regulatory agencies. **(c)** Minimize disturbance to the identified resources and uses during construction and installation of the renewable energy facility and other structures…. **2.)** Fisheries Use Protection Standards. **(b)** General Fisheries Use Protection Standard. iii. Minimize the economic impact resulting from the reduction in area available for commercial and recreational fishing for the effected sectors and ports. iv. Mitigate possible hazards to navigation and, provide practicable opportunities for vessel transit, at the project location. **3.)** The state shall protect living marine organisms, the biological diversity of marine life, the functional integrity of the marine ecosystem, important marine habitat and associated biological communities by using the following ecological resource protection standards to evaluate marine renewable energy project proposals. **ORS 468b, OAR 340**, Water Quality. Policies can be used for reviewing this effect but regulating this effect depends on the geographic location of the work/disturbance/development (e.g., territorial sea, waters of the state, waters of the	**GAP** > Potential gap - Biofouling organisms on vessels > TSP Part 5 * The ecological resource standards are spatially limited. TSP Part 5 could be amended to make these standards broadly applicable to the resource rather than the location. * Does not have a general "avoid or mitigate effects" standard that applies anywhere in the ocean. This may include ecological resource standards. * Policy B.4.g, Special Resources and Uses Review Standards, provide more detail in the policy about what "minimization" means. Except for visual effects and fisheries standards, the minimization requirements found in B.4.g.1-5 might benefit from more details and/or useful examples of what it means to minimize. (ELI) > Combine (beyond existing language) the zoning and resource standards regardless of location or zone (?) > ORS 465 - Enforceable policies needs to be updated (?) > ORS 783 - Specific enforceable policies need to be identified and added for federal consistency > OAR 340-141 - Has a 10k gallon limit to be a "facility" and may not consider multiple smaller turbines as a facility (also ORS 468b). Some ambiguity in standard. Rules may need updating. Renewable hydraulic oil has a lower threshold "or any other renewable product". A collective oil spill may require a response, but it is unclear what could be done about it. In addition, are oil spill policies applicable in federal waters through the GLD? OAR 340-141 is currently not a listed enforceable policy. *"Facility" means a pipeline or any structure, group of structures, equipment or device, other than a vessel located on or near navigable waters of a state, that is used for producing, storing, handling, transferring, processing or transporting oil in bulk and that is capable of storing or transporting 10,000 or more gallons of oil per day.* *"Offshore Facility" means any facility located in, on or under any of the navigable waters of the state.* > OAR 340-143 - Ballast Water - Currently not a listed enforceable policy. > OAR 345 - Energy Facility Siting Standards (related or supporting facilities), not included in enforceable policy suite for federal consistency, if applicable. Could some of these be used with OSW, primarily the onshore components? Could they be

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			US) and type of federal permitting nexus (e.g., CWA 404 or other). **ORS 468B.020**, Prevention of pollution. **(1)** Pollution of any of the waters of the state is declared to be not a reasonable or natural use of such waters and to be contrary to the public policy of the State of Oregon, as set forth in ORS 468B.015. **(2)** In order to carry out the public policy set forth in ORS 468B.015, the Department of Environmental Quality shall take such action as is necessary for the prevention of new pollution and the abatement of existing pollution by: (a) Fostering and encouraging the cooperation of the people, industry, cities and counties, in order to prevent, control and reduce pollution of the waters of the state; and (b) Requiring the use of all available and reasonable methods necessary to achieve the purposes of ORS 468B.015 and to conform to the standards of water quality and purity established under ORS 468B.048. [Formerly 449.095 and then 468.715] **ORS 468B.305**, Entry of oil into waters of state. **(1)** It shall be unlawful for oil to enter the waters of the state from any ship or high hazard train route or from any fixed or mobile facility or installation located offshore or onshore, whether publicly or privately operated, regardless of the cause of the entry or the fault of the person having control over the oil, or regardless of whether the entry is the result of intentional or negligent conduct, accident or other cause. Such entry constitutes pollution of the waters of the state. **ORS 468B.345**, Oil spill contingency plan requirement. **(1)** Unless an oil spill prevention and emergency response plan (see OAR 340-141) has been approved by the Department of Environmental Quality and has been properly implemented, no person shall: **(a)** Cause or permit the operation of an onshore facility in the state; **(b)** Cause or permit the operation of an offshore facility in the state; or **(c)** Cause or permit the operation of a covered vessel within the navigable waters of the state. **ORS 783.620,** Discharge of ballast in navigable waters. Except as provided in ORS 783.635, a person may not discharge the ballast of any vessel into the navigable portions or channels of any of the bays, harbors or rivers of this state, or within the jurisdiction of this state, so as to injuriously affect such portions or channels of such bays, harbors or rivers, or to obstruct navigation thereof. **OAR 340-041-0004**, Antidegradation (only applicable to nearshore aspects of an OSW project that fall within the waters of the state) (1) Purpose. The purpose of the Antidegradation Policy is to guide decisions that affect water quality to prevent unnecessary further degradation from new or increased point and nonpoint sources of pollution, and to protect, maintain, and enhance existing surface water quality to ensure the full protection of all existing beneficial uses. The standards and policies set forth in OAR 340-041-0007 (Statewide Narrative Criteria) through 340-041-0350 (The Three Basin Rule: Clackamas, McKenzie (above RM 15) & the North Santiam) supplement the Antidegradation Policy. Note: OAR 340-041-0002, Definitions. "Waters of the state" means lakes, bays, ponds, impounding reservoirs, springs, wells, rivers, streams, creeks, estuaries, marshes, inlets, canals, the Pacific Ocean within the territorial limits of the State of Oregon, and all other bodies of surface or underground waters, natural or artificial, inland or coastal, fresh or salt, public or private (except those private waters that do not combine or effect a junction with natural surface or underground waters) that are located wholly or partially within or bordering the state or within its jurisdiction.	adapted to offshore components? **ISSUE/NEED** > DEQ/DSL - Establish state water quality standards and permit as listed above. > DEQ - Look at Hydroelectric standards ORS 543A for ideas to incorporate into offshore wind. See previous comments.

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Aquatic Living - Effects to the **benthic community** or alteration of **benthic habitat** from marine survey, installation or removal activities and presence of Project structures on or in the seafloor (e.g. anchors, cable).	> Disturbance, alteration, conversion or destruction of seafloor habitats from boring/coring surveys, anchor installations, movement or mooring chains, cable placement, etc. > Benefits may include nature inclusive design, research platforms, and fish population increase. However, as studied elsewhere, platforms in open water attract fish, which attract recreational fishing - this could lead to high traffic areas and an increased risk of accidents.	**SP Goal 19** **TSP Parts 2, 3, 4, 5** **ORS 273** – State Lands Generally **ORS 274** – Submersible and Submerged Lands **ORS 196** – Removal-Fill **OAR 141** - State Lands > **141-083** – Rules for Granting Easements for Fiber Optic and Other Cables on State-Owned Submerged and Submersible Land within the Territorial Sea > **141-085** – Rules Governing the Issuance and Enforcement of Removal-Fill Authorizations Within Waters of Oregon Including Wetlands (including 141-085-0565 Considerations in Evaluating Individual Permit Applications) > **141-125** – Authorizing Special Uses on State-Owned Land > **141-140** – Rules Governing the Placement of Ocean Energy Conversion Devices On, in or Over State-Owned Land Within the Territorial Sea **OAR 635-415** - Habitat Mitigation Policy	**SP Goal 19, Ocean Resources** > **Policy 1**, Uses of Ocean Resources. Policies to protect marine organisms, marine ecosystem integrity, important marine habitat, and areas important to fisheries. **TSP Part 3**, Rocky Habitat Management Strategy > **Policy A**. Consistent with Statewide Land Use Planning Goal 19, actions that are likely to affect rocky habitats shall be developed and conducted to conserve marine resources and ecological functions for the purpose of providing long-term ecological, economic, and social values benefits. > **Policy B**. Protection of rocky habitat resources (i.e. living marine organisms and their habitat) > **Policy G**. Managing agencies shall administer regulations, permits and other agreements in a way that considers the long-term conservation of rocky habitats and organisms. **TSP Part 4**, Uses of the Seafloor > **Policy 4.C**. An applicant for a project or development action within or affecting the Oregon Territorial Sea shall: Design and site projects and infrastructure responsibly such that proposed seafloor development actions will maintain and protect to the maximum extent practicable, natural resources, ecosystem integrity, marine habitat, and areas important to fisheries, navigation, recreation, and aesthetic enjoyment from adverse effects that may be caused by said development actions. For purposes of this section, 'Maintain and protect' requires mitigation, in order of priority (Avoid, Minimize, Rectify, Reduce or eliminate over time, Compensate). **> Policy 4.D.4.** Routing and Landing. DSL shall not grant easements through marine reserves, marine protected areas, rocky habitats designated as a Marine Research Area, Marine Garden, or Marine Conservation Area under Part Three, and shall not grant easements on rocky habitat areas within the state territorial sea. **TSP Part 5**, Uses of the Territorial Sea > **Policy B.4.g.3.** Ecological Resources Protection Standards. **3.)** The state shall protect living marine organisms, the biological diversity of marine life, the functional integrity of the marine ecosystem, important marine habitat and associated biological communities by using the following ecological resource protection standards to evaluate marine renewable energy project proposals. Also, [in specified areas], renewable energy facilities shall have no significant adverse effect on ecological resources of concern. Refer to definition of "Significant Adverse Effect" and standards for "Important, Sensitive, or Unique Areas (ISU) including application of buffer to account both for rock reef species foraging and disturbance from development. **ORS 196.825, General Policy on Removal-Fill**. No authorization to place fill or remove material from the waters of this state may: (a) Be inconsistent with the protection, preservation and best use of the water resources of this state; and (b) Interfere with the paramount policy of this state to preserve the use of its waters for navigation, fishing and public recreation uses **OAR 141-083-0810(4)**, Easements for cables shall be located so as to: **(a)** Protect the public trust values of commerce (including fiber optic and other cable transmissions), navigation, fishing, and recreation; **(b)** Conserve living marine and other seabed resources; and **(c)** Avoid or reduce conflicts with other ocean users and industries. **(d)** Comply with all applicable local, state, and federal laws including Statewide Planning Goal 19. **(7)** regarding burial of all cables, see also. **OAR 141-083-0850(6)** If determined necessary by the Division in consultation with the easement holder and other interested parties, and if permitted by the applicable federal agency(ies) regulating the cable, the easement holder shall remove the cable from the state-owned submerged and submersible land within one (1) year following the termination of use of the cable or expiration of the easement. **(8)** Easement holders shall inspect cables to ensure that they remain both within the area authorized by the easement and buried. **OAR 141-125-0170(10)** The holder of a lease for a renewable energy project must	**GAP** > State mechanism to consider cumulative effects of multiple projects including projects across state waters. > Considering introducing language into Enforceable Policies for multiple steps of impact to different species, for example. > TSP (generally) - Definition clarification or expansion of "renewable marine resources" terminology. Terminology should be consistent throughout. > TSP Part 5 (potential) - * Vessel operation impacts (e.g., collisions, strikes, noise). * Ecological resource standards are spatially limited and could be revised to be generally applicable to resources regardless of location. * Seasonal considerations (e.g., in water work periods in ocean considering species presence or fisheries uses) * Define “Adverse Effect for Ecological Resource Protection” and role of mitigation on the effect of significance. * There are numerous important policy statements but they are not currently worded in a way to be an enforceable policies and/or may require new policies to be enforceable (e.g. phased development, cumulative impacts, ecological resources protection standards, etc.). * Policy B.4.g, Special Resources and Uses Review Standards, provide more detail in the policy about what "minimization" means. Except for visual effects and fisheries standards, the minimization requirements found in B.4.g.1-5 might benefit from more details and/or useful examples of what it means to minimize. (ELI) > State Lands Generally (DSL). This information should be revised later on after the Division 83 rulemaking. * DSL authority to charge fees and compensation rates for the easement (Legislation Session 2025 SB 793 regarding undersea cables will hopefully address this issue; see related notes in this table). * ORS 273 - Could be an appropriate action to amend and add a section about renewable energy facilities/structures on state lands under this statute * Decommissioning and removal of cables together with the Emergency Response Plan (see related notes in this table). * Mooring lines should be added/addressed in terms of regulation and requirements. * Separation standards between cables (see related notes in this table). **STRENGTHEN** > State policy to identify benthic habitats (e.g. coral habitat, methane seep sites) to be avoided early on > ODFW - The State Wildlife Action Plan (SWAP) is a non-regulatory plan that highlights species of greatest conservation need, key habitats, and key conservation issues to guide agencies, partners, and stakeholders in identifying ways to address the most pressing threats to Oregon’s fish and wildlife and the habitats they depend on. Consider how these conservation objectives might guide our thinking in identifying ways to strengthen policies to address potential impacts from offshore wind. > Add TSP Part 3 Policy J to TSP Part 2A, Mandatory Policies section. "*Marine development activities, ~~not currently managed by a specific part of the Territorial Sea Plan~~, that cause significant adverse effects or permanent impacts to the form or function of submerged rocky habitats, or the fisheries dependent upon them, are prohibited.*" **ISSUE/NEED** > DEQ/DSL - Establish state water quality standards and permit as listed above. > DEQ - Look at Hydroelectric standards ORS 543A for ideas to incorporate into offshore wind. See previous comments. > Potential protective standards could include design requirements of equipment and mooring to minimize interactions such as biofouling, perching, and haul-out; or

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			remove any or all developments as directed by the Department within one year of the date of the expiration or termination of the authorization. The holder of a special use authorization must conduct all operations within the authorized area in a manner that conserves fish and wildlife habitat; protects water quality; and does not contribute to insect or animal infestation, soil erosion or the growth of noxious plants. **(15)(b)** Short-term access authorization for scientific or research purposes… **OAR 141-140** Termination. Lessee is required to: "Remove ocean energy monitoring equipment, ocean energy facilities and any other material, substance or related or supporting structure from the authorized area as directed by the Department within a period of time to be established by the Department as a condition of the authorization. If the holder of the temporary use authorization or lessee fails or refuses to remove such equipment, facility or other material, substance or related or supporting structure, the Department may remove them or cause them to be removed, and the holder of the authorization or lessee shall be liable for all costs incurred by the State of Oregon for such removal." **OAR 635-415**, Habitat Mitigation Policy, for effects to benthic habitat from survey, installation or removal activities.	requirements to minimize the benthic footprint of components (e.g., anchors, mooring lines).
Aquatic Living - Effects of changes to **marine community composition** at the Project site or affected areas beyond the Project site (e.g., use patterns, attraction, and aversion). *Note: this is a broad effect category that would need additional specification when developing research agenda questions or evaluating consistency with broad policies.*	> Potential of cumulative effects involving multiple projects across multiple states > Potential impact to a broad range of species > Potential changes in the distribution and abundance of predators and prey species > Changes to foraging, migratory routes, or navigation of species including changes to the food chain for local and migratory species > Changes in the presence of fouling organisms > Pinniped haulout or seabird perching > Changes to species interactions or patterns resulting from attraction to or avoidance of the Project area > Trophic system changes to local species as well as migratory species (e.g., whales/turtles) > Invasive Species establishment on hard structures > International important biodiversity concerns > Southern resident killer whale/orcas > Beneficial effects may	**SP Goal 19** **TSP Part 5** **ORS 496** – Wildlife Policy **ORS 506.109** – Food Fish Policy	**SP Goal 19**, Ocean Resources > **Policy 1**, Uses of Ocean Resources. Policies to protect marine organisms, marine ecosystem integrity, important marine habitat, and areas important to fisheries. **TSP Part 5**, Uses of the Territorial Sea > **Policy B.4.g.3,** Ecological Resources Protection Standards. **3.)** The state shall protect living marine organisms, the biological diversity of marine life, the functional integrity of the marine ecosystem, important marine habitat and associated biological communities by using the following ecological resource protection standards to evaluate marine renewable energy project proposals. Also, [in specified areas], renewable energy facilities shall have no significant adverse effect on ecological resources of concern. Definition of "Significant Adverse Effect": degradation in ecosystem function and integrity (including but not limited to direct habitat damage, burial of habitat, habitat erosion, reduction in biological diversity) or degradation of living marine organisms (including but not limited to abundance, individual growth, density, species diversity, species behavior) **ORS 496.012**, Wildlife Policy. It is the policy of the State of Oregon that wildlife shall be managed to prevent serious depletion of any indigenous species and to provide the optimum recreational and aesthetic benefits for present and future generations of the citizens of this state. In furtherance of this policy, the State Fish and Wildlife Commission shall represent the public interest of the State of Oregon and implement the following coequal goals of wildlife management: **(1)** To maintain all species of wildlife at optimum levels. **(2)** To develop and manage the lands and waters of this state in a manner that will enhance the production and public enjoyment of wildlife. **(3) - (7)** etc. **ORS 506.109**, Food fish management policy. It is the policy of the State of Oregon that food fish shall be managed to provide the optimum economic, commercial, recreational and aesthetic benefits for present and future generations of the citizens of this state. In furtherance of this policy, the goals of food fish management are: **(1)** To maintain all species of food fish at optimum levels in all suitable waters of the state and prevent the extinction of any indigenous species. **(2)** To develop and manage the lands and waters of this state in a manner that will optimize the production, utilization and public enjoyment of food fish. **(3) - (7)** etc.	**GAP** > State mechanism to consider cumulative effects of multiple projects including projects across state waters. > Considering introducing language into Enforceable Policies for multiple steps of impact to different species, for example. > TSP (generally) - Definition clarification or expansion of "renewable marine resources" terminology. Terminology should be consistent throughout. > TSP Part 5 * The ecological resource standards in Part 5 protect species composition but are spatially limited. Part 5 could be amended to make these standards broadly applicable to the resource rather than the location. * Fish/wildlife and habitat references are vague and could benefit from more details/standards as well as a requirement to conduct mitigation (including restoration and compensatory payments for losses before and during operation) as well as adaptive management. * *Oregon's offshore wind governance: Policy analysis, process evaluations, and the future of offshore wind development in Oregon* found, "The absence of enforceable mechanisms in the TSP [Part Five] for lifecycle project evaluation significantly impairs the effectiveness of informed, adaptive management planning. The gap of enforceable mechanisms in the TSP is likely to result in insufficient data on environmental and community impacts throughout projects lifespan within the federal consistency review window, weakening the foundation for a robust environmental monitoring plan. …. The TSP should include enforceable requirements for lifecycle analysis of proposed offshore wind projects, which can be utilized to support informed long-term environmental monitoring requirements and clearly defined adaptive management thresholds. To achieve this, new environmental and community impact data may be required." (Baldinger, et. al., 2025) * Policy B.4.g, Special Resources and Uses Review Standards, provide more detail in the policy about what "minimization" means. Except for visual effects and fisheries standards, the minimization requirements found in B.4.g.1-5 might benefit from more details and/or useful examples of what it means to minimize. (ELI) > Should policies be differentiated by a broad range of species? How would standards differ? **Note**: The decommissioning requirements in TSP Part 5 and OAR 141- 141 imply a preference for natural and native habitats to artificial habitats. **ISSUE/NEED** > Potential protective standard could include requiring the use of antifouling

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	include nature inclusive design, research platforms, fish population increase			measures such as specialized coatings or paints or frequent cleaning on hard surfaces or require vessels installing or servicing the devices should be from the local area or undergo cleaning. > Develop and Pursue a Research Agenda for Oregon/ Establish a Research Collaborative to build Oregon-specific scientific consensus and coordinate with other west coast states
Aquatic Living - Effects to anadromous **fish species** (salmon, sturgeon, eulachon, & lamprey) migration in the ocean and coastal rivers	> Marine equipment can generate EMFs that may interfere with the sensory systems of anadromous fish, affecting navigation or orientation, especially if installed in estuaries or near river mouths with anadromy. > Relationship between changes to estuarine refugia and altered predation during in/out migration > Each species has some unique sensitivities. > Consideration of fish passage and screening requirements for structures installed in riverine systems	**SP Goal 19** **TSP Part 5** **ORS 496** – Wildlife Policy **ORS 498** - Fish Screening **ORS 506.109** – Food Fish Policy **OAR 635-412** – Fish Passage and Mitigation Criteria	*Applicable policies are the same as for marine community composition effects (above and noted here)* **SP Goal 19**, Ocean Resources, Policy 1 to protect marine organisms, marine ecosystem integrity, important marine habitat, and areas important to fisheries. **TSP Part 5**, Uses of the Territorial Sea, **Policy B.4.g.3,** Ecological Resources Protection Standards. **ORS 496.012**, Wildlife Policy. It is the policy of the State of Oregon that wildlife shall be managed to prevent serious depletion of any indigenous species and to provide the optimum recreational and aesthetic benefits… **ORS 506.109**, Food fish management policy. It is the policy of the State of Oregon that food fish shall be managed to provide the optimum economic, commercial, recreational and aesthetic benefits…	**GAP** > TSP Part 5 * The ISU and ecological resource standards protect ecological resources of concern (e.g., species composition) but are spatially limited. TSP Part 5 could be amended to make these standards broadly applicable to the resource rather than the location. * Fish/wildlife and habitat references are vague and could benefit from more details/standards as well as a requirement to conduct mitigation (including restoration and compensatory payments for losses before and during operation) as well as adaptive management. * *Oregon's offshore wind governance: Policy analysis, process evaluations, and the future of offshore wind development in Oregon* found, "The absence of enforceable mechanisms in the TSP [Part Five] for lifecycle project evaluation significantly impairs the effectiveness of informed, adaptive management planning. The gap of enforceable mechanisms in the TSP is likely to result in insufficient data on environmental and community impacts throughout projects lifespan within the federal consistency review window, weakening the foundation for a robust environmental monitoring plan. …. The TSP should include enforceable requirements for lifecycle analysis of proposed offshore wind projects, which can be utilized to support informed long-term environmental monitoring requirements and clearly defined adaptive management thresholds. To achieve this, new environmental and community impact data may be required." (Baldinger, et. al., 2025) * Policy B.4.g, Special Resources and Uses Review Standards, provide more detail in the policy about what "minimization" means. (ELI) **ISSUE/NEED** > Develop and Pursue a Research Agenda for Oregon/ Establish a Research Collaborative to build Oregon-specific scientific consensus and coordinate with other west coast states
Aquatic Living - Effects on **marine mammals, fish, sea turtles, and seabirds** by <u>underwater noise/vibration</u> from survey, construction, operation and monitoring activities. This [should] include both operations of the turbine, anchors/tethers, and transmission lines/infrastructure.	> Acoustic effects that could disturb or disorient fish, lead to fish avoidance or alter migration > Masking, impacts to communication and perception > Changes to bird behavior, whale foraging behavior, and migratory routes > Potential changes to predator-prey interactions > Crabs and lobster may also be impacted > Invertebrates, shellfish as it comes closer to shore (e.g., sand dollars, D crab)	**SP Goal 19** **TSP Parts 3, 4, 5** **ORS 196** - Removal-Fill **ORS 469** - Regulation of Energy Facilities (related or supporting facilities) **ORS 496** – Wildlife Policy **ORS 506.109** – Food Fish Policy **OAR 141** - State Lands **OAR 345** - Energy Facility Siting Standards (related or supporting facilities) **OAR 635-100** – Threatened or Endangered Species (Southern Resident Orca Endangered Species Management Plan)	*Applicable policies are the same as for marine community composition effects and benthic community effects (above and here)* **SP Goal 19**, Ocean Resources, Policy 1 to protect marine organisms, marine ecosystem integrity, important marine habitat, and areas important to fisheries. **TSP Part 3**, Rocky Habitat Management Strategy, Policies **A, B, G** **TSP Part 4**, Uses of the Seafloor, Policies **4.C** and **4.D.4** **TSP Part 5**, Uses of the Territorial Sea, Policy **B.4.g.3** **ORS 196.825**, General Policy on Removal-Fill **ORS 496.012**, Wildlife Policy. It is the policy of the State of Oregon that wildlife shall be managed to prevent serious depletion of any indigenous species and to provide the optimum recreational and aesthetic benefits … **ORS 506.109**, Food fish management policy. It is the policy of the State of Oregon that food fish shall be managed to provide the optimum economic, commercial, recreational and aesthetic benefits… **OAR 141-083-0810(4)**, Cable easement locations and **(7)** burial of all cables **OAR 141-083-0850(6)**, Removal of cables and **(8)** cable inspection. **OAR 141-125-0170(10)**, Renewable energy removal and **(15)(b)** Short-term access authorization for scientific or research purposes… **OAR 141-140**, Termination.	**GAP** > TSP Part 5 * *Applicable gaps are the same as those listed above.* * Other potential gaps include enforcement of abandonment of buoy anchors (e.g., railroad wheels and other buoy anchors) and materials used for surveying and meteorological information during surveying process. * Policy B.4.g, Special Resources and Uses Review Standards, provide more detail in the policy about what "minimization" means. Except for visual effects and fisheries standards, the minimization requirements found in B.4.g.1-5 might benefit from more details and/or useful examples of what it means to minimize. (ELI) > ORS 469 - Regulation of Energy Facilities (related or supporting facilities), enforceable policies need to be updated, if applicable. > OAR 345 - Energy Facility Siting Standards (related or supporting facilities) are not included in enforceable policy suite for federal consistency. Could some of these be used with OSW, primarily the onshore components? Could they be adapted to offshore components? **ISSUE/NEED** > Establish protective or management standards to avoid acoustic impacts and could include establishing a specific schedule for installation when sensitive species are unlikely to be present; require using underwater sound attenuation measures such as bubble curtains during installation to decrease sound propagation, if pile driving is

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				required; or require modeling and monitoring for noise levels and sound propagation during installation and operation.
Aquatic Living - Effects or risk of collision or entanglement with Project structures, entangled gear, or service vessels to **marine species**. Consider the opposing effects to Project structures and the need for fish screening, or entrainment in a device structure.	> Concerns about the potential risk of collision, entanglement, or entrapment to marine species, in addition to birds and bats.	**SP Goal 19** **TSP Part 5** **ORS 496** – Wildlife Policy **ORS 506.109** – Food Fish Policy	*Applicable policies are the same as for marine community composition effects (above and noted here)* **SP Goal 19**, Ocean Resources, Policy 1 to protect marine organisms, marine ecosystem integrity, important marine habitat, and areas important to fisheries. **TSP Part 5**, Uses of the Territorial Sea, **Policy B.4.g.3,** Ecological Resources Protection Standards [in designated areas]: Renewable energy facilities shall have no significant adverse effect on ecological resources of concern. **ORS 496.012**, Wildlife Policy. It is the policy of the State of Oregon that wildlife shall be managed to prevent serious depletion of any indigenous species and to provide the optimum recreational and aesthetic benefits… **ORS 506.109**, Food fish management policy. It is the policy of the State of Oregon that food fish shall be managed to provide the optimum economic, commercial, recreational and aesthetic benefits…	**GAP** > *Applicable gaps of TSP Part 5 are the same as those listed above.* **ISSUE/NEED** > To avoid collision, entrainment, impingement, and entrapment, establish design standards for equipment in order to minimizing the area influenced by moving parts; establish adequate entering and exiting and escape pathways; and establish design standards such as different color patterns, acoustic deterrents, or other deterrence methods, such as acoustic pingers and electromagnetic protective fields that could improve detectability and avoidance. > ORS 498, Fish Screening, and OAR 635-412, Fish Passage, are not applicable here. Marine installations are not considered obstacles to fish passage at this time (given what we know about the physical characteristics of potential developments). The subject of screening in the marine environment remains unresolved and needs further future discussion between NMFS and ODFW outside of the Roadmap planning process.
Aquatic Living - Effects to **seabirds and marine species** of Project marker and vessel lighting .	> Lighting may attract seabirds (especially nocturnal phototactic species) to structures, increasing risk of collision > Lighting may attract forage species and their predators increasing the opportunity for interaction with in- water structures near the ocean surface > "Fallout" attraction of birds to anthropogenic light sources can lead to mortality > Lights can also attract and aggregate prey, potentially attract predators to areas of higher risk of collision/	**SP Goal 19** **TSP Part 5** **ORS 496** – Wildlife Policy **ORS 506.109** – Food Fish Policy	*Applicable policies are the same as for marine community composition effects (above and noted here)* **SP Goal 19**, Ocean Resources, Policy 1 to protect marine organisms, marine ecosystem integrity, important marine habitat, and areas important to fisheries. **TSP Part 5**, Uses of the Territorial Sea, **Policy B.4.g.3,** Ecological Resources Protection Standards. **ORS 496.012**, Wildlife Policy. It is the policy of the State of Oregon that wildlife shall be managed to prevent serious depletion of any indigenous species and to provide the optimum recreational and aesthetic benefits… **ORS 506.109**, Food fish management policy. It is the policy of the State of Oregon that food fish shall be managed to provide the optimum economic, commercial, recreational and aesthetic benefits…	**GAP** > *Applicable gaps of TSP Part 5 are the same as those listed above.* **ISSUE/NEED** > Lighting is under the US Coast Guard jurisdiction. Oregon may make recommendations to minimize impacts. > Coordinate with Coast Guard to establish aids to navigational hazards that may need to be installed near deployment sites (e.g., navigational marker buoys that may include sound and lighting).

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	entanglement/impact? > Lighting can disrupt circadian rhythms which can potentially impact survivorship of birds and other wildlife. > Lighting is under the US Coast Guard jurisdiction. Oregon may make recommendations to minimize impacts.			
Aquatic Living - Effects to [marine] **species** from marine debris, hydraulic fluids, PFOAs, bisphenols (BPA), and oil <u>contamination</u> from ocean-based wind equipment or support vessels releasing into the ocean environment	> Ingestion, bioaccumulation	**SP Goal 19** **TSP Part 5** **ORS 496** – Wildlife Policy **ORS 506.109** – Food Fish Policy **OAR 340-141** - Oil Spills	*Applicable policies are the same as for marine community composition effects (above and noted here)* **SP Goal 19**, Ocean Resources, Policy 1 to protect marine organisms, marine ecosystem integrity, important marine habitat, and areas important to fisheries. **TSP Part 5**, Uses of the Territorial Sea, **Policy B.4.g.3,** Ecological Resources Protection Standards. **ORS 496.012**, Wildlife Policy. It is the policy of the State of Oregon that wildlife shall be managed to prevent serious depletion of any indigenous species and to provide the optimum recreational and aesthetic benefits… **ORS 506.109**, Food fish management policy. It is the policy of the State of Oregon that food fish shall be managed to provide the optimum economic, commercial, recreational and aesthetic benefits…	**GAP** > *Applicable gaps of TSP Part 5 are the same as those listed above.* > OAR 340-141 - Has a 10k gallon limit to be a "facility" and may not consider multiple smaller turbines as a facility (also ORS 468b). Some ambiguity in standard. Rules may need updating. Renewable hydraulic oil has a lower threshold "or any other renewable product". A collective oil spill may require a response, but it is unclear what could be done about it. In addition, are oil spill policies applicable in federal waters through the GLD? OAR 340-141 is currently not a listed enforceable policy. *"Facility" means a pipeline or any structure, group of structures, equipment or device, other than a vessel located on or near navigable waters of a state, that is used for producing, storing, handling, transferring, processing or transporting oil in bulk and that is capable of storing or transporting 10,000 or more gallons of oil per day.* *"Offshore Facility" means any facility located in, on or under any of the navigable waters of the state.* **STRENGTHEN** > ODFW - In Oregon's State Wildlife Action Plan (SWAP), Key Conservation Issues (KCIs) identify and address major challenges impacting species of greatest conservation need and their habitats, such as water quality and pollution. KCIs offer a framework for understanding the root causes of habitat degradation and species decline.

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Aquatic Living - Effects of **rocky reef and nearshore ecosystem** from Project development and cables.	> Potential upwelling changes to reef productivity > Direct interactions caused by infrastructure location > Downstream effects of anchors and impacts to sediment movement seasonally > Consideration of cable routes to achieve burial to max extent practicable by siting away from hard substrate	**SP Goal** 19 **TSP Parts 3, 4, 5** **ORS 196** - Removal-Fill **ORS 496** – Wildlife Policy **ORS 506.109** – Food Fish Policy **OAR 141** - State Lands	*Applicable policies are the same as for marine community composition effects and benthic community effects (above and here)* **SP Goal 19**, Ocean Resources, Policy 1 to protect marine organisms, marine ecosystem integrity, important marine habitat, and areas important to fisheries. **TSP Part 3**, Rocky Habitat Management Strategy, Policies **A, B, G** **TSP Part 4**, Uses of the Seafloor, Policies **4.C** and **4.D.4** **TSP Part 5**, Uses of the Territorial Sea, Policy **B.4.g.3** **ORS 196.825**, General Policy on Removal-Fill **ORS 496.012**, Wildlife Policy. It is the policy of the State of Oregon that wildlife shall be managed to prevent serious depletion of any indigenous species and to provide the optimum recreational and aesthetic benefits ... **ORS 506.109**, Food fish management policy. It is the policy of the State of Oregon that food fish shall be managed to provide the optimum economic, commercial, recreational and aesthetic benefits... **OAR 141-083-0810(4)**, Cable easement locations and **(7)** burial of all cables **OAR 141-083-0850(6)**, Removal of cables and **(8)** cable inspection. **OAR 141-125-0170(10)**, Renewable energy removal and **(15)(b)** Short-term access authorization for scientific or research purposes... **OAR 141-140**, Termination.	**GAP** > *Applicable gaps of TSP Part 5 are the same as those listed above.* **ISSUE/NEED** > DEQ/DSL - Establish state water quality standards and permit as listed above. > DEQ - Look at Hydroelectric standards ORS 543A for ideas to incorporate into offshore wind. See previous comments. > Considering introducing language into Enforceable Policies for multiple steps of impact to different species, for example.
Aquatic Living - Cumulative effects to **marine food** webs	> Combined noted effects in this table on marine species abundance, behavior, and migration, both near the Project and regionally	**SP Goal** 19 **TSP Parts 3, 4, 5** **ORS 196** - Removal-Fill **ORS 496** – Wildlife Policy **ORS 506.109** – Food Fish Policy **OAR 141** - State Lands	*Applicable policies are the same as for marine community composition effects and benthic community effects (above and here)* **SP Goal 19**, Ocean Resources, Policy 1 to protect marine organisms, marine ecosystem integrity, important marine habitat, and areas important to fisheries. **TSP Part 3**, Rocky Habitat Management Strategy, Policies **A, B, G** **TSP Part 4**, Uses of the Seafloor, Policies **4.C** and **4.D.4** **TSP Part 5**, Uses of the Territorial Sea, Policy **B.4.g.3**, in addition to > **B.4.e 4)** Cumulative Effects. Evaluate the cumulative effects of a project, including the shoreland component, in conjunction with effects of any prior phases of the project, past projects, other current projects, and probable future projects. The evaluation shall analyze the biological, ecological, physical, and socioeconomic effects of the renewable energy facility development and of other renewable energy facility projects along the Oregon coast, while also taking into account the effects of existing and future human activities and the regional effects of global climate change. **ORS 196.825**, General Policy on Removal-Fill **ORS 496.012**, Wildlife Policy. It is the policy of the State of Oregon that wildlife shall be managed to prevent serious depletion of any indigenous species and to provide the optimum recreational and aesthetic benefits ... **ORS 506.109**, Food fish management policy. It is the policy of the State of Oregon that food fish shall be managed to provide the optimum economic, commercial, recreational and aesthetic benefits... **OAR 141-083-0810(4)**, Cable easement locations and **(7)** burial of all cables **OAR 141-083-0850(6)**, Removal of cables and **(8)** cable inspection. **OAR 141-125-0170(10)**, Renewable energy removal and **(15)(b)** Short-term access authorization for scientific or research purposes... **OAR 141-140**, Termination.	**GAP** > *Applicable gaps of TSP Part 5 are the same as those listed above.*
Aquatic Living - Effects from changing ocean conditions, together with offshore wind development, on aquatic living resources	> Combined effects of development and changing future conditions on mitigation, foraging, or changes in species distribution at multiple trophic scales.	**SP Goal** 19 **TSP Parts 3, 4, 5** **ORS 196** - Removal-Fill **ORS 496** – Wildlife Policy **ORS 506.109** – Food Fish Policy **OAR 141** - State Lands	*Applicable policies are the same as for marine community composition effects and benthic community effects (above and here)* **SP Goal 19**, Ocean Resources, Policy 1 to protect marine organisms, marine ecosystem integrity, important marine habitat, and areas important to fisheries. **TSP Part 3**, Rocky Habitat Management Strategy, Policies **A, B, G** **TSP Part 4**, Uses of the Seafloor, Policies **4.C** and **4.D.4** **TSP Part 5**, Uses of the Territorial Sea, Policy **B.4.g.3**, in addition to > **B.4.e 4)** Cumulative Effects. Evaluate the cumulative effects of a project, including the shoreland component, in conjunction with effects of any prior phases of the	**GAP** > *Applicable gaps of TSP Part 5 are the same as those listed above.* **STRENGTHEN** > ODFW - In Oregon's State Wildlife Action Plan (SWAP), Key Conservation Issues (KCIs) identify and address major challenges impacting species of greatest conservation need and their habitats, such as changing ocean conditions. KCIs offer a framework for understanding the root causes of habitat degradation and species decline.

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			project, past projects, other current projects, and probable future projects. The evaluation shall analyze the biological, ecological, physical, and socioeconomic effects of the renewable energy facility development and of other renewable energy facility projects along the Oregon coast, while also taking into account the effects of existing and future human activities and the regional effects of global climate change. > **D.3.d**. Adaptive Management Plan. An adaptive management plan to provide a mechanism for incorporating new findings and new technologies into the operation and management of the project. The adaptive management plan shall include performance standards that are based on results of the resource inventory and effects evaluation and incorporated in the study design of the monitoring plan as described in paragraph C.3.c (Monitoring Plan). **ORS 196.825**, General Policy on Removal-Fill **ORS 496.012**, Wildlife Policy. It is the policy of the State of Oregon that wildlife shall be managed to prevent serious depletion of any indigenous species and to provide the optimum recreational and aesthetic benefits … **ORS 506.109**, Food fish management policy. It is the policy of the State of Oregon that food fish shall be managed to provide the optimum economic, commercial, recreational and aesthetic benefits… **OAR 141-083-0810(4)**, Cable easement locations and **(7)** burial of all cables **OAR 141-083-0850(6)**, Removal of cables and **(8)** cable inspection. **OAR 141-125-0170(10)**, Renewable energy removal and **(15)(b)** Short-term access authorization for scientific or research purposes… **OAR 141-140**, Termination.	
Aquatic Living - Effects of changes in wave energy on neritic/seafloor, littoral and shoreline **habitat**	> Assumption that extraction of wind energy changes wave size/energy at the surface and in subsurface waves.	**SP Goal 19** **TSP Parts 3, 4, 5** **ORS 196** - Removal-Fill **ORS 496** – Wildlife Policy **ORS 506.109** – Food Fish Policy **OAR 141** - State Lands **OAR 635-415** – Fish and Wildlife Habitat Mitigation Policy	*Applicable policies are the same as for marine community composition effects and benthic community effects (above and here)* **SP Goal 19**, Ocean Resources, **Policy 1** to protect marine organisms, marine ecosystem integrity, important marine habitat, and areas important to fisheries. **TSP Part 3**, Rocky Habitat Management Strategy, Policies **A, B, G** **TSP Part 4**, Uses of the Seafloor, Policies **4.C** and **4.D.4** **TSP Part 5**, Uses of the Territorial Sea, Policy **B.4.g.3** **ORS 196.825**, General Policy on Removal-Fill **ORS 496.012**, Wildlife Policy. It is the policy of the State of Oregon that wildlife shall be managed to prevent serious depletion of any indigenous species and to provide the optimum recreational and aesthetic benefits … **ORS 506.109**, Food fish management policy. It is the policy of the State of Oregon that food fish shall be managed to provide the optimum economic, commercial, recreational and aesthetic benefits… **OAR 141-083-0810(4)**, Cable easement locations and **(7)** burial of all cables **OAR 141-083-0850(6)**, Removal of cables and **(8)** cable inspection. **OAR 141-125-0170(10)**, Renewable energy removal and **(15)(b)** Short-term access authorization for scientific or research purposes… **OAR 141-140**, Termination.	**STRENGTHEN** > ODFW - The State Wildlife Action Plan (SWAP) is a non-regulatory plan that highlights species of greatest conservation need, key habitats, and key conservation issues to guide agencies, partners, and stakeholders in identifying ways to address the most pressing threats to Oregon's fish and wildlife and the habitats they depend on. Consider how these conservation objectives might guide our thinking in identifying ways to strengthen policies to address potential impacts from offshore wind. **ISSUE/NEED** > DEQ/DSL - Establish state water quality standards and permit as listed above. > DEQ - Look at Hydroelectric standards ORS 543A for ideas to incorporate into offshore wind. See previous comments.

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Aquatic Living - Effects of changes to electromagnetic fields (EMFs) on **species** sensitive to EMF	> Effects to navigation, orientation, or prey detection; especially if installed in estuaries or near river mouths with anadromy. > Dynamic electrified cable and its effect on ecosystem as they move through waters.	**SP Goal 19** **TSP Part 5** **ORS 496** – Wildlife Policy > **496.171 – 496.192** – Threatened or Endangered Species **ORS 506.109** – Food Fish Policy	*Applicable policies are the same as for marine community composition effects (above and noted here)* **SP Goal 19**, Ocean Resources, Policy 1 to protect marine organisms, marine ecosystem integrity, important marine habitat, and areas important to fisheries. (see note below under ORS 496) **TSP Part 5**, Uses of the Territorial Sea, **Policy B.4.g.3,** Ecological Resources Protection Standards. **ORS 496.012**, Wildlife Policy. It is the policy of the State of Oregon that wildlife shall be managed to prevent serious depletion of any indigenous species and to provide the optimum recreational and aesthetic benefits… > **496.171 – 496.192**, Threatened or Endangered Species, is applicable because of EMF sensitive species that are state listed (e.g., salmonids) > ORS 496 and Goal 19, together, protect ecosystems to get at elasmobranchs and sturgeon that are EMF sensitive **ORS 506.109**, Food fish management policy. It is the policy of the State of Oregon that food fish shall be managed to provide the optimum economic, commercial, recreational and aesthetic benefits…	**GAP** > TSP Part 5 - The ecological resource standards in Part 5 should be amended to be broadly applicable to the resource rather than the location. **ISSUE/NEED** > Potential protective measures could include requiring protection/shielding around cables or require using existing offshore infrastructure or structures (e.g., pipelines) for routing transmission cables. Reference report: "Collaboratively advancing our understanding of electromagnetic fields: what do you need to know" (https://research-repository.st-andrews.ac.uk/handle/10023/32368)
Aquatic Living - Effects to **estuaries** from Project development and cables	> Pollution from biofouling, ballast water, spills > Changes to hydrodynamics and species and habitats from dredging > Potential shoreline development impacts > Potential loss of eel grass habitat related to port development > Channel deepening for port facilities and the potential influence it may have on species behavior > Impact migratory shorebird and waterfowl use of estuaries through habitat loss or degradation	**SP Goals 16, 17** **TSP Parts 4, 5 (?)** **ORS 196** – Removal-Fill **ORS 273/274** – State Lands **ORS 783** – Ballast Water **ORS 496.012** – Wildlife Policy **OAR 141** - State Lands **OAR 340-143** – Ballast Water Management **OAR 635-415** – Fish and Wildlife Habitat Mitigation Policy **Local Plans and Codes** (related to SP Goals 16, 17)	**SP Goal 16**, Estuarine Resources, requires proposed actions to be, "consistent with the resource capabilities of the area and the purposes of [any] management unit." The following uses may be allowed: pipelines, cables and utility crossings, including incidental dredging necessary for their installation **SP Goal 17**, Coastal Shorelands. General priorities for the overall use of coastal shorelands (from highest to lowest) shall be to: 1. Promote uses which maintain the integrity of estuaries and coastal waters; 2. Provide for water- dependent uses; 3. Provide for water-related uses; 4. Provide for nondependent, nonrelated uses which retain flexibility of future use and do not prematurely or inalterably commit shorelands to more intensive uses; 5. Provide for development, including nondependent, nonrelated uses, in urban areas compatible with existing or committed uses; 6. Permit nondependent, nonrelated uses which cause a permanent or long-term change in the features of coastal shorelands only upon a demonstration of public need. **ORS 196.825**, General Policy on Removal-Fill (noted above) **ORS 783.620,** Discharge of ballast in navigable waters (noted above) **OAR 141-083-0810(4),** Cable easements locations (noted above) **OAR 340**, Water Quality. Policies can be used for reviewing this effect but regulating this effect depends on the geographic location of the work/disturbance/development (e.g., territorial sea, waters of the state, waters of the US) and type of federal permitting nexus (e.g., CWA 404 or other). **OAR 635-415-0010**, Fish and Wildlife Habitat Mitigation Policy. It is the fish and wildlife habitat mitigation policy of the Oregon Department of Fish and Wildlife to require or recommend, depending upon the habitat protection and mitigation opportunities provided by specific statutes, mitigation for losses of fish and wildlife habitat resulting from development actions. Priority for mitigation actions shall be given to habitats for native fish and wildlife species. Mitigation actions for nonnative fish and wildlife species may not adversely affect habitat for native fish and wildlife. **Local plans and codes** address development and other projects within the estuarine resource (Goal 16) and coastal shoreland (Goal 17) areas. This includes addressing ecologically sensitive areas and habitats.	**GAP** > ODFW has existing mitigation hierarchy for land-based energy, but not for offshore wind. The existing tools do not address the scale of marine renewable energy. > OAR 340-143 - Ballast Water - Currently not a listed enforceable policy. **STRENGTHEN** > ODFW - In Oregon's State Wildlife Action Plan (SWAP), Key Conservation Issues (KCIs) identify and address major challenges impacting species of greatest conservation need and their habitats, such as water quality and pollution. KCIs offer a framework for understanding the root causes of habitat degradation and species decline. **ISSUE/NEED** > TSP Parts 4, 5 - Unclear whether these parts apply in estuaries, including ecological resource protection standards. SP Goal 19 does not apply in estuaries. > Considering introducing language into Enforceable Policies for multiple steps of impact to different species, for example. > Mitigating and Operating procedures should consider fish/wildlife seasonal/temporal impacts > DEQ/DSL - Establish state water quality standards and permit as listed above. > DEQ - Look at Hydroelectric standards ORS 543A for ideas to incorporate into offshore wind. See previous comments. > Local - Estuary zoning varies in some communities and OSW components would be not compatible. In addition, some local plans have not been updated in several decades. Some communities are in the process of updating. > Local - Cable landing concerns and issues include 1) some local plans do not have provisions for cable landings, 2) establishing and prioritizing location of landings, including creating criteria on how to choose those landing spots, and 3) whether to regulations around separating or co-locating cable landings (potential cost savings to have multiple cables land in one area).

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Protected Species - Effects on **federally or state listed species (threatened and endangered)** in the Project area, including multiple marine, aquatic and terrestrial species of mammals, fish, birds and reptiles. Also included are effects on federally **designated Critical Habitat (CH)** and **Essential Fish Habitat**.	> Combined effects note in this table on marine species abundance, behavior, and migration, both near the Project and regionally	**SP Goals 5, 16, 17, 18, 19** **TSP Parts 3, 4, 5** **ORS 496** – Wildlife Policy > 4**96.171 – 496.192** – Threatened or Endangered Species **ORS 506.10**9 – Food Fish Policy Additional policies for onshore species (TBD consult with ODFW) **OAR 141-102**- Oregon Essential Indigenous Anadromous Salmonid Habitat **OAR 34**5 - Energy Facility Siting Standards (related or supporting facilities) > **345-022-0070** - Threatened and Endangered Species **OAR 635-100** - Threatened and Endangered Species **Local Plans and Codes** (related to SP Goals 5, 16, 17, 18)	*Applicable policies may include those identified under state identified special-status or strategy species (noted in this table)* **TSP Part 4**, Uses of the Seafloor > **Policy D.3.5.1.3**, Biological and Ecological Effects: Maintaining populations of threatened, endangered, or sensitive species; > **Policy D.4.3.3.1**, Biological and ecological features affected by the project or development action, including, but not limited to: All habitats along the proposed route, specifically including critical marine habitats (see Part 4 Appx A) **TSP Part 5**, Uses of the Territorial Sea > **Policy B.4.g.3**, Ecological Resources Protection Standards. The state shall protect living marine organisms, the biological diversity of marine life, the functional integrity of the marine ecosystem, important marine habitat and associated biological communities by using the following ecological resource protection standards to evaluate marine renewable energy project proposals. **OAR 141-102** - ESH >**141-102-0010**, Consultation and cooperation with ODFW; Public review and comment opportunity (a) Consult with ODFW concerning the status of salmonid species (b) Identify ESH in consultation with ODFW and other affected parties (e) Coordinate with other natural resource agencies to promote awareness of ESH >**141-102-003**0, Designation of Essential Salmon Habitat (ESH) and mapping **OAR 635-100-0130**, Requirement for Survival Guidelines. **(1)** Before a state agency takes, authorizes, or provides direct financial assistance for any action on land owned or leased by the state, or for which the state holds a recorded easement, the state agency shall consult with the department to determine whether the action is consistent with the survival guidelines established by the commission. **(3)** If a state agency fails to adopt the recommendations made by the department under section (2) of this rule, it shall consult with the department and demonstrate in writing that: (a) The potential public benefits of the proposed action outweigh the potential harm from failure to adopt the recommendations; and (b) Reasonable mitigation and enhancement measures shall be taken, to the extent practicable, to minimize the adverse impact of the action on the affected species. **Local plans and codes** include development and compatibility standards for projects within sensitive fish and wildlife areas.	**GAP** > OAR 345 - Energy Facility Siting Standards (related or supporting facilities) are not included in enforceable policy suite for federal consistency, if applicable. Could some of these be used with OSW, primarily the onshore components? Could they be adapted to offshore components? > Data - Identifying upwelled areas. If we don't know where the areas are, it is hard to apply the standard. **STRENGTHEN** > ODFW - The State Wildlife Action Plan (SWAP) is a non-regulatory plan that highlights species of greatest conservation need, key habitats, and key conservation issues to guide agencies, partners, and stakeholders in identifying ways to address the most pressing threats to Oregon's fish and wildlife and the habitats they depend on. Consider how these conservation objectives might guide our thinking in identifying ways to strengthen policies to address potential impacts from offshore wind. **WISHLIST** > OAR 635-100-0040 - Oregon's Sensitive Species Rule > OAR 635-100-0125 - Oregon's Threatened and Endangered Species List

Effect of Interest	Effect Details	Enforceable Policies (existing and potential)	Policy Strongest or Most Applicable Excerpt	Policy Strengthening Issues, Needs, Gaps, or Wishlist
Protected Species - Effects on **state-listed** (Oregon ESA), **special-status** or SWAP Species of Greatest Conservation Need not protected under the federal ESA of Project construction, operation and maintenance.	> Effects to protected species movement, foraging, habitat > Addressing effects on marine, aquatic, and terrestrial species.	**SP Goals 5, 16, 17, 18, 19** **TSP Parts 3, 4, 5** **ORS 196** - Removal-Fill **ORS 469** - Regulation of Energy Facilities (related or supporting facilities) **ORS 496** - Wildlife Policy > **496.171** – Wildlife Management authority for Threatened/Endangered species **ORS 506.109** – Food Fish Policy **OAR 141** - State Lands **OAR 635-100** – Threatened or Endangered Species **OAR 345** - Energy Facility Siting Standards (related or supporting facilities) > **345-022-0070** - Threatened and Endangered Species Local Plans and Codes (related to Goal 5)	*Applicable policies are similar to those of marine community composition effects and benthic community effects (above and here)* **SP Goal 19**, Ocean Resources, **Policy 1** to protect marine organisms, marine ecosystem integrity, important marine habitat, and areas important to fisheries. **TSP Part 3**, Rocky Habitat Management Strategy, Policies A, B, G **TSP Part 4**, Uses of the Seafloor, Policies 4.C, 4.D.4 **TSP Part 5**, Uses of the Territorial Sea, **Policy B.4.g.3**, Ecological Resources Protection Standards. **ORS 196.825**, General Policy on Removal-Fill **ORS 496.012**, Wildlife Policy. It is the policy of the State of Oregon that wildlife shall be managed to prevent serious depletion of any indigenous species and to provide the optimum recreational and aesthetic benefits… **ORS 506.109**, Food fish management policy. It is the policy of the State of Oregon that food fish shall be managed to provide the optimum economic, commercial, recreational and aesthetic benefits… **OAR 141-083-0810(4)**, Cable easement locations and (7) burial of all cables **OAR 141-083-0850(6)**, Removal of cables and (8) cable inspection. **OAR 141-125-0170(10)**, Renewable energy removal and (15)(b) Short-term access authorization for scientific or research purposes… **OAR 141-140**, Termination. **OAR 635-100-0130**, Requirement for Survival Guidelines. **(1)** Before a state agency takes, authorizes, or provides direct financial assistance for any action on land owned or leased by the state, or for which the state holds a recorded easement, the state agency shall consult with the department to determine whether the action is consistent with the survival guidelines established by the commission. **(3)** If a state agency fails to adopt the recommendations made by the department under section (2) of this rule, it shall consult with the department and demonstrate in writing that: **(a)** The potential public benefits of the proposed action outweigh the potential harm from failure to adopt the recommendations; **and (b)** Reasonable mitigation and enhancement measures shall be taken, to the extent practicable, to minimize the adverse impact of the action on the affected species. **Local plans and codes** include development and compatibility standards for projects within sensitive fish and wildlife areas.	**GAP** > TSP (generally) - Definition clarification or expansion of "renewable marine resources" terminology. Terminology should be consistent throughout. > TSP Part 5 * The ecological resource standards in Part 5 should be amended to be broadly applicable to the resource rather than the location. * Policy B.4.g, Special Resources and Uses Review Standards, provide more detail in the policy about what "minimization" means. Except for visual effects and fisheries standards, the minimization requirements found in B.4.g.1-5 might benefit from more details and/or useful examples of what it means to minimize. (ELI) > ORS 469 - Regulation of Energy Facilities (related or supporting facilities), enforceable policies need to be updated, if applicable > OAR 345 - Energy Facility Siting Standards (related or supporting facilities) are not included in enforceable policy suite for federal consistency, if applicable. Could some of these be used with OSW, primarily the onshore components? Could they be adapted to offshore components? **STRENGTHEN** > ODFW -The State Wildlife Action Plan (SWAP) is a non-regulatory plan that highlights species of greatest conservation need, key habitats, and key conservation issues to guide agencies, partners, and stakeholders in identifying ways to address the most pressing threats to Oregon's fish and wildlife and the habitats they depend on. Consider how these conservation objectives might guide our thinking in identifying ways to strengthen policies to address potential impacts from offshore wind. **WISHLIST** > OAR 635-100-0040 - Oregon's Sensitive Species Rule > OAR 635-100-0125 - Oregon's Threatened and Endangered Species List
Protected Areas - Effects on **protected areas** such Marine Reserves, Marine Protected Areas, and certain TSP Part 3 designations prohibit utility siting.	> Local protected areas such as Port Orford Stewardship Area	**SP Goal 19** **TSP Parts 3, 4, 5** **ORS 196** - Removal-Fill **ORS 496** – Wildlife Policy **ORS 506.109** – Food Fish Policy **OAR 141** - State Lands > **OAR 141-142** - Rules that establish Marine Reserves and Marine Protected Areas	*Applicable policies are the same as for marine community composition effects and benthic community effects (above and here)* **SP Goal 19**, Ocean Resources, Policy 1 to protect marine organisms, marine ecosystem integrity, important marine habitat, and areas important to fisheries. **TSP Part 3**, Rocky Habitat Management Strategy, Policies A, B, G **TSP Part 4**, Uses of the Seafloor, Policies 4.C, 4.D.4 **TSP Part 5**, Uses of the Territorial Sea, Policy B.4.g.3 **ORS 196.825**, General Policy on Removal-Fill **ORS 496.012**, Wildlife Policy. It is the policy of the State of Oregon that wildlife shall be managed to prevent serious depletion of any indigenous species and to provide the optimum recreational and aesthetic benefits … **ORS 506.109**, Food fish management policy. It is the policy of the State of Oregon that food fish shall be managed to provide the optimum economic, commercial, recreational and aesthetic benefits… **OAR 141-083-0810(4)**, Cable easement locations and **(7)** burial of all cables **OAR 141-083-0850(6)**, Removal of cables and **(8)** cable inspection. **OAR 141-125-0170(10)**, Renewable energy removal and **(15)(b)** Short-term access authorization for scientific or research purposes… **OAR 141-140**, Termination. **OAR 141-142-0020(1)**, states that DSL may only authorize removal-fill if the use is necessary to study, monitor, evaluate, enforce or protect the marine reserve, marine	**GAP** > TSP Part 5 - Policy B.4.g, Special Resources and Uses Review Standards, provide more detail in the policy about what "minimization" means. (ELI) > OAR 635-012 - ODFW Rules for Marine Reserves and Protected Areas are not currently included as enforceable policies > OAR 736-029 - OPRD Rules for Marine Reserves and Marine Protected Areas are not currently included as enforceable policies

Effect of Interest	Effect Details	Enforceable Policies (existing and potential)	Policy Strongest or Most Applicable Excerpt	Policy Strengthening Issues, Needs, Gaps, or Wishlist
			garden, marine conservation area, marine protected area, marine research area, or seabird protection area. Therefore, utility siting is not authorized in these protected areas.	
Coastal Environment - 1) Effects of wind energy extraction to **swell, coastal erosion, sediment transport** to/from beaches, **longshore currents**, nearshore **weather patterns**, and **sea state**. 2) Effect of wind energy extraction and turbulence to **precipitation and "fog drip"** in redwood forest ecosystems. 3) Effects of energy extraction to **upwelling and primary production**, both locally and cumulatively across the California Current Large Marine Ecosystem (including regional effects from projects located in CA and WA)	> Potential for an altered shoreline habitat and nearshore retention dynamics (e.g., from relaxation, headlands, reefs, banks) > Upwelling alteration may affect larval distribution and settlement in nearshore and estuarine environments > Includes "slump zones" > Potential reduction and relocation of primary productivity > Migration and forage behavior changes (e.g., birds fly out to upwelling fronts) > Changes to ocean mixing, which may include larval distribution or ocean transport > Compounding effects of energy extraction and climate change	**SP Goal** 19 **TSP Parts 3, 4, 5** (can Part 5 address oceanic effects on terrestrial systems?) **ORS 196** - Removal-Fill **ORS 496** – Wildlife Policy **ORS 390.610** – Ocean Shores **ORS 506.109** – Food Fish Policy **OAR 141** - State Lands **OAR 635-415** – Fish and Wildlife Habitat Mitigation Policy	*Applicable policies are the same as for marine community composition effects and benthic community effects (above and here)* **SP Goal 19**, Ocean Resources, Policy 1 to protect marine organisms, marine ecosystem integrity, important marine habitat, and areas important to fisheries. **TSP Part 3**, Rocky Habitat Management Strategy, Policies A, B, G **TSP Part 4**, Uses of the Seafloor, Policies **4.C** and **4.D.4** **TSP Part 5**, Uses of the Territorial Sea, Policy **B.4.g.3**, Ecological Resources Protection Standards. In addition, > Policies related to recreational uses **ORS 196.825**, General Policy on Removal-Fill **ORS 496.012**, Wildlife Policy. It is the policy of the State of Oregon that wildlife shall be managed to prevent serious depletion of any indigenous species and to provide the optimum recreational and aesthetic benefits … **ORS 506.109**, Food fish management policy. It is the policy of the State of Oregon that food fish shall be managed to provide the optimum economic, commercial, recreational and aesthetic benefits… **OAR 141-083-0810(4)**, Cable easement locations and **(7)** burial of all cables **OAR 141-083-0850(6)**, Removal of cables and **(8)** cable inspection. **OAR 141-125-0170(10)**, Renewable energy removal and **(15)(b)** Short-term access authorization for scientific or research purposes… **OAR 141-140**, Termination. - and - **ORS 390.610**, Ocean Shores general provisions including policies related to recreational uses. (2) The Legislative Assembly recognizes that over the years the public has made frequent and uninterrupted use of the ocean shore and recognizes, further, that where such use has been legally sufficient to create rights or easements in the public through dedication, prescription, grant or otherwise, that it is in the public interest to protect and preserve such public rights or easements as a permanent part of Oregon's recreational resources.	**GAP** > *Applicable gaps of TSP Part 5 are the same as those listed above.* > OAR 736/ORS 390 - HB 2925 (2025) will require rulemaking to OAR 736 and ORS 390. New regulations and changes to existing policies should be amended after rulemaking. **STRENGTHEN** > ODFW - The State Wildlife Action Plan (SWAP) is a non-regulatory plan that highlights species of greatest conservation need, key habitats, and key conservation issues to guide agencies, partners, and stakeholders in identifying ways to address the most pressing threats to Oregon's fish and wildlife and the habitats they depend on. Consider how these conservation objectives might guide our thinking in identifying ways to strengthen policies to address potential impacts from offshore wind. **ISSUE/NEED** > Additional information needed regarding forest protection policies at the state level or within local implementation of the statewide land use planning goals. > Develop and Pursue a Research Agenda for Oregon/ Establish a Research Collaborative to build Oregon-specific scientific consensus and coordinate with other west coast states

Effect of Interest	Effect Details	Enforceable Policies (existing and potential)	Policy Strongest or Most Applicable Excerpt	Policy Strengthening Issues, Needs, Gaps, or Wishlist
Terrestrial - Effects of temporary displacement of and/or disturbance to **wildlife and botanical** resources in the immediate vicinity during Project construction, including effects of cable placement to shoreline. Effects of **habitat alteration or loss** due to the operation, maintenance, and upgrades of land-based Project structures (e.g., power monitoring and control building, support facilities, transmission, energy storage facilities) that may be required from the cable landing location to high-power transmission lines.	> Destruction of plants and displacement of animal species, including beach and dune ecosystem impacts > Potential loss of recreational access > Alteration or loss of habitat quantity, quality, function or connectivity	**SP Goals 17, 18** **ORS 390** – Ocean Shores **ORS 469** - Regulation of Energy Facilities (related or supporting facilities) **ORS 496** – Wildlife Policy **OAR 736-020** – Ocean Shore Permit Standards **OAR 345** - Energy Facility Siting Standards (related or supporting facilities) > **345-022-0060** - Fish and Wildlife Habitat **OAR 635-415** – Fish and Wildlife Habitat Mitigation Policy **Local Plans and Codes**	**ORS 496.012**, Wildlife Policy. It is the policy of the State of Oregon that wildlife shall be managed to prevent serious depletion of any indigenous species and to provide the optimum recreational and aesthetic benefits… **ORS 469.310**, Regulation of Energy Facilities. In the interests of the public health and the welfare of the people of this state, it is the declared public policy of this state that the siting, construction and operation of energy facilities shall be accomplished in a manner consistent with protection of the public health and safety and in compliance with the energy policy and air, water, solid waste, land use and other environmental protection policies of this state. Note: ORS 469.300, Definitions. "Related or supporting facilities" means any structure, proposed by the applicant, to be constructed or substantially modified in connection with the construction of an energy facility, including associated transmission lines, reservoirs, storage facilities, intake structure, road and rail access, pipelines, barge basins, office or public buildings, and commercial and industrial structures. **ORS 390.655**, Standards for Improvement Permits. The standards shall be based on the following considerations, among others: **(1)** The public need for healthful, safe, aesthetic surroundings and conditions; the natural scenic, recreational and other resources of the area; and the present and prospective need for conservation and development of those resources. **(2)** The physical characteristics or the changes in the physical characteristics of the area and suitability of the area for particular uses and improvements. **(3)** The land uses, including public recreational use if any, and the improvements in the area, the trends in land uses and improvements, the density of development and the property values in the area. **(4)** The need for recreation and other facilities and enterprises in the future development of the area and the need for access to particular sites in the area. [1969 c.601 §11; 1979 c.186 §22] **OAR 635-415**, Fish and Wildlife Habitat Mitigation Policy, applicable to terrestrial effects of construction, operation of land-based structures. **OAR 736-020-0005**, Beach Construction/Alteration Standards, Factors Evaluated **(1)** Each site on the ocean shore presents different conditions and applicants have varying project needs. Evaluations point up the relative significance of the general, scenic, recreational, safety, and other interests of the public. In acting on any application for an ocean shore permit under ORS 390.640, 390.715 or 390.725, the Department shall consider: (a) Provisions necessary to protect the affected area from any use, activity or practice that is not in keeping with the conservation of natural resources or public recreation; (b) The public need for healthful, safe, esthetic surroundings and conditions; the natural, scenic, recreational, economic and other resources of the area and the present and prospective need for conservation and development of those resources; (c) The physical characteristics or the changes in the physical characteristics of the area, and the suitability of the area for particular uses and improvements (This may include bank alignments, topography, shoreline materials and stability, width of the beach, past erosion, storm water levels, sand movement, water currents, adjoining structures, beach access, land uses, etc.); (d) The land uses, including public recreational use; the improvements in the area; the trends in land uses and improvements; the density of development; and the need for access to particular sites in the area. (e) The need for recreation and other facilities and enterprises in the future development of the area and the need for access to particular sites in the area. **(2)** Public opinion in response to public notice or hearings on an application shall be considered in evaluating each proposed ocean shore project. **(3)** Considered together, and in accordance with the intent of the Legislature, the factors listed in sections (1) and (2) of this rule assist in the overall decision for granting, an ocean shore permit, or denying, or modifying the ocean shore permit	**GAP** > SP Goals 17, 18 - Potential gap regarding onshore/cable transmission (what protections are included here) > ORS/OAR - "Storage facility" or "Battery Energy Storage System" that may occur on resource lands (e.g., farm or forest lands) is not well defined in ORS/OAR. Previously explored options include 1) folding it into definition of utility facility ORS 215.275, 2) Add specific criteria under utility facility, and 3) modify OAR 660-033-0130 regarding power generation facilities. > ORS 469 - Regulation of Energy Facilities (related or supporting facilities), enforceable policies need to be updated, if applicable > OAR 345 - Energy Facility Siting Standards (related or supporting facilities) are not included in enforceable policy suite for federal consistency, if applicable. Could some of these be used with OSW, primarily the onshore components? Could they be adapted to offshore components? > OAR 736 - Ocean Shores Permit Standards - only a portion of this rule is an enforceable policy. the remainder is waiting in line to be submitted to NOAA. In addition, HB 2925 (2025) will require rulemaking to OAR 736 and ORS 390. This information should be revised after upcoming rulemaking. **STRENGTHEN** > ODFW - The State Wildlife Action Plan (SWAP) is a non-regulatory plan that highlights species of greatest conservation need, key habitats, and key conservation issues to guide agencies, partners, and stakeholders in identifying ways to address the most pressing threats to Oregon's fish and wildlife and the habitats they depend on. Consider how these conservation objectives might guide our thinking in identifying ways to strengthen policies to address potential impacts from offshore wind. **ISSUE/NEED** > Potential measures that may include location standards that require avoiding migratory routes or important/sensitive habitats; scheduling installation and maintenance to avoid sensitive periods (for marine example, gray whale migration); or recommendations to minimize lighting. > Local - Cable landing concerns and issues include 1) some local plans do not have provisions for cable landings, 2) establishing and prioritizing location of landings, including creating criteria on how to choose those landing spots, and 3) whether to regulations around separating or co-locating cable landings (potential cost savings to have multiple cables land in one area). > Local - There are a variety of issues and concerns coming from the local level. These may include compatibility and locational issues such as near residential and park developments. > Develop and Pursue a Research Agenda for Oregon/ Establish a Research Collaborative to build Oregon-specific scientific consensus and coordinate with other west coast states

Effect of Interest	Effect Details	Enforceable Policies (existing and potential)	Policy Strongest or Most Applicable Excerpt	Policy Strengthening Issues, Needs, Gaps, or Wishlist
			application when the level of impact is determined to be unacceptable. **Local plans and codes** include development and compatibility standards for projects within the estuaries, coastal shorelands, and beaches and dunes. Local codes also address ecologically sensitive areas and habitats, wetlands, floodplain, fish and wildlife, etc. Some jurisdictions may prohibit cable landings in residential zones. Also, utility facilities, substations or nonconforming uses may be regulated in local codes.	
Invasive Species - Effects related to **invasive species** introduction from vessel activities and permanent infrastructure attachment	> Risks of invasive species introduction at sea and especially in estuaries from vessels or imported materials or manufacturing. > Risks onshore from construction/disturbance in terrestrial, riparian, wetland, freshwater systems.	**SP Goal** 19 **ORS 496.012** - Wildlife **ORS 783** – Ballast Water **OAR 340-143** – Ballast Water Management	**ORS 496.012**, Wildlife Policy. It is the policy of the State of Oregon that wildlife shall be managed to prevent serious depletion of any indigenous species and to provide the optimum recreational and aesthetic benefits for present and future generations of the citizens of this state. In furtherance of this policy, the State Fish and Wildlife Commission shall represent the public interest of the State of Oregon and implement the following coequal goals of wildlife management: **(1)** To maintain all species of wildlife at optimum levels. **(2)** To develop and manage the lands and waters of this state in a manner that will enhance the production and public enjoyment of wildlife. **(3) - (7)** etc. **OAR 340**, Water Quality. Policies can be used for reviewing this effect but regulating this effect depends on the geographic location of the work/disturbance/development (e.g., territorial sea, waters of the state, waters of the US) and type of federal permitting nexus (e.g., CWA 404 or other).	**GAP** > ODFW implements OARs to prohibit introduction of invasive species in freshwater systems especially 635- 056-0050 & 635-056-0130 (Prohibited Species), 635-059-0000 (Aquatic Invasive Species) & 635-059-0010 (Inspection/Reporting). > Potential gap - Regarding risks of invasive species introduction at sea and especially in estuaries from vessels or imported materials or manufacturing. Includes risks onshore from construction/disturbance in terrestrial, riparian, wetland, freshwater systems. > TSP Part 5 - Does not elevate indigenous species or explicitly discuss invasive species effects as a distinct threat to indigenous species. > OAR 340-143 - Ballast Water - Currently not a listed enforceable policy. **STRENGTHEN** > ODFW - In Oregon's State Wildlife Action Plan (SWAP), Key Conservation Issues (KCIs) identify and address major challenges impacting species of greatest conservation need and their habitats, such as invasive species. KCIs offer a framework for understanding the root causes of habitat degradation and species decline. **ISSUE/NEED** > DEQ/DSL - Establish state water quality standards and permit as listed above. > DEQ - Look at Hydroelectric standards ORS 543A for ideas to incorporate into offshore wind. See previous comments. > Potential protective standard could include requiring the use of antifouling measures such as specialized coatings or paints or frequent cleaning on hard surfaces.

Effect of Interest	Effect Details	Enforceable Policies (existing and potential)	Policy Strongest or Most Applicable Excerpt	Policy Strengthening Issues, Needs, Gaps, or Wishlist
Hazards - Effects on **geology** and the *marine environment* by failed/sunken platforms. *Note: Similar effects are listed under the Environmental Protection section and Local and Regional Communities section.*	> Potential impacts to fishing access > Loss of fishing gear > Potential marine pollution (e.g., oil, debris, fiberglass shards) > Impact of floating turbines detach from moorings or damaged parts from turbine failures reach shore as debris or sink in nearshore waters (including beaches, rocky habitats, marine protected areas) > Risks of collision, entanglement, or entrapment to marine species	**SP Goal 19** **TSP Parts 3, 4, 5** **ORS 390** – Ocean Shores **ORS 274** – Submerged Lands **ORS 496.012** – Wildlife Policy **ORS 506.109** – Food Fish Policy **ORS 468b, OAR 340** – Water Quality	**TSP Part 4**, Uses of the Seafloor > **Policy D.7**, Decommission and Recovery. After the usable, operational, or design life of seafloor infrastructure or fixture an owner or operator shall decommission any infrastructure or fixtures, removing them from the seabed. The owner or operator of the seafloor infrastructure or fixture shall submit a decommissioning plan to DSL for approval pursuant to the terms and conditions of the easement. **TSP Part 5**, Uses of the Territorial Sea > **Policy B.4.g.3,** Ecological Resources Protection Standards (if the affected resource is a marine species or habitat). 3.) The state shall protect living marine organisms, the biological diversity of marine life, the functional integrity of the marine ecosystem, important marine habitat and associated biological communities by using the following ecological resource protection standards to evaluate marine renewable energy project proposals. > **Policy B.4.e,** Information requirement. 3.) Natural and Other Hazards Evaluate the potential risk to the renewable energy facility, in terms of its vulnerability to certain hazards and the probability that those hazards may cause loss, dislodging, or drifting of structures, buoys, or facilities. Consider both the severity of the hazard and the level of exposure it poses to the renewable marine resources and coastal communities. Hazards to be considered shall include the scouring action of currents on the foundations and anchoring structures, slope failures and subsurface landslides, faulting, tsunamis, variable or irregular bottom topography, weather related, or due to human cause. > **Policy D.3,** Project Operation Plan. An operation plan is required that describes, at a minimum, information regarding the routine environmental monitoring, safety management and emergency response procedures, facility inspections, and the decommissioning of the project. The operation plan shall explain the procedures and mechanisms that will be employed so that the facility will comply with regulatory standards and other conditions of permit or license approval related to water and air quality, environmental protection and mitigation, facility maintenance and safety, operational failure and incident reporting. An operation plan shall include the following information… * **Policy D.3.a**, Contingency Plan. A plan to describe how the facility operator will respond to emergencies caused by a structural or equipment failure due to human error, weather, geologic or other natural event. The plan shall include a description of the types of equipment, vessels and personnel that would be deployed, the chain of command or management structure for managing the facility repairs, recovery or other forms of remedial action, and the process and timeline for notification of state and federal authorities. > **Policy D.4,** Decommissioning Plan. An applicant shall provide a plan to restore the natural characteristics of the site to the extent practicable by describing the facilities to be removed. **ORS 468b, OAR 340**, Water Quality. Policies can be used for reviewing this effect but regulating this effect depends on the geographic location of the work/disturbance/development (e.g., territorial sea, waters of the state, waters of the US) and type of federal permitting nexus (e.g., CWA 404 or other).	**GAP** > DSL - Requirements for the Emergency Response Plan from the applicant and coordination with different stakeholders (see related notes in this table). > TSP Part 5 (potential) * Does not require projects to avoid geologically unstable areas or otherwise mitigate for effects of instability unless it would have an adverse ecological effect. Potential to develop siting standards in geologically unstable areas. * Policy B.4.g, Special Resources and Uses Review Standards, provide more detail in the policy about what "minimization" means. Except for visual effects and fisheries standards, the minimization requirements found in B.4.g.1-5 might benefit from more details and/or useful examples of what it means to minimize. (ELI) * Policy B.4.g.2-5, does not address (protect) natural hazard areas. (ELI) > OAR 736/ORS 390 - HB 2925 (2025) will require rulemaking to OAR 736 and ORS 390. New regulations and changes to existing policies should be amended after rulemaking. **STRENGTHEN** > TSP Part 3 - Extend mitigation policies in this part so applicable to undesignated rocky habitat sites > Establish a mitigation hierarchy, ensuring that coastal communities and the state receive tangible benefits > Policy around decommissioning and major repair with added scrutiny before equipment is installed that it is feasible equipment can be successfully removed and decommissioned (reuse, recycle or disposal), if required (there are additional decommissioning or removal effects identified in this table) > Operations plan must require decommissioning or recovery of any failed components of a facility (e.g., blades) > OAR 340-141 - Would OSW project require a Contingency Plan under these regulations for oil spill prevention and emergency response plan? Are oil spill policies applicable in federal waters through the GLD? OAR 340-141 is currently not a listed enforceable policy. * ORS 468B.305 exempts entry of oil if proven as "An act of war or sabotage or an act of God" **ISSUE/NEED** > Geological standards, waste deposition plan, management of environmental impacts of unexpected events. > OAR 345 - Energy Facility Siting Standards (related or supporting facilities), not included in enforceable policy suite for federal consistency, if applicable. Could some of these be used with OSW, primarily the onshore components? Could they be adapted to offshore components? > DEQ/DSL - Support and establish a stand-alone state-based water quality standards and permit that would evaluate compliance with water quality standards and laws in a manner similar to CWA Section 401 but be applicable in absence of any Federal permit. It would be nice to have a 401-like certification that would look at the overall project (similar to how DEQ can use the FERC license process for wave energy). Currently the 401 cert is based on the USACE 404 scope and DEQ may only see pieces of a larger project and not the whole project. There may be some legal issue with the idea because the project is out in the ocean, but [maybe] the case could be made that the state wants to look at the impact of the entirety of the project. > DEQ - Look at Hydroelectric standards, ORS 543A for ideas to incorporate into offshore wind. Hydroelectric Application Review Team (HART) regulations are currently in Rule related to how OWRD, DEQ, ODFW work together when looking at a hydro project. ORS 543 (new hydro) and ORS 543A (relicensure hydro), https://www.oregonlegislature.gov/bills_laws/ors/ors543.html. There is extensive process with permits, and it might be something to consider creating for OSW review process. Currently ORS 543A-013 is not applicable to ocean projects if in territorial sea

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				or in an estuary. When a 401 cert for a hydroelectric project is issued, DEQ will look at 1) water quality, and 2) other water related requirements of state law. This allows the concept of beneficial uses to come into evaluation with how water is there to support fish use, for example, which allows a hook for ODFW to require a fish passage. > Local - Engage local governments and state agencies regarding the effects and potential gaps resulting from 1) construction, 2) natural disaster, 3) failure, 4) decommissioning of offshore and onshore components, and 5) waste management. Some policies may be better addressed at the state level, while onshore components may warrant local government policies to address impacts. Local governments are concerned about construction impacts (lights, transportation, frac-out, drilling fluids and waste), natural disaster or failure waste, decommission waste, waste disposal site limitations or nonexistent (trucked out), recycling of materials, response plan and clean up, and inaccessible beach due to emergency event. Therefore, it will be beneficial to work with local governments to identify and amend policy gaps in their compatibility standards applicable to onshore components of an offshore energy project.
Hazards - Natural hazard co-effects related to a **geologically** unstable areas, including landslides or wildfire hazards associated with onshore components and transmission lines. *Note: This effect is listed under the Environmental Protection section and Local and Regional Communities section.*	> Potential increased threat of injury, displacement or loss of humans, marine and terrestrial species including risk of habitat damage. > Location of equipment could be placed in areas that avoid high risk hazards, steep slopes and landslide prone areas. > Concern over the failure of ocean- and land-based equipment , including transmission line.	**SP Goal 7, 16, 17, 18** **TSP Part 3, 5** **ORS 469** - Regulation of Energy Facilities (related or supporting facilities) **ORS 496** – Wildlife Policy **ORS 757.963-966 (2021)** Requires utilities to develop wildfire protection plans **OAR 345** - Energy Facility Siting Standards (related or supporting facilities) **> 345-022-0115** - Wildfire Prevention and Risk Mitigation Oregon PUC requirements for energy reliability? **Local Plans and Codes** (primarily related to SP Goals 7, 17, 18)	**TSP Part 5**, Uses of the Territorial Sea > **Policy B.4.e**. Information requirement (associated standard applies to fisheries uses only). 3.) Natural and Other Hazards Evaluate the potential risk to the renewable energy facility, in terms of its vulnerability to certain hazards and the probability that those hazards may cause loss, dislodging, or drifting of structures, buoys, or facilities. Consider both the severity of the hazard and the level of exposure it poses to the renewable marine resources and coastal communities. Hazards to be considered shall include the scouring action of currents on the foundations and anchoring structures, slope failures and subsurface landslides, faulting, tsunamis, variable or irregular bottom topography, weather related, or due to human cause. > **Policy D.3**. Project Operation Plan. An operation plan is required that describes, at a minimum, information regarding the routine environmental monitoring, safety management and emergency response procedures, facility inspections, and the decommissioning of the project. The operation plan shall explain the procedures and mechanisms that will be employed so that the facility will comply with regulatory standards and other conditions of permit or license approval related to water and air quality, environmental protection and mitigation, facility maintenance and safety, operational failure and incident reporting. An operation plan shall include the following information… **ORS 469.310**, Regulation of Energy Facilities. In the interests of the public health and the welfare of the people of this state, it is the declared public policy of this state that the siting, construction and operation of energy facilities shall be accomplished in a manner consistent with protection of the public health and safety and in compliance with the energy policy and air, water, solid waste, land use and other environmental protection policies of this state. Note: **ORS 469.300**, Definitions. “Related or supporting facilities” means any structure, proposed by the applicant, to be constructed or substantially modified in connection with the construction of an energy facility, including associated transmission lines, reservoirs, storage facilities, intake structure, road and rail access, pipelines, barge basins, office or public buildings, and commercial and industrial structures. **ORS 757.963**, Public utility required to develop wildfire protection plan. (1) A public utility that provides electricity must have and operate in compliance with a risk-based wildfire protection plan that is filed with the Public Utility Commission and has been evaluated by the commission. The plan must be based on reasonable and prudent	**GAP** > Goal 7 - While Goal 7 requires certain actions, it is primarily a process-based goal supported by guidance rather than rules. Carefully constructed rules could improve Goal 7 implementation, offshore, at the shore, and on land. > DSL - Requirements for the Emergency Response Plan from the applicant and coordination with different stakeholders (see related notes in this table). > TSP Part 5 (Potential) - Does not require projects to avoid geologically unstable areas or otherwise mitigate for effects of instability unless it would have an adverse ecological effect. Potential to develop siting standards in geologically unstable areas. In addition, it seems there is a gap on state planning and policies related to what will happen during an infrastructure failure (e.g. turbines, anchors, etc.) and any clean-up or impacts caused by such failure. Policy B.4.g.2-5, does not address (protect) natural hazard areas. (ELI) > TSP Part 3 - Extend mitigation policies in this part so applicable to undesignated rocky habitat sites > ORS 469 - Regulation of Energy Facilities (related or supporting facilities), enforceable policies need to be updated, if applicable > OAR 345 - Energy Facility Siting Standards (related or supporting facilities) are not included in enforceable policy suite for federal consistency, if applicable. Could some of these be used with OSW, primarily the onshore components? Could they be adapted to offshore components? > ORS 757 - Wildfire protection plan standards are not included in enforceable policy suite for federal consistency **STRENGTHEN** > Establish a mitigation hierarchy, ensuring that coastal communities and the state receive tangible benefits **ISSUE/NEED** > Geological standards may or may not be present through some local or state codes requiring land-based components to avoid geologically unstable areas. > Waste deposition plan, management of environmental impacts of unexpected events. > Local - Engage local governments and state agencies regarding the effects and potential gaps resulting from 1) construction, 2) natural disaster, 3) failure, 4) decommissioning of offshore and onshore components, and 5) waste management. Some policies may be better addressed at the state level, while onshore components

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			practices identified through workshops conducted by the commission pursuant to ORS 757.960 and on commission standards adopted by rule. The public utility must design the plan in a manner that seeks to protect public safety, reduce risk to utility customers and promote electrical system resilience to wildfire damage. **ORS 757.966**, Consumer-owned utility required to develop wildfire mitigation plan. (2) A consumer-owned utility must have and operate in compliance with a risk-based wildfire mitigation plan approved by the governing body of the utility. The plan must be designed to protect public safety, reduce risk to utility customers and promote electrical system resilience to wildfire damage. **Local plans and codes** may have siting standards for development in geologically unstable areas. Development in hazardous areas is discouraged or restricted under Goals 7, 17,18.	may warrant local government policies to address impacts. Local governments are concerned about construction impacts (lights, transportation, frac-out, drilling fluids and waste), natural disaster or failure waste, decommission waste, waste disposal site limitations or nonexistent (trucked out), recycling of materials, response plan and clean up, and inaccessible beach due to emergency event. Therefore, it will be beneficial to work with local governments to identify and amend policy gaps in their compatibility standards applicable to onshore components of an offshore energy project.

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TRIBAL INTERESTS - Protection of tribal cultural and archaeological resources, culturally significant viewsheds and other interests of Indian tribes.				
Cultural & Tribal - Effects on **historic, archeological and traditional cultural** resources located within the Project Area of Potential Effect (determined in consultation with Tribes and Oregon State Historic Preservation Office)	> Concern about seafloor disturbance within the historical shoreline offshore and onshore (paleoshoreline) > Changes in wave energy and sediment on the seafloor may uncover additional cultural resources so regular surveys should be conducted.	**SP Goal 19** **TSP Part 5** **ORS 97** – Rights and Duties Relating to Cemeteries, Human Bodies and Anatomical Gifts **ORS 358** – Archaeological Objects and Sites **ORS 390.235** – Archaeological Sites and Historic Material **OAR 345** - Energy Facility Siting Standards (related or supporting facilities) > **345-022-0090** - Historic, Cultural and Archaeological Resources **OAR 660-023** - Programs to Achieve Goal 5 (applicable onshore) **> OAR 660-023-210** - Cultural Areas (new) > **OAR 660-023-195(6)** - Historic, Cultural, and Archaeological Resources (new) **OAR 736-51** – Archaeological Permits	Referenced policies require state archaeological permits in coordination with Tribes.	**Note** > Federal Consistency regulations require that the state must retain the authority to make consistency decisions and cannot delegate that authority. **GAP** > Goal 19 lack substantive standards or mention of cultural resources protection. > TSP Part 5, Policy B.4.g.2-5, does not address (protect) cultural resource areas. (ELI) > OAR 345, Energy Facility Siting Standards (related or supporting facilities), not included in enforceable policy suite for federal consistency, if applicable. Could some of these be used with OSW, primarily the onshore components? Could they be adapted to offshore components? > OAR 660-023-0210 - This is a new subsection addressing cultural areas and needs to be updated as an enforceable policy > OAR 660-023-0195(6) - Consider adapting these new solar farm rules to OSW onshore components > OAR 736/ORS 390 - HB 2925 (2025) will require rulemaking to OAR 736 and ORS 390. New regulations and changes to existing policies should be amended after rulemaking. **ISSUE/NEED** > Policy lacks a clear definition of "cultural resources" and protection or avoidance guidelines. Consideration of establishing a probability map (inventory) of local tribal cultural resources. Clarifying questions may include 1) Does it include "place" for gathering resources, practices, etc. 2) Does it yield archaeological artifacts? 3) Does it include Tribal or other cultural groups? 4) Should there be a clear distinction between "traditional cultural resources" (Tribal context) and "traditional ocean users (broader community use)? 5) Include traditional ecological knowledge in decisions? 6) Could natural resources be considered cultural resources, suggesting that policies protecting natural resources would inherently protect cultural resources (this may imply that environmental conservation policies might cover cultural preservation needs, potentially streamlining regulations)? > Consider preemptively conducting a cultural resource site inventory as part of an offshore wind spatial planning process, which could inform planning decisions about places to avoid in future leasing. Alternatively, the Territorial Sea Plan and the state rules for Goal 5 should be revised to require (or direct local governments to require in the case of Goal 5) marine energy development proponents to commission a cultural resource inventory as part of the required information for land use decisions or seafloor leasing. > Current state laws do not protect cultural resources from disclosure in the same manner that archaeological resources are protected under ORS 192.345. Seek legislative action to amend state statutes and rules to exclude cultural resource areas from public disclosure when necessary. > Define "sensitive ecological resources" or similar terminology that is interpreted clearly through and reflective of Tribal worldviews (the whole concept of natural resources as cultural resources) > What happens if there is a rediscovery of lost information over time? The important views may not be static. > As a best practice, consider exploring adding a Federal Consistency coordination step where the state asks the Nine Federally Recognized Tribes in Oregon for relevant policies applicable to a proposed project, such as offshore energy development.

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Cultural & Tribal - Effects on **tribal uses and/or resources** located within the Project area.	> influence of the Project beyond just the Project site and includes nearshore and onshore areas. > Potential impact to onshore archaeological sites; Native American Graves Protection and Repatriation Act (NAGPRA) specific.	**TSP Part 5** **OAR 141-140-0040 -** Pre-Application Requirements **OAR 660-023** - Programs to Achieve Goal 5 (applicable onshore) > **OAR 660-023-210** - Cultural Areas (new) > **OAR 660-023-195(6)** - Historic, Cultural, and Archaeological Resources (new) **Local Plans and Codes** (e.g., Coos Estuary Plan Policy 18)	*Applicable policies include those of marine community composition effects and benthic community effects (above)* - and - **TSP Part 5**, Uses of the Territorial Sea. > **Policy B.4.g.5.** Visual Resource Protection Standards > **Policy D.6.** Agreements. Applicants shall communicate with traditional ocean users and stakeholders with an interest in the area of the proposed project to address issues of concern. Applicants are encouraged to memorialize agreements with those ocean users and stakeholders on specific actions, including conducting the adaptive management and monitoring plan, that the applicant is required to perform. **OAR 141-140-0040**, Pre-Application Requirements. …before submitting an application to the Department, a person wanting to install, construct, operate, maintain or remove ocean energy monitoring equipment or an ocean energy conversion facility for a research project, demonstration project or commercial operation shall meet with (a) Department staff to discuss the proposed project; and (b) **Affected ocean users** and other government agencies having jurisdiction in the Territorial Sea to discuss possible use conflicts, impacts on habitat, and other issues related to the proposed use of an authorized area for the installation, construction, operation, maintenance or removal of ocean energy monitoring equipment or an ocean energy facility. **OAR 660-023-0040,** Local governments shall develop a program to achieve Goal 5 for all significant resource sites based on an analysis of the economic, social, environmental, and energy (ESEE) consequences that could result from a decision to allow, limit, or prohibit a conflicting use. **Coos Estuary Plan** > **Policy 18**. Local government shall provide protection to historical, cultural and archaeological sites and shall continue to refrain from widespread dissemination of site-specific information about identified archaeological sites. This strategy shall be implemented by requiring review of all development proposals involving a cultural, archaeological, or historical site to determine whether the project as proposed would protect the cultural, archaeological, and historical values of the site.… Upon receipt of the statement by the Tribe(s), or upon expiration of the Tribe(s) thirty day response period, the local government shall conduct an administrative review of the Site Plan Application and shall: (a) Approve the development proposal if no adverse impacts have been identified, as long as consistent with other portions of this plan, or (b) Approve the development proposal subject to appropriate measures agreed upon by the landowner and the Tribe(s), as well as any additional measures deemed necessary by the local government to protect the cultural, historical, and archaeological values of the site. If the property owner and the Tribe(s) cannot agree on the appropriate measures, then the governing body shall hold a quasi-judicial hearing to resolve the dispute. The hearing shall be a public hearing at which the governing body shall determine by preponderance of evidence whether the development project may be allowed to proceed, subject to any modifications deemed necessary by the governing body to protect the cultural, historical, and archaeological values of the site.	**GAP** > Goal 19 lack substantive standards or mention of cultural resources protection. > TSP Part 5, Policy B.4.g.2-5, does not address (protect) cultural resource areas. (ELI) > Potential gap - For those uses/resources not already covered by a resource protection statute/rule, e.g., water, wildlife. > Potential gap - Tribal uses and/or resources in onshore areas not within Coos Co? > Protection of cultural practices > OAR 660-023-0210 - This is a new subsection addressing cultural areas and needs to be updated as an enforceable policy > OAR 660-023-0195(6) - Consider adapting these new solar farm rules to OSW onshore components > General policies do not lend themselves well to incorporating new knowledge and discoveries > Culturally significant sites (e.g., harvesting sites) are not protected **ISSUE/NEED** > Encourage local policies to protect cultural sites. > Consider gaps for those uses/resources not already covered by a resource protection statute/rule (e.g., water and wildlife) or general policies that do not lend themselves well to incorporating new knowledge and discoveries. Some of this may include tribal uses and/or resources in onshore areas or effects to estuary species adequately covered by non-marine species and habitat policies. Encourage local policies to protect cultural sites. > As a best practice, consider exploring adding a Federal Consistency coordination step where the state asks the Nine Federally Recognized Tribes in Oregon for relevant policies applicable to a proposed project, such as offshore energy development.

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Cultural & Tribal - Effects to **tribal lifeways**, including sacred views (cultural viewsheds); commercial and subsistence activities, important foods, degraded environment, natural resources as cultural resources.	> Influence of the Project on Indigenous Determinants of Health and regional effect from migratory species > Effect to non-ESA species of importance (e.g., lamprey)	**SP Goal 5, 19** **TSP Part 5** **ORS 496** – Wildlife Policy **ORS 506.109** – Food Fish Policy **OAR 660-023** - Programs to Achieve Goal 5 > **OAR 660-023-210** - Cultural Areas (new) > **OAR 660-023-195(6)** - Historic, Cultural, and Archaeological Resources (new) **Local Plans and Codes** (associated with Goal 5)	*Applicable policies include those of marine community composition effects and benthic community effects (above) and* **TSP Part 5**, Uses of the Territorial Sea. > **Policy B.4.g.5**. Visual Resource Protection Standards **ORS 496.012**, Wildlife Policy. It is the policy of the State of Oregon that wildlife shall be managed to prevent serious depletion of any indigenous species and to provide the optimum recreational and aesthetic benefits… **Local plans and codes** may include standards or procedures when related to cultural resources (Goal 5). Tribal engagement is incorporated into some local codes or through agreements, where applicable.	**GAP** > TSP Part 5 - This part does not explicitly include sacred Tribal views as Class 1 viewsheds. Consider having standard viewshed protection but not identify specific sacred viewsheds. > OAR 660-023-0210 - This is a new subsection addressing cultural areas and needs to be updated as an enforceable policy > OAR 660-023-0195(6) - Consider adapting these new solar farm rules to OSW onshore components **ISSUE/NEED** > Effects to estuary species adequately covered by non-marine species and habitat policies? > As a best practice, consider exploring adding a Federal Consistency coordination step where the state asks the Nine Federally Recognized Tribes in Oregon for relevant policies applicable to a proposed project, such as offshore energy development.
ENERGY AND CLIMATE GOALS - Achievement of state energy and climate policy objectives, including energy resource diversity, reliability and resilience of state and regional energy system				
Energy/Climate - Effects on l**ocal, regional, and state energy resiliency and grid reliability**. This includes any effect to attainment of Oregon clean energy targets.	> Energy grid reliability and resiliency benefits to coast > Additional energy generation in the coastal or Columbia River regions would allow development in areas zoned for development but lack the power to do so. > Net gain of carbon offset with the development of OSW projects. Much of the development may require use of fossil fuels. > Concept of Energy Balance (what it takes to generate it versus how much it provides, including consideration of how much energy is lost through transmission to load centers - and how much will it produce). > Local grid upgrades > Wave energy converter (WEC) could be collocated with OSW platform. "A cost analysis by Kluger et al. (2023) of a standalone wind installation versus a collocated wind-wave power installation found that the collocated wind-wave installation had smoother power supply, less energy curtailment, and higher farm-to-grid efficiency than the stand-alone wind farm." (California Energy Commission, Sea	**TSP Part 5** **SP Goal 13** **HB 2021** **HB 2065 / HB 2066** (2025) Microgrids **Local Plans and Codes**	**SP Goal 13**, *To conserve energy. Land and uses developed on the land shall be managed and controlled so as to maximize the conservation of all forms of energy, based upon sound economic principles* *1. Priority consideration in land use planning should be given to methods of analysis and implementation measures that will assure achievement of maximum efficiency in energy utilization.* *2. The allocation of land and uses permitted on the land should seek to minimize the depletion of non-renewable sources of energy.* … *5. Plans directed toward energy conservation within the planning area should consider as a major determinant the existing and potential capacity of the renewable energy sources to yield useful energy output. Renewable energy sources include water, sunshine, wind,* *geothermal heat and municipal, forest and farm waste. Whenever possible land conservation and development actions provided for under such plans should utilize renewable energy sources.* **HB 2021** (2021) established a clean energy program overseen by OPUC and in part by Oregon DEQ that requires Oregon's largest investor-owned utilities (Portland General Electric and PacifiCorp), and power suppliers for some large energy users (Electric Service Suppliers or ESSs) to reduce greenhouse gas (GHG) emissions associated with the generation of electricity sold in Oregon. GHG emissions must be reduced, relative to baseline emissions levels established by ODEQ, by 80 percent by 2030, 90 percent by 2035, and 100 percent by 2040. The law requires PGE and PacifiCorp to develop Clean Energy Plans that are based on or included in their Integrated Resource Plans that: 1) Include annual goals/actions that make progress towards the clean energy targets, 2)Examine costs and opportunities of offsetting energy generated from fossil fuels with community-based renewable energy, 3) Include an examination of resiliency opportunities based on industry resiliency standards and guidelines established by the OPUC, and 4) Result in an affordable, reliable and clean electric system. OPUC must review and acknowledge the Clean Energy Plans if they are in the public interest and consistent with the clean energy targets. In addition to its compliance authority for Oregon's 100% Clean Electricity Law, OPUC also has review and oversight authority over the types of resources that Oregon's IOUs procure, whether for regulatory compliance or any other reason. **Local plans and codes** may include county energy resilience plans but these are not enforceable policies. This is related to Oregon HB 3630 (2023) and includes Clatsop, Tillamook, Columbia, and Lane Counties. Plans are in process.	**GAP** > Gap regarding the destination of generated energy, suggesting a need for clearer regulatory frameworks to ensure local benefits and community resilience from OSW projects. > Potential policy to require power generated within our review jurisdiction to land in Oregon. > TSP Part 5 potential gap would be to add energy grid reliability/resilience to B.4.d and B.4.g.2-5 > Goal 13 was not written to govern or direct the production of energy, but its conservation. Potential gap would be to amend Goal 13 to address development of alternative energy sources and adding energy grid reliability/resilience. > ORS/OAR - "Storage facility" or "Battery Energy Storage System" that may occur on resource lands (e.g., farm or forest lands) is not well defined in ORS/OAR. Previously explored options include 1) folding it into definition of utility facility ORS 215.275, 2) Add specific criteria under utility facility, and 3) modify OAR 660-033-0130 regarding power generation facilities. **STRENGTHEN** > ODFW - In Oregon's State Wildlife Action Plan (SWAP), Key Conservation Issues (KCIs) identify and address major challenges impacting species of greatest conservation need and their habitats, such as a changing climate. KCIs offer a framework for understanding the root causes of habitat degradation and species decline. **ISSUE/NEED** > Is this a benefit we want to see, an adverse effect to avoid? How would it affect OSW development and approval decisions? > Staff research indicates the embedded carbon cost of OSW would be repaid early in the life of a project. > HB 2021 - Could these be adopted as enforceable policies? > Exploring the potential for the state to have a power procurement authority, as has been implemented in Maine, California, and other states. This would provide greater investment certainty for development and allow the state to place additional expectations alongside power purchase (e.g., research funding, community agreements, etc.) > HB 3630 - For those energy resilience plans developed via HB 3630 (2023), is it possible for them to be enforceable policies, if applicable?

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	Space Analysis for Wave and Tidal Energy, 2025)			
Energy/Climate – Investment	> Exploring the potential for amendment to Oregon energy policies to encourage greater investment in long lead-time resources, including offshore wind. One example might be an increase to the cap for direct access procurement. [to be expanded]			
Energy/Climate - Procurement authority	> Exploring the potential for the state to have a power procurement authority, as has been implemented in Maine, California, and other states. This would provide greater investment certainty for development and allow the state to place additional expectations alongside power purchase (e.g., research funding, community agreements, etc.)			

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LOCAL AND REGIONAL COMMUNITIES - Protect and sustain coastal communities and existing local and regional uses of the coastal zone, including fishing, recreation, tourism, and aesthetic and spiritual enjoyment.				
ECONOMIC OPPORTUNITY AND SUSTAINMENT - Support the creation of economic opportunities and sustainment of existing local and regional economies.				
WORKFORCE - Position Oregon to have an offshore wind energy workforce that is local, trained, housed and equitable.				
Aesthetic - Effects on **aesthetic and visual** experience from land by ocean-based platforms and navigational lighting (viewshed effects). This also includes effects of land-based Project structures and facilities to visual resources or state park lands.	> This assumes no land-based structures are part of a lease decision. > Aesthetic Resources economic impact of reduced visitation due to dislike of viewshed. > Travel Oregon's Visitor Profile indicates that most people visit the Oregon coast for wildlife viewing, connection to nature and visiting the beach.	**SP Goal 5** **TSP Part 5** **ORS 390.610** – Ocean Shores **OAR 345** - Energy Facility Siting Standards (related or supporting facilities) > **345-022-0080** - Scenic Resources **HB 2375** (2025) **Local Plans and Codes**	**TSP Part 5,** Uses of the Territorial Sea. > **Policy B.4.g.4**. Recreational Resources Standards. The state shall protect recreational resources as a beneficial use of the territorial sea. The standards for recreational resources shall be applied to all renewable energy facility projects throughout the territorial sea, unless otherwise provided by the plan. A determination of impact is based on the inventory of recreational uses contained in the map (Part Five, Appendix B). > **Policy B.4.g.5**. Visual Resource Protection Standards. The regulating agencies shall protect visual resources (i.e. viewsheds of the territorial sea) by applying the following visual resource protection standards to evaluate the potential impact of proposed renewable energy projects on the affected viewsheds.(a) Classification of Viewsheds. The following classification system categorizes viewshed sites based on a set of objective criteria related to the unique setting, aesthetic qualities and physical properties of each site. Each viewshed class has a specific objective that determines the level of activity that would be compatible with maintaining the character of the viewshed. The class objectives and project review criteria are used to determine the impact a project has on each affected viewshed. i. Class I: The objective of this class is to preserve the existing character of the seascape. This class provides for natural ecological changes; however, it does not preclude very limited development activity. The level of change to the characteristic seascape must be very low and may not attract attention. ii. Class II: The objective of this class is to retain the existing character of the seascape. The level of change to the characteristic seascape must be low. Development activities may be seen, and may attract minimal attention, but may not dominate the view of the casual observer. iii. Class III: The objective of this class is to partially retain the existing character of the seascape. The level of change to the characteristic seascape may be moderate. Development activities may be seen and may attract attention but may not dominate the view of the casual observer. iv. Class IV: The objective of this class is to provide for development activities which require major modifications of the existing character of the seascape. The level of change to the characteristic seascape can be high. These development activities may dominate the view and be the major focus of viewer attention. However, every attempt shall be made to minimize the impact of these activities through careful location, minimal disturbance, and repeating the basic elements. > **TSP Part 5** contains additional guidance for how agencies shall consider contrast criteria. **ORS 390.610**, Ocean Shores general provisions including policies related to recreational uses. **(4)** The Legislative Assembly further declares that it is in the public interest to do whatever is necessary to preserve and protect scenic and recreational use of Oregon's ocean shore. **HB 2375** (2025) Requires a person who is developing or repowering a wind energy facility to apply to the Federal Aviation Administration and, if applicable, the Federal Communications Commission, for approval for the installation and use of light-mitigating technology systems and, if approved, install the systems within 24 months or as soon as reasonably practicable thereafter. Prohibits a county or city from allowing or permitting a wind energy facility if the person seeking to develop or repower the wind energy facility does not apply for approval for the installation and use of light-mitigating technology	**GAP** > Potential gap - Local policies regarding shoreside structures as seen from land (at discretion of local government) > OAR 345 - Energy Facility Siting Standards (related or supporting facilities) are not included in enforceable policy suite for federal consistency, if applicable. Could some of these be used with OSW, primarily the onshore components? Could they be adapted to offshore components? > TSP Part 5 * Does not explicitly include economic effect policies. * Policy B.4.g, Special Resources and Uses Review Standards, provide more detail in the policy about what "minimization" means. Except for visual effects and fisheries standards, the minimization requirements found in B.4.g.1-5 might benefit from more details and/or useful examples of what it means to minimize. (ELI) > Uncertain if policies exist to restrict adverse effects from projects on tourism or local economy. > HB 2375 is a new bill from the 2025 Oregon Legislative Session and is not yet an approved enforceable policy. > OAR 736/ORS 390 - HB 2925 (2025) will require rulemaking to OAR 736 and ORS 390. New regulations and changes to existing policies should be amended after rulemaking. **ISSUE/NEED** > TSP Part 5 identifies high value visual resources and includes strong protection policies that would be applicable to offshore wind; however, these policies do not explicitly mention culturally significant views to Tribes or establish separate criteria that would guide decisions affecting these views. > Establish locations where visual impacts are minimized; identify design standards that minimize visual impacts on scenic resources; or establish a capacity limit across the territorial sea (e.g., no more than 1 GW worth of development). > Protection of natural vistas for future generations > Federal Aviation Administration (FAA) sets turbine color standards > Visual impacts by onshore components may also be addressed by ODAV and FAA if within an airport imaginary surface. > Evaluation of how viewshed changes influence community identity, tourism, and local culture > Local - Local community's expressed ocean view sensitivity (for some, if offshore components are not visible, it's not a concern). > Local - Some local communities have compatibility standards for onshore components while others may not review this and could be a potential gap in local codes.

Effect of Interest	Effect Details	Enforceable Policies (existing and potential)	Policy Strongest or Most Applicable Excerpt	Policy Strengthening Issues, Needs, Gaps, or Wishlist
			systems. https://olis.oregonlegislature.gov/liz/2025R1/Measures/Overview/HB2375 **Local plans and codes** may include compatibility standards for onshore components of an offshore wind project. Local codes may include viewshed protection zones (applicable to onshore development only), lighting ordinances, and airport imaginary surface zones (if near an airport).	
Recreation & Tourism - Effects of **recreational** qualities and uses of state park lands resulting of land-based Project structures and facilities, including closure of beach access during installation, and noise effects to nearby residents. In addition, effects to **ocean-based recreation** from Project presence or activities.	> Port construction, for example, might be in a tourist area. First the loss of economic income because of construction. However, consider refocusing attention to other areas or ecotourism or climate tourism (OSW museum or information center). Also, post construction, have at-sea tours.	**SP Goal 19** **TSP Part 5** **ORS 390** - Parks, Recreation Programs, Scenic Waterways, Recreation Trails **OAR 141-140** **OAR 345** - Energy Facility Siting Standards (related or supporting facilities) > **345-022-0100** - Recreation **OAR 736-020** – Ocean Shore Permit Standards **Local Plans and Codes**	**TSP Part 5**, Uses of the Territorial Sea. **> Policy B.4.g.4**. Recreational Resources Standards. The state shall protect recreational resources as a beneficial use of the territorial sea. The standards for recreational resources shall be applied to all renewable energy facility projects throughout the territorial sea, unless otherwise provided by the plan. A determination of impact is based on the inventory of recreational uses contained in the map (Part Five, Appendix B). **ORS 390.010**, Policy of state toward outdoor recreation resources **ORS 390.610**, Ocean Shores; State Recreation Areas; (4) The Legislative Assembly further declares that it is in the public interest to do whatever is necessary to preserve and protect scenic and recreational use of Oregon's ocean shore. **ORS 390.705**, Prohibition against placing certain conduits across recreation area and against removal of natural products. No person shall: (1) Place any pipeline, cable line or other conduit across and under the state recreation areas described by ORS 390.635 (Jurisdiction of department over recreation areas) or the submerged lands adjacent to the ocean shore, except as provided by ORS 390.715 (Permits for pipe, cable or conduit across ocean shore, state recreation areas and submerged lands). **OAR 736-020-0005**, Beach Construction/Alteration Standards, Factors Evaluated (1) Each site on the ocean shore presents different conditions and applicants have varying project needs. Evaluations point up the relative significance of the general, scenic, recreational, safety, and other interests of the public. In acting on any application for an ocean shore permit under ORS 390.640, 390.715 or 390.725, the Department shall consider: (a) Provisions necessary to protect the affected area from any use, activity or practice that is not in keeping with the conservation of natural resources or public recreation; (b) The public need for healthful, safe, esthetic surroundings and conditions; the natural, scenic, recreational, economic and other	**GAP** > OAR 736 - Ocean Shores Permit Standards - only a portion of this rule is an enforceable policy. the remainder is waiting in line to be submitted to NOAA. In addition, HB 2925 (2025) will require rulemaking to OAR 736 and ORS 390. This information should be revised after upcoming rulemaking. > OAR 345 - Energy Facility Siting Standards (related or supporting facilities) are not included in enforceable policy suite for federal consistency, if applicable. Could some of these be used with OSW, primarily the onshore components? Could they be adapted to offshore components? **ISSUE/NEED** > Would local zoning prevent port construction in a tourist area as described in the "effect details"? > Local - Some local communities have compatibility standards for onshore components while others may not review this and could be a potential gap in local codes.

Effect of Interest	Effect Details	Enforceable Policies (existing and potential)	Policy Strongest or Most Applicable Excerpt	Policy Strengthening Issues, Needs, Gaps, or Wishlist
			resources of the area and the present and prospective need for conservation and development of those resources; (c) The physical characteristics or the changes in the physical characteristics of the area, and the suitability of the area for particular uses and improvements (This may include bank alignments, topography, shoreline materials and stability, width of the beach, past erosion, storm water levels, sand movement, water currents, adjoining structures, beach access, land uses, etc.); (d) The land uses, including public recreational use; the improvements in the area; the trends in land uses and improvements; the density of development; and the need for access to particular sites in the area. (e) The need for recreation and other facilities and enterprises in the future development of the area and the need for access to particular sites in the area. (2) Public opinion in response to public notice or hearings on an application shall be considered in evaluating each proposed ocean shore project. (3) Considered together, and in accordance with the intent of the Legislature, the factors listed in sections (1) and (2) of this rule assist in the overall decision for granting, an ocean shore permit, or denying, or modifying the ocean shore permit application when the level of impact is determined to be unacceptable. **Local plans and codes** include development and compatibility standards, and may overlay to a separate noise ordinance.	
Recreation & Tourism - Effects on **recreation** resulting from recovery/clean-up activities associated with spills or other emergencies.	> Consequence of floating turbines detaching from moorings or damaged parts from turbine failures reach shore as debris.	**SP Goal 19** **TSP Part 4, 5** **ORS 390 -** Ocean Shores **OAR 340** - Oil spills, antidegradation	*See policies under natural hazard effects above.* **TSP Part 4**, Uses of the Seafloor > Policy D.7, Decommission and Recovery. **TSP Part 5**, Uses of the Territorial Sea > Policy B.4.g, Ecological Resources Protection Standards > Policy B.4.e, Information requirement. 3.) Natural and Other Hazards Evaluate the potential risk to the renewable energy facility… > Policy D.3, Project Operation Plan. Including D.3.a. Contingency Plan. > Policy D.4, Decommissioning Plan. **OAR 340**, Water Quality. Policies can be used for reviewing this effect but regulating this effect depends on the geographic location of the work/disturbance/development (e.g., territorial sea, waters of the state, waters of the US) and type of federal permitting nexus (e.g., CWA 404 or other). **OAR 340-041-0004**, Antidegradation (only applicable to nearshore aspects of an OSW project that fall within the waters of the state) (1) Purpose. The purpose of the Antidegradation Policy is to guide decisions that affect water quality to prevent unnecessary further degradation from new or increased point and nonpoint sources of pollution, and to protect, maintain, and enhance existing surface water quality to ensure the full protection of all existing beneficial uses. The standards and policies set forth in OAR 340-041-0007 (Statewide Narrative Criteria) through 340-041-0350 (The Three Basin Rule: Clackamas, McKenzie (above RM 15) & the North Santiam) supplement the Antidegradation Policy. Note: **OAR 340-041-0002**, Definitions. "Waters of the state" means lakes, bays, ponds, impounding reservoirs, springs, wells, rivers, streams, creeks, estuaries, marshes, inlets, canals, the Pacific Ocean within the territorial limits of the State of Oregon, and all other bodies of surface or underground waters, natural or artificial, inland or coastal, fresh or salt, public or private (except those private waters that do not combine or effect a junction with natural surface or underground waters) that are located wholly or partially within or bordering the state or within its jurisdiction. **OAR 340-141**, Oil Spill Contingency Planning. OAR 340-141 is currently not a listed enforceable policy.	**GAP** > OAR 736/ORS 390 - HB 2925 (2025) will require rulemaking to OAR 736 and ORS 390. New regulations and changes to existing policies should be amended after rulemaking. **STRENGTHEN** > TSP Part 5 * Add Emergency Response Plan to this part. Also expand the role of the response officer (?) to include TSP Part 5. * Policy B.4.g, Special Resources and Uses Review Standards, provide more detail in the policy about what "minimization" means. Except for visual effects and fisheries standards, the minimization requirements found in B.4.g.1-5 might benefit from more details and/or useful examples of what it means to minimize. (ELI) > OAR 340-141 - Would OSW project require a Contingency Plan under these regulations for oil spill prevention and emergency response plan? Are oil spill policies applicable in federal waters through the GLD? OAR 340-141 is currently not a listed enforceable policy. **ISSUE/NEED** > DEQ/DSL - Establish state water quality standards and permit as listed above. > DEQ - Look at Hydroelectric standards ORS 543A for ideas to incorporate into offshore wind. See previous comments.

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Recreation & Tourism - Effects to **tourism**, including nature-based tourism (e.g., whale watching, kayaking) of lost or altered recreation and associated opportunities. *Note: This effect is listed under the Local and Regional Communities section and Economic Opportunity and Sustainment section.*	> Economic effects to small businesses as recreation economic drivers, tourism avoidance of areas that once had "unspoiled" ocean views, loss of "seafood tourism", lost dune recreation effects. > Effects based upon access. > Effects based on the casual sequence of negative impacts of tourism. Tourism infrastructure is a driver of economic activity on the coast. Needs to be better understood > Project development could have beneficial effects on tourism with the potential to refocus attention to other areas or ecotourism or climate tourism (e.g., OSW museum or information center and at-sea tours).	**TSP Part 5**	**TSP Part 5**, Uses of the Territorial Sea. > **Policy B.4.g.4**. Recreational Resources Standards. The state shall protect recreational resources as a beneficial use of the territorial sea. The standards for recreational resources shall be applied to all renewable energy facility projects throughout the territorial sea, unless otherwise provided by the plan. A determination of impact is based on the inventory of recreational uses contained in the map (Part Five, Appendix B).	**ISSUE/NEED** > Establish guidelines regarding location of offshore equipment in order to be positioned away from popular recreational areas, and if avoidance is not possible, the area should be clearly marked on local maps and signs.
Recreation & Tourism - Effects on **ocean waves and swell** downwind of the Project, including potential effects to safety from physical nearshore changes and attraction/avoidance.	> The extraction of wind energy might influence oceanic patterns that **recreational** communities depend on, such as wind, waves, and deposition of sand.	**SP Goal 19** **TSP Part 5**	**TSP Part 5**, Uses of the Territorial Sea. > **Policy B.4.g.4**. Recreational Resources Standards. The state shall protect recreational resources as a beneficial use of the territorial sea. The standards for recreational resources shall be applied to all renewable energy facility projects throughout the territorial sea, unless otherwise provided by the plan. A determination of impact is based on the inventory of recreational uses contained in the map (Part Five, Appendix B).	
Land Use - Effects of shoreline privatization.		**ORS 390.620** - Pacific Shore not to be alienated **Local Plans and Codes** (?)	**ORS 390.620,** Pacific Shore Not to be Alienated **(1)** No portion of the lands described by ORS 390.610 (Policy) or any interest either therein now or hereafter acquired by the State of Oregon or any political subdivision thereof shall be alienated except as expressly provided by state law. **(2)** No portion of the ocean shore declared a state recreation area by ORS 390.610 (Policy) shall be alienated by any of the agencies of the state except as provided by law. Some jurisdictions prohibit cable landings in residential areas.	**GAP** > Is the effect of concern related to the use of public lands for cable landing? Are there other scenarios where the shoreline would be privatized?

Effect of Interest	Effect Details	Enforceable Policies (existing and potential)	Policy Strongest or Most Applicable Excerpt	Policy Strengthening Issues, Needs, Gaps, or Wishlist
Land Use - Impact of Project decommissioning	> Impact of waste management, recycling and disposal of components. > Potential risk of spills, failures, noise, traffic, and other activity during dismantling of turbine and other support equipment. > Need to find appropriate onshore location, if applicable, for decommissioning such as salvage yard/boat breaking facility.	**TSP Parts 4, 5** Various offshore and onshore policies could apply depending on activities **ORS 469** - Regulation of Energy Facilities (related or supporting facilities) **OAR 345** - Energy Facility Siting Standards (related or supporting facilities) > **345-022-0120** - Waste Minimization **Local Plans and Codes**	**TSP Part 4**, Uses of the Seafloor > **Policy D.7**, Decommission and Recovery. After the usable, operational, or design life of seafloor infrastructure or fixture an owner or operator shall decommission any infrastructure or fixtures, removing them from the seabed. The owner or operator of the seafloor infrastructure or fixture shall submit a decommissioning plan to DSL for approval pursuant to the terms and conditions of the easement. **TSP Part 5**, Uses of the Territorial Sea > **Policy B.4.e**. Information requirement. 3.) Natural and Other Hazards Evaluate the potential risk to the renewable energy facility, in terms of its vulnerability to certain hazards and the probability that those hazards may cause loss, dislodging, or drifting of structures, buoys, or facilities. Consider both the severity of the hazard and the level of exposure it poses to the renewable marine resources and coastal communities. Hazards to be considered shall include the scouring action of currents on the foundations and anchoring structures, slope failures and subsurface landslides, faulting, tsunamis, variable or irregular bottom topography, weather related, or due to human cause. > **Policy D.3**. Project Operation Plan. An operation plan is required that describes, at a minimum, information regarding the routine environmental monitoring, safety management and emergency response procedures, facility inspections, and the decommissioning of the project. The operation plan shall explain the procedures and mechanisms that will be employed so that the facility will comply with regulatory standards and other conditions of permit or license approval related to water and air quality, environmental protection and mitigation, facility maintenance and safety, operational failure and incident reporting. An operation plan shall include the following information… * **Policy D.3.a**. Contingency Plan. A plan to describe how the facility operator will respond to emergencies caused by a structural or equipment failure due to human error, weather, geologic or other natural event. The plan shall include a description of the types of equipment, vessels and personnel that would be deployed, the chain of command or management structure for managing the facility repairs, recovery or other forms of remedial action, and the process and timeline for notification of state and federal authorities. > **Policy D.4**. Decommissioning Plan. An applicant shall provide a plan to restore the natural characteristics of the site to the extent practicable by describing the facilities to be removed. **Local plans and codes** include development and compatibility standards and may overlay to a separate noise ordinance. In addition, some uses, like salvage yard or boat breaking facility may not be clearly defined in local codes but it may fit under a similar use.	**GAP** > DSL Requirements for Mitigation Plan, Decommissioning Plan and cables removal, Emergency Response Plan, coordination with different stakeholders, and appropriately calculated compensation costs. Also include plan for potential failure of components. > ORS 469 - Regulation of Energy Facilities, enforceable policies need to be updated, if applicable, for related or supporting facilities > OAR 345 - Energy Facility Siting Standards (related or supporting facilities) are not included in enforceable policy suite for federal consistency, if applicable. Could some of these be used with OSW, primarily the onshore components? Could they be adapted to offshore components? **STRENGTHEN** > A roadmap to define how decommissioning should be handled. > Policy around decommissioning and major repair with added scrutiny before equipment is installed that it is feasible equipment can be successfully removed and decommissioned (reuse, recycle or disposal), if required. Considering decommissioning of wind turbine, anchor and mooring system, cables, and substation and location of such activities (decommissioning port). Example: Guide to a floating offshore wind farm (https://guidetofloatingoffshorewind.com/), Section D (decommissioning) and Section O (major repair). > TSP Part 5 - This part could include a requirement that decommissioning plans include a waste dispositioning plan that must demonstrate there is a feasible method of waste disposal. **ISSUE/NEED** > Local - Some local communities have compatibility standards for onshore components while others may not review this and could be a potential gap in local codes. > Local - Engage local governments and state agencies regarding the effects and potential gaps resulting from 1) construction, 2) natural disaster, 3) failure, 4) decommissioning of offshore and onshore components, and 5) waste management. Some policies may be better addressed at the state level, while onshore components may warrant local government policies to address impacts. Local governments are concerned about construction impacts (lights, transportation, frac-out, drilling fluids and waste), natural disaster or failure waste, decommission waste, waste disposal site limitations or nonexistent (trucked out), recycling of materials, response plan and clean up, and inaccessible beach due to emergency event. Therefore, it will be beneficial to work with local governments to identify and amend policy gaps in their compatibility standards applicable to onshore components of an offshore energy project.
Land Use - Effects to **ports** including space (slip space, dry dock, storage), services (vessel maintenance), freight (ship/road/rail), and harbor-based businesses (fish processors)	> Potential increased costs from industries competing for space and materials > Secondary effects from changes to fisheries with regard to support industries and economies. > Influence of development on the ports including space (slip space, dry dock, storage) and increased demand for services. > Potential effects to fishing ports if fisheries are displaced/lose access to fishing grounds	**Local Plans and Codes**	**Local plans and codes** include development standards and procedure ordinances that require citizen involvement in proposed projects. In addition, Coos County reported vessel type proportion restrictions for port marina space.	**GAP** (?) > Compare to California Coastal Act Section 39234 - "*Facilities serving the commercial fishing and recreational boating industries shall be protected and, where feasible, upgraded. Existing commercial fishing and recreation boating harbor space shall not be reduced unless the demand for those facilities no longer exists or adequate substitute space has been provided.*" **ISSUE/NEED** > Local - Local plans and codes contain development and compatibility standards. However, there are a variety of issues and concerns coming from the local level. These may include zoning and use variability (recreation, commercial), slip space issues/categorization/competition, rail resurgence and access, land availability, ownership constraints, waterway and dredging issues, protection of species, and dangerous or inaccessible bar.

Effect of Interest	Effect Details	Enforceable Policies (existing and potential)	Policy Strongest or Most Applicable Excerpt	Policy Strengthening Issues, Needs, Gaps, or Wishlist
Socioeconomic & Tribal - Effects to Tribal, **commercial and recreational fishing** and includes effects to crabbing and shrimping.	> Loss of fishing grounds from Project area > Changes in fishing effort or distribution from space use conflicts or species redistribution > Loss of catch efficiency due to area avoidance or increased transit time > Gear loss and entanglement > "Fleet squeeze" into available areas > Secondary effects to support industries > Loss or impact of generational fishing heritage > Decreased catch from adverse effects to fish species > Increased competition for port space and services from increased vessel presence/traffic > Adverse effects to vessel safety or navigation equipment > Increases to bycatch in available areas > Disruption of scientific management and MSC certification. > Potential disruption of the radar with fishing vessels, safety concern. > NOAA equipment impacts > Temporary effects from cable installation (assuming no crabbing presence in farther offshore areas) > Potential malformation from EMF (UK example?) > Increased activity in harbors and similar increases in activity in nearshore regions where more recreation fishing occurs. > Policy limit for phased offshore wind development for Oregon; allowing for the continued inter-generational fishing family businesses; provide stability	**SP Goal 19** **TSP Parts 4, 5** **ORS 496.012** – Wildlife Policy **ORS 506.109** – Food Fish Policy	**SP Goal 19, Ocean Resources** **> Policy 1, Uses of Ocean Resources. Policies to protect marine organisms, marine ecosystem integrity, important marine habitat, and areas important to fisheries.** **TSP Part 5, Uses of the Territorial Sea** **> Policy B.4.g.2. Fisheries Use Protection Standards**. The regulating agencies shall protect areas important to fisheries using the following use protection standards to evaluate the impact an individual renewable energy facility would have on fisheries use…. The following standards must be considered in determining the possible adverse effects a renewable energy facility might have on fisheries use, and are applicable to applications in all resource and use areas unless otherwise designated by the plan: i. Minimize the displacement of fishers from traditional fishing areas, and the related impact on the travel distance and routing required to fish in alternative areas; ii. Minimize the compaction of fishing effort caused by the reduction in the areas normally accessible to fishers; iii. Minimize the economic impact resulting from the reduction in area available for commercial and recreational fishing for the effected sectors and ports. iv. Mitigate possible hazards to navigation and, provide practicable opportunities for vessel transit, at the project location. v. Limit the number and size of projects that are located in an area to minimize the impact on a particular port or sector of the fishing industry. Consider the distribution of projects and their cumulative effects based on the criteria listed in (i) through (iv). **ORS 506.109, Food Fish Management Policy.** It is the policy of the State of Oregon that food fish shall be managed to provide the optimum economic, commercial, recreational and aesthetic benefits for present and future generations of the citizens of this state. In furtherance of this policy, the goals of food fish management are: **(1)** To maintain all species of food fish at optimum levels in all suitable waters of the state and prevent the extinction of any indigenous species. **(2)** To develop and manage the lands and waters of this state in a manner that will optimize the production, utilization and public enjoyment of food fish. **(3)** To permit an optimum and equitable utilization of available food fish. **(4)** To develop and maintain access to the lands and waters of the state and the food fish resources thereon. **(5)** To regulate food fish populations and the utilization and public enjoyment of food fish in a manner that is compatible with other uses of the lands and waters of the state and provides optimum commercial and public recreational benefits. **(6)** To preserve the economic contribution of the sports and commercial fishing industries in a manner consistent with sound food fish management practices. **(7)** To develop and implement a program for optimizing the return of Oregon food fish for Oregon's recreational and commercial fisheries. [1975 c.253 §15; 1985 c.529 §2] Standard: To overcome the presumptive exclusion, an applicant must demonstrate and the regulating agency must concur that the project will have no reasonably foreseeable adverse effect on areas important to fisheries and there is no practicable alternative site. Definition: Adverse Effect for Fisheries Use Protection Standards: a significant reduction in the access of commercial and recreational fishers to an area spatially delineated as an area important to a single fishing sector, multiple combined sectors, or to the fishing community of a particular port.	**GAP** > TSP Part 5, Potential * Vessel operation impacts (e.g., collisions, strikes). * Ecological resource standards are spatially limited and could be revised to be generally applicable to resources regardless of location. * Amend the area-specific fishery use protection standards to make them broadly applicable to types of environments rather than specific geographical areas. This includes the standard of presumptive exclusion unless the project proponent can demonstrate no significant adverse effect on areas important to fisheries and that there be no practicable alternative site. * Seasonal considerations (e.g., in water work periods in ocean considering species presence or fisheries uses) * Define "Adverse Effect for Ecological Resource Protection" and role of mitigation on the effect of significance. * Policy B.4.g, Special Resources and Uses Review Standards, provide more detail in the policy about what "minimization" means. Except for visual effects and fisheries standards, the minimization requirements found in B.4.g.1-5 might benefit from more details and/or useful examples of what it means to minimize. (ELI) * Amend the policy around memorialized agreements to make them a firm requirement rather than an encouraged action. > Assess the use of existing state fisheries protection policies for Tribal community impacts and amend as necessary to explicitly consider Tribal fishing uses in addition to commercial and recreational fishing. > Potential gap: The state should consider establishing via legislation a cap on the total GW capacity of offshore wind development as an early development step. Some members of the fishing community proposed that a cap on development would give the seafood sector some measure of confidence and certainty that they will be able to fish specific areas of the ocean for a decade or more. This would allow for the continuance of inter-generational fishing family businesses, allow fishermen and processors to make better business plans with confidence and allow ports and communities some stability **STRENGTHEN** > Guidance on what constitutes best available data and when to acquire it > TSP Part 5 - Apply the fisheries use standards to all phases of OSW development (see TSP Part 5 section B.4.g.2) **ISSUE/NEED** > Assess the distribution of different fishing efforts (commercial and recreational) to evaluate needed changes to transit due to closed areas, and changes in fishing effort/ distribution due to space use and species distribution. > Potential protective measure may include establishing locations where fishing impacts are minimized; reduce size of project footprint; establish design standards to maximize existing access to fisheries or improve habitat; establish schedule guideline for when installation and maintenance can occur so to minimize disruption to fishing activities; limit deployments in popular fishing areas; create fishing exclusion zones around equipment to minimize gear entanglement; or establish a capacity limit across the territorial sea (e.g., no more than 1 GW worth of development). > For any future leasing actions for offshore wind energy exploration, DLCD should establish an Offshore Wind Energy Fisheries Working Group to facilitate the development memorialized agreements between offshore wind developers and fishing communities.

Effect of Interest	Effect Details	Enforceable Policies (existing and potential)	Policy Strongest or Most Applicable Excerpt	Policy Strengthening Issues, Needs, Gaps, or Wishlist
	and confidence in making better business plans			
Socioeconomic - Effects of l**ocal, state and regional** socioeconomic benefits and challenges related to developing offshore wind energy. This includes workforces, social services, education and training, housing for low-income and marginalized community members. *Note: This effect is listed under the sections Local and Regional Communities, Economic Opportunity and Sustainment, and Workforce.*	> Benefits and impacts to job market (creation) and workforce training for the local community. > Potential opportunity for fishing vessels to be used as support of the offshore wind operations during off season. > Potential opportunity for new shipbuilding industry. OSW development uses specialized ships and equipment that has limited or no domestic production. > Potential for new industry for communities that have lost timber industry. > Potential concern regarding source water demand for increased businesses, housing and economic development. > Influence of new industry and the need for increasing community support services (e.g., police, fire, social services). Infrastructure improvement via community benefit agreements or property taxes. > Impacts to the housing market, including quality, quantity and affordability > Potential impacts to capacity levels with local government > Economic influence by industry changes to coastal community tourism or port/fishing industries	**HB 2021** - Labor Standards **HB 4080** - Labor standards **TERO** (Tribal Employment Rights Ordinance)? **ORS 469** - Regulation of Energy Facilities (related or supporting facilities) **ORS 757, OAR 860** – Public Utility Commission Standards for "prudence" for energy rates **OAR 345** - Energy Facility Siting Standards (related or supporting facilities) > **345-023-0005** - Need Standard for Non-generating Facilities > **345-023-0020** - Least-Cost Plan Rule **Local Plans and Codes**	Costs are a main driver in assessing procurement decisions – focused on "least cost, least risk". RFP evaluation criteria sometimes include both price and non-price scoring, the latter of which can potentially address non-monetary benefits. **Local plans and codes** include development and compatibility standards. There may be some overlap to local business or economic development plans that are not enforceable policies.	**GAP** > Potential gap - PUC standards only applicable to in-state procurement by Investor Owned Utilities. Seeming gap, both in terms of existing policy and also the data required to compare what is gained and lost. * Compare to Rhode Island (650-RICR-20-05-11.10.1(C)) - *Offshore developments shall not have a significant adverse impact on the natural resources or existing human uses of the Rhode Island coastal zone, as described in the Ocean SAMP. In making the evaluation of the effect on human uses, the Council will determine, for example, if there is an overall net benefit to the Rhode Island marine economic sector from the development of the project or if there is an overall net loss. Where the Council determines that impacts on the natural resources or human uses of the Rhode Island coastal zone through the pre-construction, construction, operation, or decommissioning phases of a project constitute significant adverse effects not previously evaluated, the Council shall, through its permitting and enforcement authorities in state waters and through any subsequent CZMA federal consistency reviews, require that the applicant modify the proposal to avoid and/or mitigate the impacts or the Council shall deny the proposal.* > Potential gap - Need for policies for energy procurement that can be more reliable, address resiliency, planning, and type of systems/mechanism that need to be in place (?) > ORS 469 - Regulation of Energy Facilities, enforceable policies need to be updated, if applicable, for related or supporting facilities > OAR 345 - Energy Facility Siting Standards (related or supporting facilities) are not included in enforceable policy suite for federal consistency, if applicable. Could some of these be used with OSW, primarily the onshore components? Could they be adapted to offshore components? > Limited existing policies that address socio-economic impacts of OSW development (suggested focus on economic development, community benefits, and housing stability related to OSW infrastructure) > HB 4080, HB 2021 - Potential policy but not currently included as enforceable policies for federal consistency review. > HB 2021 - Applies only to in-state procurement by investor-owned utilities (potential) > ORS 506.109 - Food Fish Policy could be strengthened similar to other states (e.g., RI) for protection of fisheries uses. > Limited existing policies that address socio-economic impacts of OSW development and protect community interests in particularly in vulnerable and indigenous communities. Provide a framework for accountability, ensuring promises made during development negotiations are legally binding. Suggested focus on economic development, community and tribal benefits, and housing stability related to OSW development. > Potential gap - No state policies require mitigation for new industry growth effects

Effect of Interest	Effect Details	Enforceable Policies (existing and potential)	Policy Strongest or Most Applicable Excerpt	Policy Strengthening Issues, Needs, Gaps, or Wishlist
	> Cost of electricity to residents and businesses (however, there could be an overestimation of economic effects such as with Eastern Oregon windfarms (not strong economic driver and lack of local use workforce and development) > Need a "willingness to pay" survey to residents and businesses regarding how much they would be willing to pay for OSW. Energy cost impacts to ratepayers. What price will they be bringing electricity onshore? > Potential economic benefit with businesses that are interested in places that offer renewable energy sources to avoid power disruption to operations > Greater demands on the limited shoreline, which may force more impacts inland or on resource (farm and forest) lands from economic growth.			on housing availability or quality. **ISSUE/NEED** > Is it possible to have a stand-alone local/regional/state economic development policy as an enforceable policy? Refer to ELI's Strong Enforceable Policies Guide. It might be best to address economics through resource-based, use-based, or location-based policies. https://www.eli.org/research-report/strong-enforceable-policies-examples-and-tips > Local - Local plans and codes contain development and compatibility standards. However, there are a variety of issues and concerns at the local level. These issues may or may not be tied to an enforceable policy but could possibly be addressed in a community benefit agreement or other type of agreements. Generally, responsible new development that has community engagement throughout the process would be beneficial and may touch on impacts to required workforce housing, infrastructure improvements, fishing heritage and other community impacts (e.g., schools). It may also address constraints found with land availability, waterway infrastructure, zoning, topography, developers, etc.
Socioeconomic - Effects to **scientific research** resulting from the presence of ocean-based structures, vessel traffic, and other Project-related changes to offshore conditions	> Displacement or interference with surveys (research, protected species or fisheries stock)	**TSP Parts 4, 5** **ORS 496.012** – Wildlife Policy **ORS 506.109** – Food Fish Policy	**TSP Part 4**, Uses of the Seafloor > **Policy D.3.5.2**. Information requirement. Current Uses: Evaluate the effects of the project or development action on current uses and the continuation of a current use of ocean resources. **TSP Part 5**, Uses of the Territorial Sea > **Policy B.4.e**. Information requirement (associated standard applies to fisheries uses only) 2.) Current Uses: Evaluate the effects of the project on current uses and the continuation of a current use of ocean resources such as fishing, recreation, navigation, and port. Factors to consider include but are not limited to: (a) Local and regional economies; (b) Archeological and historical resources; and (c) Transportation safety and navigation. **ORS 496.01**2, Wildlife Policy. It is the policy of the State of Oregon that wildlife shall be managed to prevent serious depletion of any indigenous species and to provide the optimum recreational and aesthetic benefits for present and future generations of the citizens of this state. In furtherance of this policy, the State Fish and Wildlife Commission shall represent the public interest of the State of Oregon and implement the following coequal goals of wildlife management: **(1)** To maintain all species of wildlife at optimum levels. **(2)** To develop and manage the lands and waters of this state in a manner that will enhance the production and public enjoyment of wildlife. **(3) - (7)** etc. **ORS 506.109**, Food fish management policy. It is the policy of the State of Oregon that food fish shall be managed to provide the optimum economic, commercial, recreational and aesthetic benefits for present and future generations of the citizens of this state. In furtherance of this policy, the goals of food fish management are: **(1)** To maintain all species of food fish at optimum levels in all suitable waters of the	**STRENGTHEN** >TSP Part 5 - Consider how we might apply Part 5 protection standards to survey activities, so we continue to get information from surveys that is essential to fisheries management and natural resource protection

Effect of Interest	Effect Details	Enforceable Policies (existing and potential)	Policy Strongest or Most Applicable Excerpt	Policy Strengthening Issues, Needs, Gaps, or Wishlist
			state and prevent the extinction of any indigenous species. **(2)** To develop and manage the lands and waters of this state in a manner that will optimize the production, utilization and public enjoyment of food fish. **(3) - (7)** etc.	
Socioeconomic - Effects to/from **other subsea cables** (e.g., telecommunications) that may result from competition for landing areas onshore and cable routes offshore.	> Assumes all data reporting would be remote	**TSP Parts 4, 5** **Local Plans and Codes**	**TSP Part 4**, Uses of the Seafloor > **Policy D.3.5.2**. Information requirement. Current Uses: Evaluate the effects of the project or development action on current uses and the continuation of a current use of ocean resources. **TSP Part 5**, Uses of the Territorial Sea > **Policy B.4.e**. Information requirement (associated standard applies to fisheries uses only) 2.) Current Uses: Evaluate the effects of the project on current uses and the continuation of a current use of ocean resources such as fishing, recreation, navigation, and port. Factors to consider include but are not limited to: (a) Local and regional economies; (b) Archeological and historical resources; and (c) Transportation safety and navigation.	**GAP** > DSL - State separation standards are needed between fiber optic cables, power cables, and pipelines. DSL policy does not include a minimum width/separation established in OAR 141-083. It was not an issue in 1999 with just a few cables in Oregon. Current easements have a broad range of widths. 15 feet is the standard minimum width for other easements issued by DSL on land. DSL will need to make it clear and include a minimum width for the cables in the Territorial Sea in their updated Division 83. This information should be revised later on after the Division 83 rulemaking. **ISSUE/NEED** > Need clarification on whether this is an economic issue or another issue? Who is responsible? Where should we put all the cables? Nothing guarantees them a rate for pay? > Local - Cable landing concerns and issues include 1) some local plans do not have provisions for cable landings, 2) establishing and prioritizing location of landings, including creating criteria on how to choose those landing spots, and 3) whether to regulations around separating or co-locating cable landings (potential cost savings to have multiple cables land in one area). > Local - There are a variety of issues and concerns coming from the local level. These may include compatibility and locational issues such as near residential and park developments.

Effect of Interest	Effect Details	Enforceable Policies (existing and potential)	Policy Strongest or Most Applicable Excerpt	Policy Strengthening Issues, Needs, Gaps, or Wishlist
Navigation - Effects of potential **navigation restrictions** on marine transportation and **maritime safety**	> Influence of development on helicopter safety > Restrictions or complications to Search and Rescue operations at sea	**TSP Parts 4, 5** – Ocean User Agreements (?)	**TSP Part 4**, Uses of the Seafloor > **Policy D.3.5.2**. Information requirement. Current Uses: Evaluate the effects of the project or development action on current uses and the continuation of a current use of ocean resources. **TSP Part 5**, Uses of the Territorial Sea > **Policy B.4.e.** Information requirement (associated standard applies to fisheries uses only) 2.) Current Uses: Evaluate the effects of the project on current uses and the continuation of a current use of ocean resources such as fishing, recreation, navigation, and port. > **Policy B.4.g.2.b**. Fisheries Use Protection Standard: iv. Mitigate possible hazards to navigation and, provide practicable opportunities for vessel transit, at the project location. > **Policy D.6**. Agreements. Applicants shall communicate with traditional ocean users and stakeholders with an interest in the area of the proposed project to address issues of concern. Applicants are encouraged to memorialize agreements with those ocean users and stakeholders on specific actions, including conducting the adaptive management and monitoring plan, that the applicant is required to perform.	**GAP** > The state does not necessarily regulate marine transportation. OSMB does have authority to regulate vessel speeds and establish restricted areas within the territorial sea, but no such restrictions currently exist. Explore establishing a speed based on vessel size or migration season. Example: Virginia has guidelines for speed based on vessel size (10Kt for heavier vessels). It may also include guidelines for speed during migration seasons. Additional research https://www.fisheries.noaa.gov/action/amendments-north-atlantic-right-whale-vessel-strike-reduction-rule **ISSUE/NEED** > Does the state need policies/standards to address safety effects to vessels and ocean users that could result from a project? > Coordinate with Coast Guard to establish aids to navigational hazards that may need to be installed near deployment sites (e.g., navigational marker buoys that may include sound and lighting).
Hazards - Natural hazard co-effects related to a **geologically** unstable areas, including landslides or wildfire hazards associated with onshore components and transmission lines. *Note: This effect is listed under the Environmental Protection section and Local and Regional Communities section.*	> Potential increased threat of injury, displacement or loss of humans, marine and terrestrial species including risk of habitat damage. > Location of equipment could be placed in areas that avoid high risk hazards, steep slopes and landslide prone areas. > Concern over the failure of ocean- and land-based equipment , including transmission line.	**SP Goal 7, 16, 17, 18** **TSP Part 3, 5** **ORS 469** - Regulation of Energy Facilities (related or supporting facilities) **ORS 496** – Wildlife Policy **ORS 757.963-966 (2021)** Requires utilities to develop wildfire protection plans **OAR 345** - Energy Facility Siting Standards (related or supporting facilities) **> 345-022-0115** - Wildfire Prevention and Risk Mitigation Oregon PUC requirements for energy reliability? **Local Plans and Codes** (primarily related to SP Goals 7, 17, 18)	**TSP Part 5**, Uses of the Territorial Sea > **Policy B.4.e**. Information requirement (associated standard applies to fisheries uses only). 3.) Natural and Other Hazards Evaluate the potential risk to the renewable energy facility, in terms of its vulnerability to certain hazards and the probability that those hazards may cause loss, dislodging, or drifting of structures, buoys, or facilities. Consider both the severity of the hazard and the level of exposure it poses to the renewable marine resources and coastal communities. Hazards to be considered shall include the scouring action of currents on the foundations and anchoring structures, slope failures and subsurface landslides, faulting, tsunamis, variable or irregular bottom topography, weather related, or due to human cause. > **Policy D.3**. Project Operation Plan. An operation plan is required that describes, at a minimum, information regarding the routine environmental monitoring, safety management and emergency response procedures, facility inspections, and the decommissioning of the project. The operation plan shall explain the procedures and mechanisms that will be employed so that the facility will comply with regulatory standards and other conditions of permit or license approval related to water and air quality, environmental protection and mitigation, facility maintenance and safety, operational failure and incident reporting. An operation plan shall include the following information… **ORS 469.310**, Regulation of Energy Facilities. In the interests of the public health and the welfare of the people of this state, it is the declared public policy of this state that the siting, construction and operation of energy facilities shall be accomplished in a manner consistent with protection of the public health and safety and in compliance with the energy policy and air, water, solid waste, land use and other environmental protection policies of this state. Note: **ORS 469.300**, Definitions. "Related or supporting facilities" means any structure, proposed by the applicant, to be constructed or substantially modified in connection with the construction of an energy facility, including associated transmission lines, reservoirs, storage facilities, intake structure, road and rail access, pipelines, barge basins, office or public buildings, and commercial and industrial structures. **ORS 757.963**, Public utility required to develop wildfire protection plan. (1) A public utility that provides electricity must have and operate in compliance with a risk-based wildfire protection plan that is filed with the Public Utility Commission and has been evaluated by the commission. The plan must be based on reasonable and prudent practices identified through workshops conducted by the commission pursuant to ORS 757.960 and on commission standards adopted by rule. The public utility must design the plan in a manner that seeks to protect public safety, reduce risk to utility	**GAP** > Goal 7 - While Goal 7 requires certain actions, it is primarily a process-based goal supported by guidance rather than rules. Carefully constructed rules could improve Goal 7 implementation, offshore, at the shore, and on land. > DSL - Requirements for the Emergency Response Plan from the applicant and coordination with different stakeholders (see related notes in this table). > TSP Part 5 (Potential) - Does not require projects to avoid geologically unstable areas or otherwise mitigate for effects of instability unless it would have an adverse ecological effect. Potential to develop siting standards in geologically unstable areas. In addition, it seems there is a gap on state planning and policies related to what will happen during an infrastructure failure (e.g. turbines, anchors, etc.) and any clean-up or impacts caused by such failure. > TSP Part 3 - Extend mitigation policies in this part so applicable to undesignated rocky habitat sites > ORS 469 - Regulation of Energy Facilities (related or supporting facilities), enforceable policies need to be updated, if applicable > OAR 345 - Energy Facility Siting Standards (related or supporting facilities) are not included in enforceable policy suite for federal consistency, if applicable. Could some of these be used with OSW, primarily the onshore components? Could they be adapted to offshore components? > ORS 757 - Wildfire protection plan standards are not included in enforceable policy suite for federal consistency **STRENGTHEN** > Establish a mitigation hierarchy, ensuring that coastal communities and the state receive tangible benefits **ISSUE/NEED** > Geological standards may or may not be present through some local or state codes requiring land-based components to avoid geologically unstable areas. > Waste deposition plan, management of environmental impacts of unexpected events. > Local - Engage local governments and state agencies regarding the effects and potential gaps resulting from 1) construction, 2) natural disaster, 3) failure, 4) decommissioning of offshore and onshore components, and 5) waste management. Some policies may be better addressed at the state level, while onshore components may warrant local government policies to address impacts. Local governments are concerned about construction impacts (lights, transportation, frac-out, drilling fluids and waste), natural disaster or failure waste, decommission waste, waste disposal site limitations or nonexistent (trucked out), recycling of materials, response plan and

Effect of Interest	Effect Details	Enforceable Policies (existing and potential)	Policy Strongest or Most Applicable Excerpt	Policy Strengthening Issues, Needs, Gaps, or Wishlist
			customers and promote electrical system resilience to wildfire damage. **ORS 757.966**, Consumer-owned utility required to develop wildfire mitigation plan. (2) A consumer-owned utility must have and operate in compliance with a risk-based wildfire mitigation plan approved by the governing body of the utility. The plan must be designed to protect public safety, reduce risk to utility customers and promote electrical system resilience to wildfire damage. **Local plans and codes** may have siting standards for development in geologically unstable areas. Development in hazardous areas is discouraged or restricted under Goals 7, 17, 18.	clean up, and inaccessible beach due to emergency event. Therefore, it will be beneficial to work with local governments to identify and amend policy gaps in their compatibility standards applicable to onshore components of an offshore energy project.
Community Benefits - Effects related to Community Benefit definition and agreements. This may include economic development or community benefit policies.	*See listed policy gaps*			**GAPS** (Potential) > Community Benefit Agreements * Definition of "Community Benefit" * Overarching state policy but community-specific agreement but with sideboards (and components) set by state. * Things to consider: 1) Voluntary or with cost and time values? 2) non-monetary values and benefits? 3) Establish a standard set of agreements that would get incorporated into any contract, and those agreements could be developed collaboratively. * Local - Local government concerns regarding effects resulting from construction, natural hazard, failure, and decommissioning that may be incorporated into a community benefit agreement and that include: 1) Construction impacts (lights, transportation, frac-out, drilling fluids and waste), 2) Natural disaster or failure waste, 3) Decommission waste, 4) Disposal Site limitations or nonexistent (trucked out), 5) Recycling of materials, 6) Response Plan and clean up, 7) Inaccessible beach due to event * Local - There are a variety of issues and concerns at the local level. These issues may or may not be tied to an enforceable policy but could possibly be addressed in a community benefit agreement or other type of agreements. Generally, responsible new development that has community engagement throughout the process would be beneficial and may touch on impacts to required workforce housing, infrastructure improvements, fishing heritage and other community impacts (e.g., schools). It may also address constraints found with land availability, waterway infrastructure, zoning, topography, developers, etc. > Economic development or community benefit policies: Explore the potential to create a policy stating that net benefits must outweigh costs to affected communities, which could provide the legal basis for enforceable community benefit agreements being a requirement for federal consistency review of an offshore wind project Construction and Operations Plan or potentially a shoreside port infrastructure improvement.

Effect of Interest	Effect Details	Enforceable Policies (existing and potential)	Policy Strongest or Most Applicable Excerpt	Policy Strengthening Issues, Needs, Gaps, or Wishlist
Adaptive - Effects related to Adaptive Management	*See listed policy gaps*	**TSP Part 5**	**TSP Part 5**, Uses of the Territorial Sea > Policy D.3. Project Operation Plan. An operation plan is required that describes, at a minimum, information regarding the routine environmental monitoring, safety management and emergency response procedures, facility inspections, and the decommissioning of the project. The operation plan shall explain the procedures and mechanisms that will be employed so that the facility will comply with regulatory standards and other conditions of permit or license approval related to water and air quality, environmental protection and mitigation, facility maintenance and safety, operational failure and incident reporting. An operation plan shall include the following information… * Policy D.3.d. Adaptive Management Plan. An adaptive management plan to provide a mechanism for incorporating new findings and new technologies into the operation and management of the project. The adaptive management plan shall include performance standards that are based on results of the resource inventory and effects evaluation and incorporated in the study design of the monitoring plan as described in paragraph C.3.c (Monitoring Plan)….	**GAPS** (Potential) > Adaptive Management, generally and generational adaptation > TSP Part 5 * *Oregon's offshore wind governance: Policy analysis, process evaluations, and the future of offshore wind development in Oregon* found, "The absence of enforceable mechanisms in the TSP [Part Five] for lifecycle project evaluation significantly impairs the effectiveness of informed, adaptive management planning. The gap of enforceable mechanisms in the TSP is likely to result in insufficient data on environmental and community impacts throughout projects lifespan within the federal consistency review window, weakening the foundation for a robust environmental monitoring plan. …. The TSP should include enforceable requirements for lifecycle analysis of proposed offshore wind projects, which can be utilized to support informed long-term environmental monitoring requirements and clearly defined adaptive management thresholds. To achieve this, new environmental and community impact data may be required." (Baldinger, et. al., 2025) * Provide greater clarity on what makes an acceptable adaptive management plan, which may include decision rules, mitigation/compensation triggers, operational change triggers, cooperative frameworks for reviewing incoming information, or something similar.
Miscellaneous effects related to > Local Plans and Codes gaps and concerns	*See listed policy gaps* > Local plans and code that have been amended but have not been submitted to NOAA for approval. These amendments may fill existing or potential gaps at the local level and address any effects identified here.	**Local Plans and Codes**	**Local plans and codes**	**ISSUE/NEED** > Local - Plans and codes that have been amended but have not been submitted to NOAA for approval. These amendments may fill existing or potential gaps at the local level and address any effects identified in this table where local plans and codes are triggered. > Local - Zoning limitations such as multiple overlay zones that could hinder development either now or if amended (intentionally). > Local - Land availability (some have it, some don't). * Industrial/General Land Availability – NO GOOD - Nonexistent, occupied, less than ideal. Based on constraints with location, infrastructure (bridges, water supply), ownership interests, other zoning, topography, historic uses, UGB, and other issues. * Industrial Land Availability – WE HAVE SITES – Looking for opportunities > Local - Community resistance (e.g., ballot measure or other strong opposition) > Local - Onshore components may not be reviewed equally among coastal communities. > Local - Concern that local review would be removed or overridden by Oregon legislature or state agency.
PUBLIC ENGAGEMENT - Optimize the Offshore Wind Permitting Process				
Effective public engagement		**TSP Parts 4, 5 JART** **15 CFR 930.61** (Federal Consistency Public Engagement) **National Environmental Policy Act** **Statewide Planning (SP) Goals 1, 19** **DSL/DLCD/OPRD/Local** public process requirements for permits **Local Plans and Goals** (related to Goal 1)	**Goal 1**, Citizen Involvement **Local plans and codes** include procedures regarding noticing and citizen involvement. Tribal engagement is incorporated into some local codes or through agreements, where applicable.	**GAP** > TSP Parts 4/5 - Consider expanding the JART composition to include all Nine Federally Recognized Tribes in Oregon > TSP Parts 4/5 - Consider improving, expanding, clarifying various aspects of the JART > Ensure there is a plan in place for tribal communication. > Add Federal Consistency coordination step where we ask Tribal governments for related policies? > SP Goal 1 - Goal 1 may be perceived as insufficient in creating meaningful public engagement and may have been ignored by agencies and local governments. Review Goal 1 for potential enforceable policies and conduct an evaluation of policy gaps that could provide more meaningful standards of engagement under Goal 1. > The non-federally recognized Tribes of Oregon, as noted in *Oregon's offshore wind governance: Policy analysis, process evaluations, and the future of offshore wind development in Oregon*, "face barriers when seeking to engage with state government agencies and entities, but there are identified best practices for engaging with Tribes." The report continues by suggesting, "Oregon should consider creating an Offshore

Effect of Interest	Effect Details	Enforceable Policies (existing and potential)	Policy Strongest or Most Applicable Excerpt	Policy Strengthening Issues, Needs, Gaps, or Wishlist
				Wind Tribal Working Group to engage both federally and non-federally recognized Tribes." (Baldinger, et. al., 2025) > *Oregon's offshore wind governance: Policy analysis, process evaluations, and the future of offshore wind development in Oregon* states, "To support agencies, developers, and communities as they navigate the complex permitting and engagement process for offshore wind development, Oregon state agencies should continue and expand their efforts to clarify timelines, with clear engagement points highlighted. The creation of a publicly accessible permitting and engagement guide could serve as a resource for communities, Tribes, developers, and other interested parties." (Baldinger, et. al., 2025) > As a best practice, consider exploring adding a Federal Consistency coordination step where the state asks the Nine Federally Recognized Tribes in Oregon for relevant policies applicable to a proposed project, such as offshore energy development. > Local - Assist local communities with available resources (basic and factual) for public education and outreach, in addition to, the development of staff (e.g., FAQ, brochures, technical resources, subject matter experts) > *Oregon's offshore wind governance: Policy analysis, process evaluations, and the future of offshore wind development in Oregon* suggests, "Oregon should seek to establish a memorandum of understanding(s) or agreement(s) with BOEM and/or BSEE to clarify roles and responsibilities – and potentially consider including other relevant federal agencies in this process."-(Baldinger, et. al., 2025) > *Oregon's offshore wind governance: Policy analysis, process evaluations, and the future of offshore wind development in Oregon*, suggests, "To support agencies, developers, and communities as they navigate the complex permitting and engagement process for offshore wind development, Oregon state agencies should continue and expand their efforts to clarify timelines, with clear engagement points highlighted. The creation of a publicly accessible permitting and engagement guide could serve as a resource for communities, Tribes, developers, and other interested parties." (Baldinger, et. al., 2025)

APPENDIX D: ADDITIONAL INFORMATION ABOUT OFFSHORE WIND IN THE OREGON CONTEXT

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[Note: This is a placeholder appendix that preserves the more detailed information removed from Section 1 of the Roadmap main body. It will be expanded and refined in a later revision.]

Current Status of Offshore Wind in Oregon

In Oregon, the conversation around offshore wind is framed within the larger goal of expanding renewable energy to 50 percent of all electricity generated from the large utilities by 2040[36] and to reduce emissions from Oregon's large electricity service providers to 100 percent below baseline emissions levels by 2040. These emission reduction targets are driving much of the interest in renewable energy.[37]

Since 1979, there has been broad scientific consensus on the impact on climate change on our planet and the need to pass a global treaty to effectively reduce global emissions to avoid costly human and environmental impacts[38,39]. In 2016, the Paris Climate Accords established a non-enforceable treaty to limit global warming potential from 2° Celsius change to 1.5° Celsius change[40]. According to World Resource Institute and the International Panel on Climate Change, different global warming trajectories, ranging from 1.5°C to 5°C, can result in escalating catastrophic consequences, including sea level rise, ocean acidification and hypoxia, increased frequency of extreme weather events, widespread food shortages, large scale human displacement, and large-scale ecosystem collapse.[41],[42], To reduce the greenhouse gas emissions driving these threats and uphold a value of intergenerational justice, global collective action is required to decarbonize the world's energy system, while balancing the need to prevent decarbonized energy

[36] Relating to Public Utilities, SB 1547. (2016). Accessed at https://www.oregon.gov/energy/energy-oregon/pages/renewable-portfolio-standard.aspx.
[37] Clean Energy Targets Bill, HB 2021. (2021). Accessed at https://www.oregon.gov/deq/ghgp/Pages/Clean-Energy-Targets.aspx#:~:text=In%202021%20Oregon%20State%20Legislature,with%20the%20electricity%20they%20provide
[38] https://nap.nationalacademies.org/catalog/12181/carbon-dioxide-and-climate-a-scientific-assessment
[39] World Resources Institute: https://www.wri.org/insights/climate-change-effects-cities-15-vs-3-degrees-C
[40] https://unfccc.int/process-and-meetings/the-paris-agreement
[41] World Resources Institute: https://www.wri.org/insights/climate-change-effects-cities-15-vs-3-degrees-C
[42] https://www.ipcc.ch/report/ar6/syr/

development from creating additive adverse effects to local and regional environmental, economic, and social systems.

Offshore wind may also be an effective way to meet Oregon's growing electricity demand in the coming decades. Modeling conducted in support of the 2025 Oregon Energy Strategy forecasted that the total electricity demand could be approximately double the current generation capacity for the state[43]. This projected increase is led by the conversion of the transportation sector to electricity instead of fossil fuels and demand growth from the tech industry such as data centers and chip manufacturing facilities. Meanwhile, the electricity Oregon generates derives approximately 62 percent from non-greenhouse gas emitting resources, with the hydroelectric system comprising the majority at 51 percent of in-state electricity generation. However, much of Oregon's electricity demand is met by resources imported from other states. When accounting for electricity imports, the state meets approximately 50 percent of its demand from non-emitting resources today. To achieve state energy goals of 100 percent clean energy, the state must not only replace half of its current electricity with renewable resources, but it must also meet the challenge of a doubling in electricity demand with a renewable energy supply during the next 30 years.[44]

In a regional context, a technical study from 2019[45] projected that 80 GW of new solar and wind capacity is needed to meet the Pacific Northwest's collective greenhouse gas reduction goals by 2050, which is roughly eight times the amount of solar and wind the region has added during the past 20 years (ODOE, 2022). The Northwest Power and Conservation Council (NWPCC) included modeling results in its 2021 Northwest Power Plan that projected an estimated need to add more than 350 GW of new renewables across the entire Western electric grid by 2041 to meet load growth expectations and all the various requirements of western electric utilities, including the clean energy targets of all western states[46].

Ocean atmospheric conditions offshore Oregon, combined with the energy demand profile in the Pacific Northwest, are well suited for offshore wind energy. Wind speeds are especially high off Oregon's southern coast, but all areas offshore Oregon consistently have high enough wind speeds to support offshore wind energy. The map below shows the annual average wind speeds offshore Oregon along with the five electrical transmission lines and substations that connect the coast to the rest of the state. All energy demand

[43] https://www.oregon.gov/energy/Data-and-Reports/Documents/2025-OES-Technical-Report.pdf#page=28
[44] https://www.oregon.gov/energy/Data-and-Reports/Documents/DRAFT-Oregon-Energy-Strategy.pdf
[45] https://github.com/cleanenergytransition/mtc-report-EER-technical-report/raw/gh-pages/EER_Northwest_Deep_Decarbonization_Pathways_Study_Final_May_2019.pdf?raw=true
[46] https://www.nwcouncil.org/fs/17680/2021powerplan_2022-3.pdf

from coastal communities is served through these connections, and there is currently no significant electricity generation west of the Coast Range.

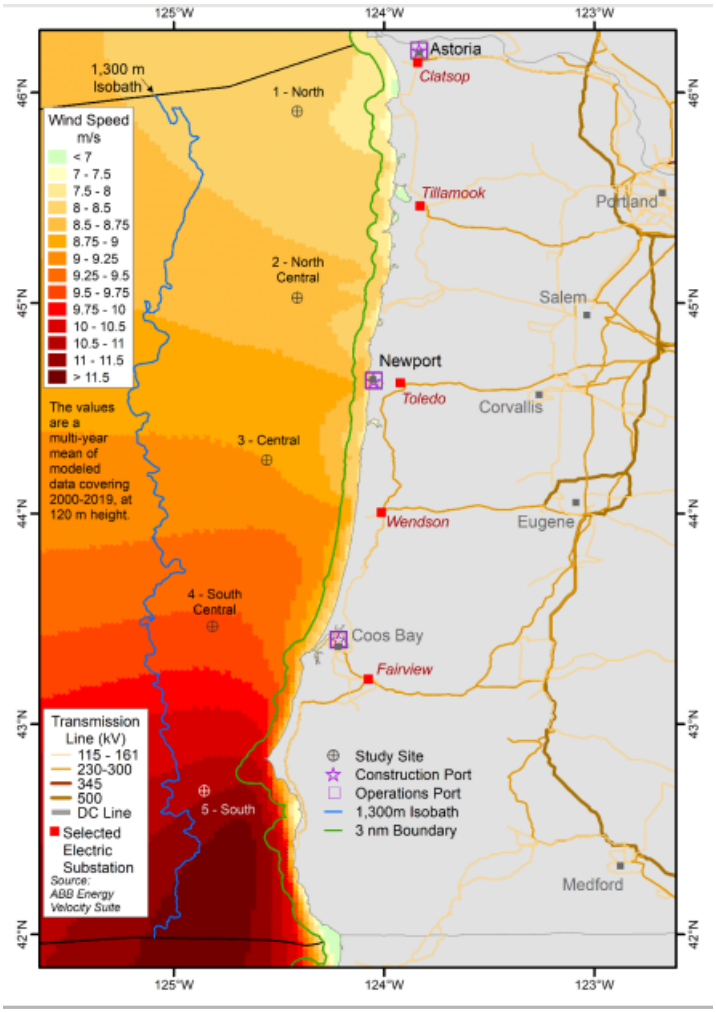


Figure 2. Annual average wind speeds offshore Oregon along with electrical transmission lines and substations. (Source, PNNL, 2020)

Current Status of Offshore Wind in Oregon

In December 2010, Governor Kulongoski requested the establishment of a state-federal task force to address the use of the ocean for renewable energy development. The Governor designated the Oregon Department of Land Conservation and Development (DLCD) Coastal Management Program (OCMP) as the State agency lead to coordinate with BOEM. Meetings began in 2011 through 2014, when meetings were paused for several years. In 2019, responding to industry interest in offshore wind development, the Task Force initiated a conversation among federal, Tribal, state, and local governmental bodies regarding potential offshore wind planning offshore Oregon. In 2020, BOEM and the State

committed to move forward with offshore planning in Oregon.[47] BOEM led the Task Force, composed of state, local, federal, and Tribal government entities, to perform preliminary planning and analysis. The task force engaged with the public, developers, and other interested parties to inform the identification of call areas.

In 2021, House Bill 3375 (2021) required the Oregon Department of Energy (ODOE) to develop a legislative report that identifies the benefits and challenges of integrating up to 3 GW[48] of floating offshore wind by 2030, consistent with the planning goal established in House Bill 3375[49]. ODOE completed the Floating Offshore Wind Study Report in 2022[50].

After a multi-year siting process, BOEM designated two Wind Energy Areas (WEA) off the coast of Coos Bay/Reedsport and Brookings in 2024. BOEM then announced an intent to conduct a leasing auction for the two WEAs, for the purpose of exploring offshore wind energy development projects.

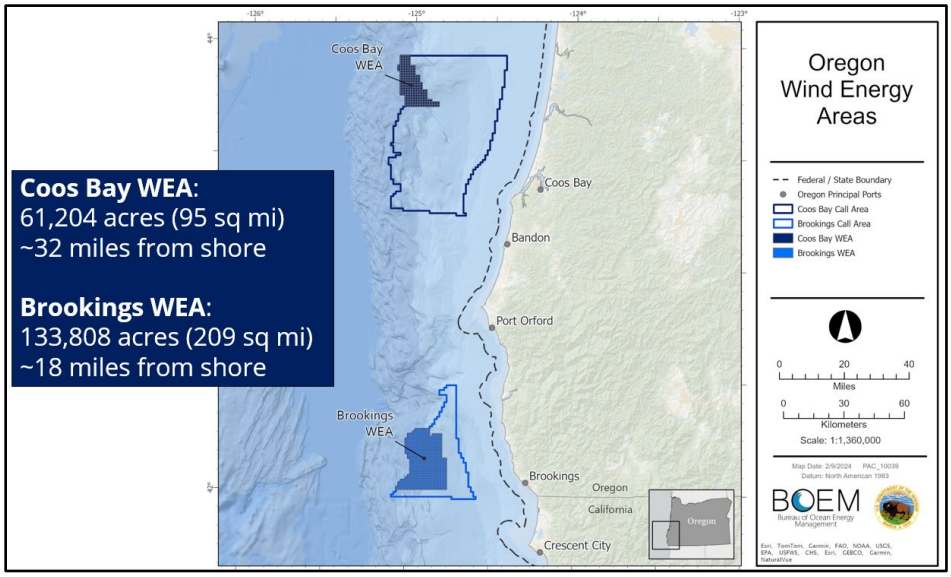


Figure 3. BOEM-Designated Wind Energy Areas off the Coast of Oregon (2024).

[47] https://www.boem.gov/sites/default/files/documents/regions/pacific-ocs-region/BOEM-OR-OSW-Engagement-Plan.pdf

[48] 1 gigawatt (GW) = 1,000 megawatts (MW). For example, the nameplate capacity of the Bonneville Hydropower Dam is 1.2 GW (1,200 MW). Nameplate capacity indicates the maximum amount of electricity a resource is technically capable of generating at a single point in time.

[49] HB 3375 includes a legislative finding and declaration of a state goal to plan for the development of up to 3 GW of OSW within the federal waters off the Oregon coast by 2030. It is important to note that the state goal to plan for OSW development is not a deployment target and does not mandate or incentivize the procurement of OSW by Oregon utilities, nor does it represent either a "floor" or "ceiling" to potential OSW development off Oregon's coast over the near or long-term.

[50] https://www.oregon.gov/energy/Data-and-Reports/Documents/2022-Floating-Offshore-Wind-Report.pdf

Before the federal agency leasing activity could proceed, BOEM was required under the federal Coastal Zone Management Act to submit the proposed leasing action for Federal Consistency review by the State of Oregon. Federal Consistency review is a mechanism by which states may evaluate proposed federal actions with coastal effects against that state's relevant enforceable policies. The outcome of a review may be a **concurrence** that the action is consistent, **objection** to the action based on an inconsistency with state enforceable policies, or a **concurrence with conditions** that would make the action consistent if applied.

The issuance of a lease grants the leaseholder the exclusive right to conduct site assessments and to submit to BOEM a Site Assessment Plan (SAP) and/or a Construction and Operations Plan (COP) at a future date. A reasonably foreseeable effect of the issuance of the leases is that leaseholders would conduct environmental and site assessments in the lease areas and on the Outer Continental Shelf, such as vessel surveys, geotechnical exploration of the seafloor, and placement of anchored meteorological buoys. However, it is important to note that the decision to lease areas of the Outer Continental Shelf for offshore wind characterization and exploration activities does not equate to a decision to permit the construction or operation of an offshore wind development project. A BOEM decision whether to approve a Construction and Operations Plan for an actual wind energy facility would be subject to Federal Consistency review by the state at a later time, after years of additional site assessment and project design.

In mid-2024, the Oregon Coastal Management Program began its Federal Consistency review[51], which involved close coordination with its network of state agency partners and a public engagement process that included five public meetings (one virtual and four in-person on the Oregon coast) and a public comment period. The OCMP also coordinated with the Nine Federally Recognized Tribes of Oregon during the review. After considering the feedback received from its agency partners, the tribes and the public, the OCMP issued a concurrence that the leasing action would be consistent with state policies, provided BOEM agreed to 19 conditions that included topics such as environmental safeguards during surveying activities, ongoing state involvement in survey plan reviews,

[51] https://www.oregon.gov/lcd/ocmp/pages/offshore-wind-energy-leasing.aspx

and engagement with Tribes, fishing communities, and local communities[52]. BOEM agreed to all conditions.

Due to several factors, including insufficient bidder interest, significant Tribal opposition and litigation, and the knowledge that the state was embarking on a Roadmap effort under HB 4080, BOEM postponed the Oregon leasing auction in September 2024. Simultaneously, Governor Kotek withdrew Oregon from the Oregon Intergovernmental Renewable Energy Task Force. In a letter to the Bureau, the Governor cited the need to complete the Oregon Offshore Wind Energy Roadmap before a lease sale; concerns of tribes, sectors, and the public; the risks that a failed lease process would pose to Oregon's developing supply chain industry; and potential risks to offshore ecosystems; while also stating her confidence "that offshore wind holds exciting promise to be part of our nation's clean energy future" (Kotek 2024[53]). However, in August 2024, the state did receive an inquiry regarding the potential to locate a fixed-bottom offshore wind project in state waters off Camp Rilea on the north coast. While there has been no formal follow up to this initial inquiry, it illustrates how the standards and processes in this Roadmap should be inclusive of a variety of potential offshore wind proposals.

Development of the Offshore Wind Energy Roadmap began in September 2024. In July 2025, the new federal administration rescinded all Wind Energy Areas in the United States, including the two off the coast of Oregon (further discussed below).

Status of Offshore Wind in the United States

In 2021, the Federal administration established an ambitious domestic goal of deploying 30 gigawatts (GW) of offshore wind energy by 2030. In 2022, the administration set an additional goal of deploying 15 GW of floating offshore wind energy by 2035 to encourage the development of this resource in deep-water sites like the Pacific Coast and the Gulf of Maine.[54]

[52] https://www.oregon.gov/lcd/OCMP/Documents/20240717FedConsistencyDecision_BOEM-OSW-Leasing_signed.pdf

[53] https://www.opb.org/pdf/GovernorKoteklettertoBOEMDirectorKlein_1727455319170.pdf

[54] The White House. (2022). FACT SHEET: Biden-Harris Administration Announces New Actions to Expand U.S. Offshore Wind Energy. Accessed at https://bidenwhitehouse.archives.gov/briefing-room/statements-releases/2022/09/15/fact-sheet-biden-harris-administration-announces-new-actions-to-expand-u-s-offshore-wind-energy/.

Figure 4. Map of the United States depicting offshore wind speeds and nighttime light emissions, with the latter representing relative differences in electricity demand in different parts of the country. (NREL)

The United States has three fully constructed and operational offshore wind energy projects totaling 174 megawatts [MW], as of October 2024[55]. These projects are the Block Island Wind Farm, installed off Rhode Island in 2016; Coastal Virginia Offshore Wind, the first phase of which was installed off of Virginia in 2020; and the South Fork Wind Project, installed off of Rhode Island in 2024. Projects under construction in October 2024 totaled 4,097 MW, and projects totaling more than 15 GW had been approved for construction by the federal government as of September 2024[56]. Several other areas off the east coast have been leased for offshore wind development but have not yet obtained the necessary authorizations to proceed to construction. Recent federal policy changes discussed below make the future of these projects uncertain. All of the projects on the east coast involved fixed-bottom turbines, whereas offshore wind on the west coast would most likely be floating due to the depth of the continental shelf.

In 2022, BOEM issued five leases in federal waters off California, and the winning leaseholders are currently in the process of exploring the lease areas and preparing permit applications and Construction and Operation Plans for federal, state, and local government review. The California Energy Commission, Governor, and legislature have

[55] https://windexchange.energy.gov/markets/offshore
[56] https://www.4coffshore.com/windfarms/united-states/

committed to developing 2 to 5 gigawatts (GW) of OSW by 2030 and 25 GW by 2045[57]. Additionally, the state and developers recognized that coastal port infrastructure requires new construction and upgrades to support the specialized equipment required by industry. Two ports were identified for development into OSW hubs: Humboldt Bay and the Port of Long Beach.

The Humboldt Harbor District has publicly committed to developing approximately 168 acres on the Samoa Peninsula as the "Humboldt Bay Heavy Lift Multipurpose Marine Terminal" to support OSW energy development.[58] The Port of Long Beach has also announced plans to develop the Pier Wind Project, which could serve as a multi-function site that could fully support offshore wind development needs.[59] This proposed 400-acre project is expected to cost between $3.3 billion and $7.0 billion.[60]

In 2024, California passed Proposition 4, a $10 billion climate bond, which included $475 million for the purpose of OSW-related port upgrades. The Humboldt project also received a $426 million grant from the US Department of Transportation under the previous federal administration, but this funding was rescinded in August 2025 under new federal direction. Given the large cost of these infrastructure projects, it is expected that additional state and federal funding will be needed to realize these projects.

Under the current administration, the policy approach to offshore wind has shifted. In January 2025, the White House issued an Executive Memorandum titled, "Temporary Withdrawal of All Areas on the Outer Continental Shelf from Offshore Wind Leasing and Review of the Federal Government's Leasing and Permitting Practices for Wind Projects"[61]. This Memorandum withdraws all areas of the Outer Continental Shelf (federal waters) from further leasing for the purposes of offshore wind until the Memorandum is revoked. The Department of the Interior was also directed to, "conduct a comprehensive review of the ecological, economic, and environmental necessity of terminating or amending any existing wind energy leases, identifying any legal bases for such removal, and submit a report with recommendations to the President, through the Assistant to the President for

[57] https://www.energy.ca.gov/programs-and-topics/topics/renewable-energy/offshore-renewable-energy/wind-toward-25-gw-offshore

[58] Humboldt Bay Harbor, Recreation, and Conservation District, "Humboldt Bay Offshore Wind Heavy Lift Multipurpose Marine Terminal Project—Draft Project Description," May 3, 2023, https://humboldtbay.org/sites/humboldtbay.org/files/Marine%20Terminal%20-%20ProjectDescription%20-%202023%200510.pdf

[59] https://www.nrdc.org/sites/default/files/2025-05/CA_Offshore_Wind_R_25-05-A_06_locked.pdf

[60] https://polb.com/download/547/pier-wind/17042/2023-04-20-pier-wind-concept-report-final.pdf

[61] https://www.whitehouse.gov/presidential-actions/2025/01/temporary-withdrawal-of-all-areas-on-the-outer-continental-shelf-from-offshore-wind-leasing-and-review-of-the-federal-governments-leasing-and-permitting-practices-for-wind-projects/

Economic Policy." The Memorandum further directed all federal agencies to, ". . . not issue new or renewed approvals, rights of way, permits, leases, or loans for onshore or offshore wind projects pending the completion of a comprehensive assessment and review of Federal wind leasing and permitting practices.

In July 2025, the Bureau of Ocean Energy Management issued a press release declaring that all existing Wind Energy Areas, including the two offshore Oregon, have been rescinded.[62] This action was part of implementing *Secretarial Order 3437 - Ending Preferential Treatment for Unreliable, Foreign Controlled Energy Sources in Department Decision-Making*.[63] The current BOEM regulations require the establishment of "area identification" prior to any lease auction for offshore wind, so the rescission of the Oregon WEAs essentially removed a viable area identification that would allow BOEM to proceed to leasing under the regulations. It is unclear whether the federal government would seek to re-establish the same WEAs in the future or whether the leasing process would need to restart at the "call area" stage prior to formal area identification through WEAs or other administrative means.

In August 2025, the Department of Interior announced that it is launching an overhaul of the offshore wind regulations, including the Renewable Energy Modernization Rule that was promulgated in 2024 and directly regulates the issuance of offshore wind leasing.[64] The outcome of this overhaul is uncertain at this time but could lead to additional changes to the process and standards for offshore wind leasing in the future.

Global Offshore Wind Status and Outlook

As of 2025, 83 GW of offshore wind are installed worldwide, with 8 GW installed in 2024 (a decrease from 11 GW in 2023). The global offshore market grew on average by 10 percent each year in the past decade, and the total installation amount represents 7.3 percent of total global wind capacity as of the end of 2024[65]. The countries leading development of offshore wind are China, the UK, Taiwan, Germany, and France, which together comprise 94 percent of the new additions in 2024 (GWEC Global Wind Report 2025; Global Offshore Wind Report 2025),[66]. Other leading countries include the Netherlands, Denmark, and Belgium. Continued growth of offshore wind faces challenges related to rises in commodity

[62] https://www.boem.gov/newsroom/notes-stakeholders/boem-rescinds-designated-wind-energy-areas-outer-continental-shelf
[63] https://www.doi.gov/document-library/secretary-order/so-3437-ending-preferential-treatment-unreliable-foreign
[64] Interior Launches Overhaul of Offshore Wind Rules to Prioritize American Energy Security | U.S. Department of the Interior
[65] GWEC Global Wind Report 2025.pdf
[66] GWEC's Global Offshore Wind Report

prices, cost of labor, logistics, and higher costs of capital due to interest rates and risk premiums, which affect the economic viability of new projects. International trade barriers and tariffs are also likely to present challenges to economic viability of projects. Other challenges include grid infrastructure upgrade needs, social acceptance, and in some areas local content requirements that mandate local sourcing of supply chain materials for offshore wind platforms and components. The levelized cost of energy (LCOE) for US offshore wind projects increased 50 percent from 2021 to 2023 due to inflation, the rising cost of capital, permitting delays, grid connection challenges, and an urgent need to establish local supply chains, but a 2024 report from NREL estimated that costs for floating OSW in the US could decrease by around 31% by 2035 (to $136/MWh) and 52% by 2050 (to $95/MWh) as the industry matures and growing deployment enables industry learning.[67]

Despite the challenges brought by inflation, increased capital costs, supply chain constraints, grid connection delays, and regulatory uncertainty in the US market, annual growth of the global offshore wind capacity is expected to increase from 8 GW in 2024 to 34 GW in 2030 (GWEC Global Offshore Wind Report 2025).

Specific to floating offshore wind, as of July 2025, there are five operational projects totaling 221 MW, all of which are either demonstration-scale or early commercial[68]. These include:

- Hywind Demo (Norway)
- Hywind Scotland (UK)
- WindFloat Atlantic (Portugal)
- Kincardine (UK)
- Hywind Tampen (Norway)

Additional projects are currently planned for South Korea (FireFly/Ulsan project – 800MW), Scotland (Green Volt – 560MW; Stromar and Salamander – 100MW-1GW).

The deepest installed floating wind array is the Hywind Tampen project, which is installed in 300 meters (984 ft) water depth. By comparison, the proposed theoretical depth limit for installation offshore Oregon is 1,300 meters (4,265 ft). A project proposed in Italy would be installed in 300-900 meters of water depth. Developers are in the process of designing and

[67] https://docs.nrel.gov/docs/fy24osti/88988.pdf
[68] https://flotationenergy.com/how-many-floating-offshore-windfarms-are-there-in-the-world/#:~:text=Green%20Volt%20Offshore%20Windfarm,the%20future%20of%20that%20industry.

certifying floating wind foundations capable of installation up to 1,300 meters and up to 15 MW capacity per turbine, with plans to increase capacity up to 21 MW[69].

Oregon Offshore Wind Permitting Process and Roles

The regulatory and permitting process associated with an offshore wind project is complex, involving multiple entities at multiple scales of government. Within each project, there may be multiple components, such as shoreside support facilities, navigation channel modifications, transmission infrastructure improvements, and the offshore installation itself, which may require separate but interdependent permitting processes. The 2022 Oregon Department of Energy Floating Offshore Wind Study provides an overview of the federal and state roles and processes related to offshore wind energy permitting.[70] Relevant information is reproduced in this section.

The table and figures below outline the collection of federal, state, and local permits, authorizations, and consultations that would be required before an offshore wind project installation would be allowed to proceed. The primary authorizations for a project located in federal waters would be a Construction and Operations Plan from the Bureau of Ocean Energy Management and a permit issued by the US Army Corps of Engineers under the Clean Water Act and the Rivers and Harbors Act. These federal authorizations also trigger the need for an assessment of environmental impacts under the National Environmental Policy Act and for a Federal Consistency review by the state under the Coastal Zone Management Act. Altogether, the permitting process for an offshore wind project may take multiple years of coordinated effort, and the need for information is likely to be significant. Figure X depicts the multiple permitting processes and consultations that would be involved in the decision whether to approve an offshore wind project. This process would occur after leasing has occurred and the leaseholder has conducted years of site investigation and permit application development.

[69] https://knowledge.odfjelloceanwind.com/news/odfjell-oceanwind-launches-the-deepsea-star-15mw-floating-wind-foundation

[70] https://www.oregon.gov/energy/Data-and-Reports/Documents/2022-Floating-Offshore-Wind-Report.pdf

Figure 5. Regulatory Overview Pictogram for an Offshore Wind Installation in Federal Waters (does not include transmission projects or shoreside facilities beyond cable landing).

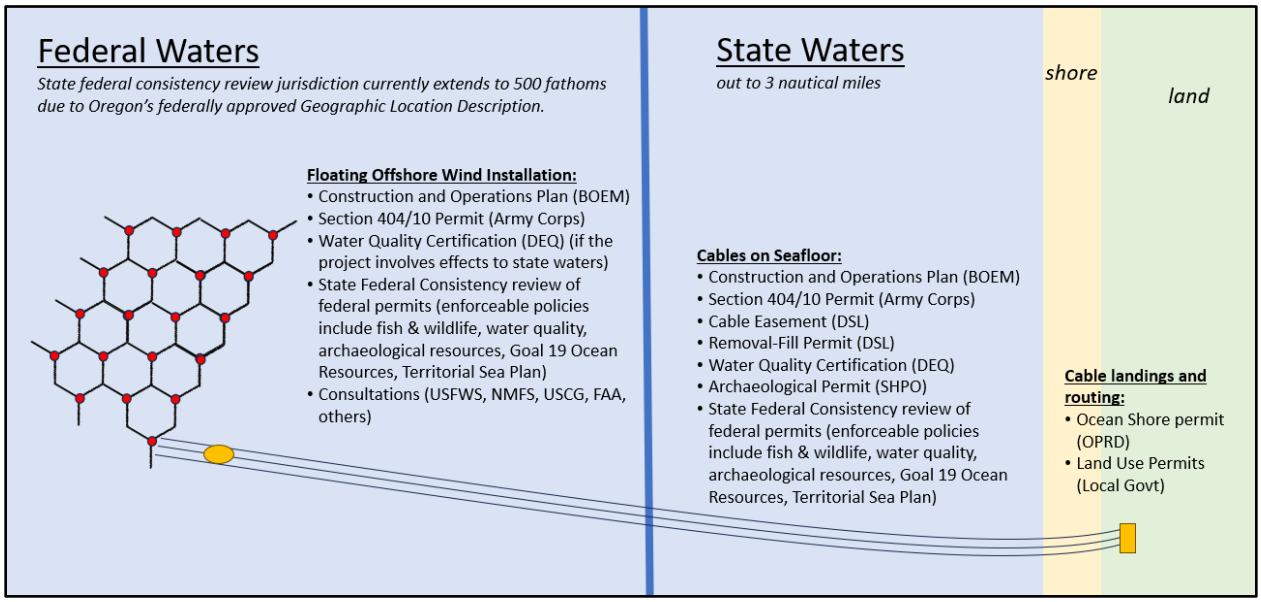
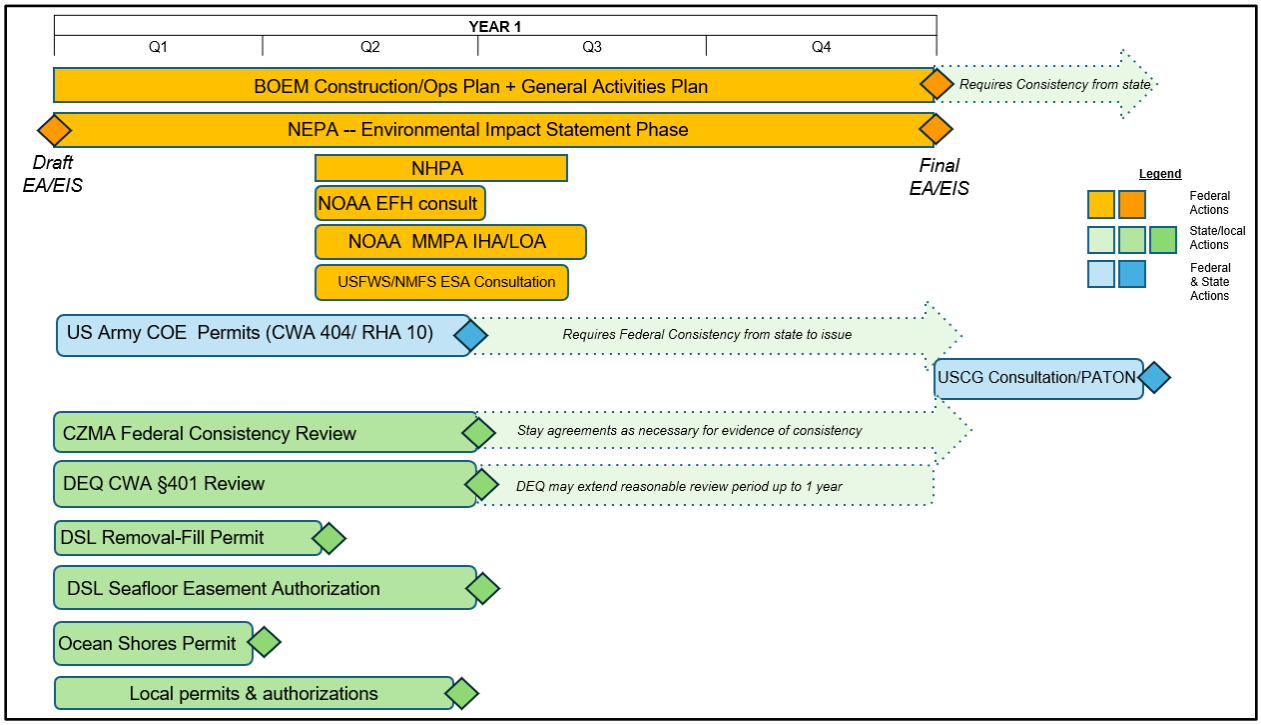


Table 1. Table: Regulatory Overview of an Offshore Wind Installation. Aspects included in Federal Consistency review are shaded in salmon color.

Authority	Agency	Application	Decision Type	Purpose
Federal Regulatory	BOEM	Construction & Operations Plan	Approval to Develop	Approves the use of the Outer Continental Shelf to produce energy.
	US Army Corps	§ 404 (CWA) § 10 (RHA)	Permit Permit	Regulates discharges to waters of the United States and permits construction of structures in or over any navigable water of the US.
Federal Consultation	NOAA NMFS	Magnuson Stevens & MMPA	Biological Opinion	Conserve Essential Fish Habitat for fish; marine mammals
	USFWS	ESA Consultation	Biological Opinion	The action should not jeopardize endangered populations or critical habitat.
	US Army Corps	NHPA §106 Consultation	Report, MOA	Protect historical properties and archaeological resources
State/Fed Delegated Authority	DEQ	§ 401 CWA Beneficial Use	§ 401 Certification	Protection of water quality standards
	DLCD/ OCMP	Consistency Certification + Necessary Information	Federal Consistency	Federal licenses and permits must be fully consistent with state enforceable policies
State Agency Regulatory Authority	DSL	Removal-Fill	Permit	Protect wetlands and waters for home, commercial, wildlife habitat, public navigation, fishing and recreational uses.

		Proprietary Lease	Lease	Manage state submerged and submersible lands in the public trust.
	OPRD	Ocean Shore	Permit	Approve ocean shore alterations and protect the free and uninterrupted use of ocean shores
	OPRD-SHPO	Archaeological Resources	Permit	Protect historical properties and archaeological resources
State Consultation	ODFW		Consultation	Protection and enhancement of fish and wildlife and their habitats
	ODOE		Consultation	
Local Government	City or County	Permit (Conditional Use)	Land Use	Shoreside portions of projects must be consistent with Oregon Statewide Planning Goals

Figure 6. Regulatory processes and timelines related to review of an offshore wind energy project Construction and Operations Plan and US Army Corps of Engineers Section 404/10 Permit (occurring up to five years post-leasing). This figure represents an idealized



Offshore Wind Projects in Federal Waters – Federal Authorities and Roles

From a regulatory standpoint, offshore wind projects could be located in federal or state waters. To date, Oregon has asked the offshore wind industry to focus on federal waters

adjacent to Oregon's coast[71]. Federal waters begin where Oregon's Territorial Sea ends (state waters end three nautical miles from the westernmost point of land) and extends out to 200 nautical miles. Oregon's policy preference to consider federal waters is in part based on the likelihood of increased conflicts closer to shore, including viewsheds, fisheries/navigational conflicts, avian species risks, entanglement and acoustic effects on marine species closer to shore, and other recreational uses.

Federal Bureau of Ocean Energy Management (U.S. Department of Interior)

BOEM is responsible for the leasing of ocean areas in federal waters and is the lead agency for siting and permitting potential OSW projects sited off Oregon's coast. BOEM's mission is to facilitate the responsible development of renewable energy resources on the Outer Continental Shelf through conscientious planning, stakeholder engagement, comprehensive environmental analysis, and sound technical review.

The Energy Policy Act of 2005 authorized the development of regulations for the Outer Continental Shelf Renewable Energy Program. This regulatory framework provides a process for issuing leases, easements, and rights-of-way for offshore wind projects, which require environmental review and significant site-specific research prior to the siting of offshore facilities. Each project is subject to a review under the National Environmental Policy Act as well as consultations with the National Marine Fisheries Service and the U. S. Fish and Wildlife Service under the Endangered Species Act and the Magnuson-Stevens Act. Tribal consultation is also conducted under Section 106 of the National Historic Preservation Act. In addition to multiple levels of review, BOEM develops, funds, and manages a rigorous scientific research program. The following outlines the current administrative processes in the federal regulations[72], but it should be noted that in August 2025 the Department of Interior announced an intention to undertake a "full review of offshore wind energy regulations"[73].

1. Preliminary planning & analysis (which may include BOEM-State Intergovernmental Task Force by state request)
    a. Key BOEM Actions - Collaborate with local/state/federal/Tribal entities, while also engaging with the public, developers, and other interested affected

[71] https://www.oregon.gov/lcd/Commission/Documents/2022-07_Item-2_Directors-Report_Attachment-A_BOEM-2022-0009-0219.pdf
[72] https://www.ecfr.gov/current/title-30/chapter-V/subchapter-B/part-585
[73] https://www.doi.gov/pressreleases/interior-launches-overhaul-offshore-wind-rules-prioritize-american-energy-security

parties to inform identification of Call Areas based on the best available data and information.

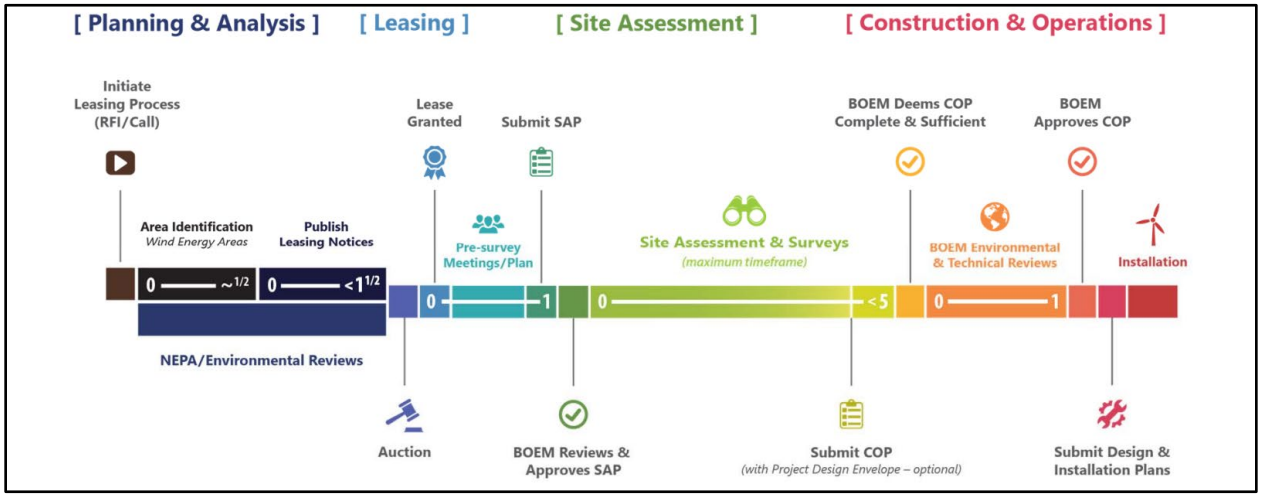
2. Identification of Call Areas (Large ocean areas)
    a. Key BOEM Action - Request for Information on Call Areas, including nominations of interest for leasing.
3. Identification of Wind Energy Areas (Smaller ocean areas with potential for multiple projects)
    a. Key BOEM Action - NEPA Environmental Assessments for Wind Energy Areas
    b. Key State Action - Federal Consistency review of BOEM's NEPA Environmental Assessment for Wind Energy Areas and site assessment activities under authority of the Coastal Zone Management Act and Oregon's Coastal Management Program (see next page for more information).
4. BOEM Auction and Issuance of Leases to Developers for Lease Areas (Smaller portions of Wind Energy Areas for specific projects)
5. Site Assessment Plans and Site Characterization Activities by Developers
    a. Key BOEM Action – BOEM review of developer's Site Assessment Plans.
6. Construction and Operations Plans by OSW Developers & BOEM Review
    a. Key BOEM Action – BOEM review of Construction and Operations Plans, including NEPA Environmental Impact Statements[74].
    b. Key State Action - Federal Consistency review of Construction and Operations Plans under authority of the CZMA and OCMP (see next page for more information).

Under the federal regulations, the Bureau of Safety and Environmental Enforcement (BSEE) is the lead agency responsible for directing the response to unexpected project failures, harm, or emergency situations. The state should have clear lines of communication and procedures to coordinate with BSEE in the event that unexpected situations intersect with state areas or interests. BSEE and BOEM [(30 CFR 585.516 et seq.[75])] are also responsible for ensuring offshore wind projects have adequate financial assurance (e.g., bonds) to cover project decommissioning, disaster/liability events, and the risk of default.

[74] Note: In May 2025, the Supreme Court ruled that NEPA does not require agencies to consider the environmental effects of upstream or downstream projects that are separate in time or place from the proposed action subject to NEPA review (i.e., cumulative effects analysis). In September 2025, the Council on Environmental Quality issued guidance reflecting this decision. (https://eelp.law.harvard.edu/tracker/nepa-environmental-review-requirements/)

[75] https://www.federalregister.gov/documents/2024/05/15/2024-08791/renewable-energy-modernization-rule#sectno-citation-585.516

Figure 7. Typical BOEM Offshore Wind Energy Development Regulatory Timeline.
(RFI = Request for Information; SAP = Site Assessment Plan; NEPA = National Environmental Policy Act; COP = Construction and Operations Plan)



Federal Consultations

BOEM consults with NMFS and other federal agencies to meet the requirements of the Endangered Species Act, the Magnuson-Stevens Act and Marine Mammal Protection Act[76].

Additionally, the Department of Defense has a significant influence in identifying exclusion areas where wind energy development is limited or prohibited. The BOEM-designated Call Areas in Oregon were found to include extensive exclusion areas, which substantially limited the subsequent siting of Wind Energy Areas within the Call Areas.

Oregon Regulatory Framework for Offshore Wind Project Reviews

Under the Coastal Zone Management Act, federally approved state coastal programs have the authority to review federal actions (which includes leasing of the Outer Continental Shelf for offshore wind energy exploration and federal licenses and permits for offshore wind) that may affect coastal Oregon resources and uses for consistency with state "enforceable policies." These enforceable policies are drawn from existing state statutes and rules, the 19 Statewide Planning Goals, and the local embodiment of the Goals in city and county plans and codes.

In the case of Oregon, the state's review authority has been approved by the NOAA Office for Coastal Management to extend out to a depth of 500-fathoms (i.e., into federal jurisdictional waters) for marine renewable energy projects, in recognition that a project in

[76] https://www.boem.gov/renewable-energy/environmental-consultations-offshore-renewable-energy-projects-atlantic-outer

federal waters would have reasonably foreseeable effects to state coastal uses and resources. This means that Oregon has the ability to apply its state enforceable policies to the entirety of an offshore wind project located within federal waters or within the state's coastal zone[77]. The portions of projects that would exist within state jurisdiction would also be subject to permits and authorizations, such as those relating to water quality, uses of the seafloor, effects to the ocean shore, and effects to estuaries, shorelands, and uplands within local jurisdiction. Any alterations to Oregon shoreline, estuaries, wetlands, or navigation channels to facilitate the deployment of offshore wind projects would also be subject to Federal Consistency review. The Oregon Department of Land Conservation and Development is the lead state agency for these reviews.

The Oregon Coastal Management Program within DLCD would coordinate with other local, state, and federal agencies and consult with Tribal nations in the Federal Consistency review of any offshore wind-related federal actions within its jurisdiction. At the conclusion of the review, the OCMP can concur that the activity is consistent, concur with conditions, or object on the grounds that the activity is inconsistent with the state's enforceable policies. If a review of a federally permitted project results in an objection, the federal agency will not issue the permit to the applicant. The applicant may appeal an objection to the U.S. Secretary of Commerce. The OCMP consists of a network of 41 local and 11 state agency partners with authority in the coastal zone and enforceable policies to be used in Federal Consistency review. The state agencies that make up the OCMP are listed below:

- Oregon Department of Land Conservation and Development
- Oregon Department of Fish and Wildlife
- Oregon Department of State Lands
- Oregon Parks and Recreation Department
- Oregon Watershed Enhancement Board
- Oregon Department of Environmental Quality
- Oregon Water Resources Department
- Oregon Department of Geology and Mineral Industries
- Oregon Department of Agriculture
- Oregon Department of Forestry
- Oregon Department of Energy (as staff for the Energy Facility Siting Council)

Although Tribal nations within Oregon's coastal zone are not networked partners with the OCMP, OCMP recognizes and respects that Oregon Tribal nations are each separate and sovereign nations with deep cultural and historical connections to the Oregon Coast.

[77] https://www.oregon.gov/lcd/ocmp/pages/coastal-zone.aspx

OCMP currently uses the broader DLCD government-to-government consultation policy to consult with Tribal nations during Federal Consistency reviews.

DLCD, through coordination with local, state, and federal agencies, and in consultation with Tribal nations within the Coastal Zone, leads analyses of the potential direct and indirect impacts, including consideration of cumulative and secondary impacts that have reasonably foreseeable effects on coastal resources or uses. Coastal effects cover five major categories: natural resources, cultural resources, coastal economies, aesthetics, and recreation/public access.

An offshore wind project would also be required to obtain several state or local government permits or authorizations related to portions of the project located within state waters or onshore. These components would include subsea transmission cables, shoreside cable landing interconnections, and transmission lines from the interconnection to the larger coastal electricity grid. The necessary permits and authorizations are listed in Table 1 and generally consist of:

- Clean Water Act Section 401 Water Quality Certification (Oregon DEQ)
- Seafloor Special Use Easement Authorization (Oregon DSL for cable placement)
- Removal-Fill Permit (Oregon DSL for cable installation or other alterations to state submerged lands or onshore wetlands)
- Proprietary Authorization for uses of state submerged lands for other project-related uses of state submerged lands (Oregon DSL e.g., wharves, docks, fill, etc.)
- Ocean Shores Permit (Oregon Parks and Recreation Department for activities on or under the beach, e.g., horizontal drilling and placement of cables)
- Archaeological Permits (OPRD State Historic Preservation Office for offshore or onshore ground disturbance activities)
- County or City land use authorizations or permits (onshore cable interconnection and grid infrastructure)
- State Federal Consistency Review Decision (Oregon Department of Land Conservation and Development)
- Navigation Hazard Determination (Oregon Department of Aviation)

Power Procurement

Investor-owned utilities (PGE, Idaho Power, Pacific Power) account for growth in customer demand and assess the ability of existing and new energy projects to meet demand in public planning processes that identify least-cost, least-risk solutions and actions (e.g., Integrated Resource Planning). The Oregon Public Utility Commission (PUC) reviews the

costs and risks of investor-owned utility plans and determines if any procurement plan, such as procuring OSW energy, achieves the best balance of cost and risk for customers. If an investment in a new generation source is determined to not meet the PUC's Request for Proposal evaluation criteria for prudence[78] (e.g., if the cost of power from an OSW installation were deemed to be not "least-cost, least-risk" in the interest of Oregon ratepayers), the PUC can prevent the investor-owned utility from recovering the cost of its investment using ratepayer fees. [79]

The PUC does not regulate cooperatives, utility districts, or municipality-owned utilities, except in matters relating to the safety of their operation and facilities. Public Utility Districts, like those serving the coast, are not regulated by the PUC beyond safety considerations and primarily purchase power for their retail customers directly from the Bonneville Power Administration (BPA). Oregon's consumer-owned utilities (COUs) are currently engaged in 20-year Regional Dialogue Contracts with BPA that are due to expire in 2028.[80] BPA recently initiated a series of public workshops to address the development of the policies and contracts that it will offer to its customers to meet their evolving needs post-2028[81]. Under the current contract, some of the state's COUs receive a fixed slice of BPA's power output, while that utility supplements the electricity delivery from BPA with output from its own generating resources or from other power contracts. The majority of the COUs that serve Oregonians, however, are full requirements customers of BPA, meaning that they "generate no power, relying instead on BPA for all of the power needed to meet their total load requirements."

Existing research and information relevant to Oregon Offshore Wind

2022 Oregon Department of Energy Floating Offshore Wind Study

In response to House Bill 3375 in the 2021 Legislative session, the Oregon Department of Energy (ODOE) produced a study outlining the key benefits and challenges associated with developing 3 GW of floating offshore wind technology off the coast of Oregon[82]. This study provides a comprehensive discussion of relevant information to this Roadmap and may be considered a companion document. The Roadmap repeats select findings of the ODOE

[78] https://apps.puc.state.or.us/orders/2007ords/07-047.pdf
[79] https://www.oregon.gov/lcd/OCMP/Documents/UPDATE_PUC_OSW-Roundtable_010925.pdf
[80] https://www.bpa.gov/energy-and-services/power/regional-dialogue
[81] https://www.bpa.gov/energy-and-services/power/provider-of-choice
[82] https://www.oregon.gov/energy/energy-oregon/Pages/fosw.aspx

study where appropriate, but the original report provides a more complete discussion of the topic.

At a summary level, the ODOE study describes the key benefits of offshore wind for Oregon to include:

- Scale of OSW Resource – The winds offshore Oregon have the potential to provide many gigawatts of power to the regional electricity grid.
- Generation Diversity Value – Offshore wind could play a critical role in helping the state achieve its clean energy goals, particularly because of its ability to complement other renewables during certain times of the year, like the winter months when solar is less available.
- Offsetting Land Use Impacts from Onshore Renewable Development – The development of offshore wind resources can help offset the significant amounts of onshore renewable resource development, and associated land use impacts, that will be required to achieve Oregon's clean energy and climate goals.
- Power System Reliability – The addition of commercial-scale electricity generation projects offshore could improve the reliability of the state and regional grid, especially for Oregon's coastal communities.
- Local Energy Resilience – The deployment of offshore wind projects could expand opportunities for additional community energy resilience projects along Oregon's coast.
- Economic Development – The need for a skilled workforce to build and maintain floating offshore wind projects, and to develop supporting infrastructure and supply-chains, could support direct, indirect, and induced job development, especially in coastal communities where construction and maintenance activities would be based.

Key challenges identified in the report included:

- Concerns About Adverse Effects on Coastal Communities, Existing Industries, the Environment, and Cultural Resources – Offshore wind projects have potential impacts on existing ocean and land users (e.g., fisheries, seafood processing, recreation, tourism, military activities); effects to the marine environment, cultural resources, and coastal economies.
- Siting & Permitting Complexity – Development involves a complex system of federal, state, and local rules and regulations for siting offshore and onshore infrastructure. Unquantified trade-offs and conflicting ocean uses (e.g., fishing vs. wind leasing) pose major challenges, and the siting and permitting processes may not currently be adequate or timely to address all potential adverse effects.

- Technology Readiness & Costs – Floating offshore wind are still emerging technologies not yet deployed at large commercial scale. Higher upfront capital costs and risks associated with new floating platform designs, moorings, deep-water conditions, and the marine environment pose investment risk challenges.
- Port Infrastructure & Sea Vessels – Significant port upgrades are needed (deep-water berths, manufacturing, fabrication, assembly, heavy lifting, towing) to support large floating offshore wind projects. These infrastructure developments are time-consuming and require coordination and investment.
- Transmission Infrastructure – Major upgrades to onshore coastal grid and transmission systems are likely required to integrate gigawatt-scale offshore wind into Oregon's grid. Without adequate transmission capacity, the value of offshore wind (and its reliability contribution) could be constrained.
- Long-Term Power Offtake Agreements & Energy Markets – At gigawatt-scale, one utility may not have the immediate need or appetite for large FOSW projects, so a consortium of buyers may be needed to commit to offtake agreements. The absence of a well-defined market framework, coordination among utilities, or formalized planning for multiple off-takers increases investment risk.

US Department of Energy Offshore Wind Guide

In 2024, the US Department of Energy (USDOE) produced an overview guide to the technologies, systems, effects, and processes related to both fixed-bottom and floating offshore wind. This guide represents an excellent primer on the topic of offshore wind at its present state of development. [83] The Guide describes the main components of offshore wind energy, including:

- Turbines and floating foundations
- Interarray transmission cables within the water column between turbines
- Offshore electricity substation (likely floating or on the seafloor) to aggregate power from multiple turbines for export to shore
- Subsea aggregated energy transport cables to shore with landfall interconnection vault
- Ports, vessels, and manufacturing facilities to fabricate, assemble, and install completed turbines and perform ongoing maintenance during operation

[83] U.S. Department of Energy. 2024. "Offshore Wind Energy Guide" Office of Energy Efficiency and Renewable Energy Wind Energy Technologies Office: WINDExchange. https://docs.nrel.gov/docs/fy25osti/88620.pdf

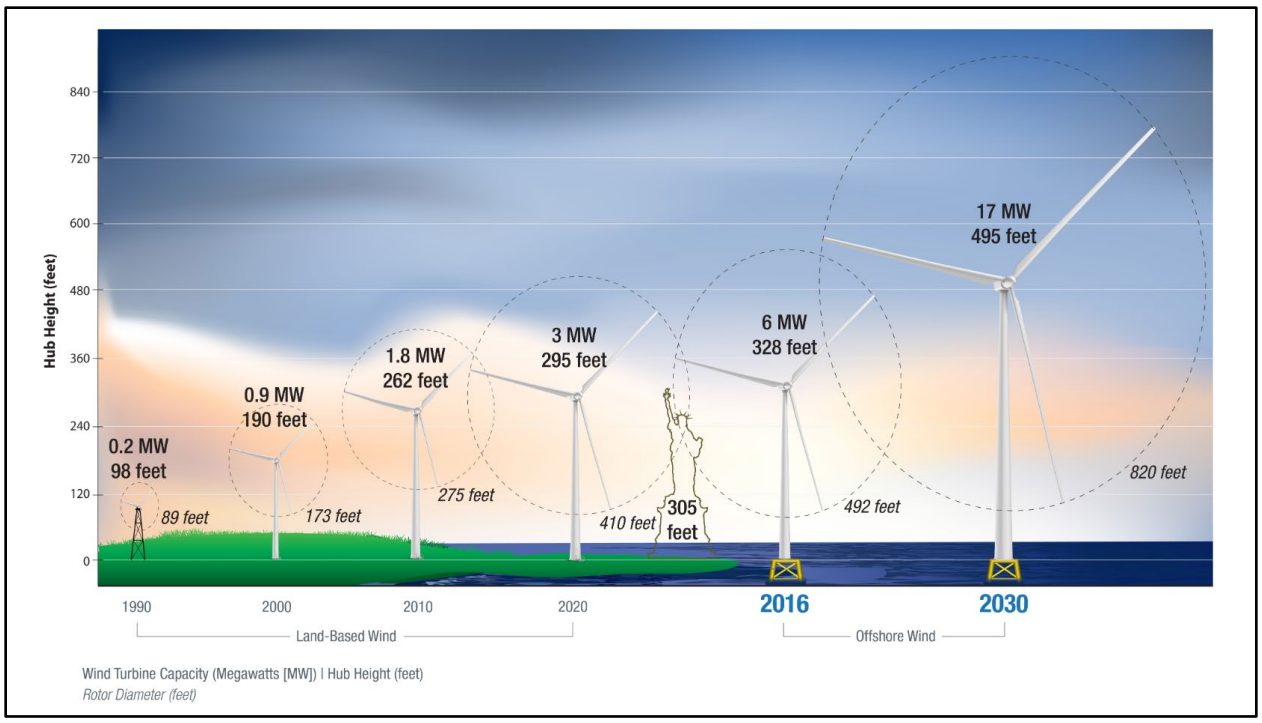


Figure 8. Land-based turbines of different heights compared to offshore wind turbines of different heights (USDOE, 2024)

Floating Offshore Wind Project Design Envelope

In 2024, the National Renewable Energy Laboratory published a report titled "Representative Project Design Envelope for Floating Offshore Wind Energy: A Focus on the California 2023 Federal Leases,"[84] which provides estimates of the scale and number of components in a floating offshore wind facility to assist in the evaluation of potential impacts from a project. This report is a helpful resource for understanding a practical range of technology options that may be deployed on the US west coast, accounting for major physical constraints and technical readiness.

BOEM Studies Supporting West Coast Offshore Energy

In support of offshore leasing activities, BOEM has completed many studies of environments, species, technologies, socioeconomic effects, energy systems, and infrastructure that could support west coast offshore wind. BOEM retains a repository of completed environmental and technical studies for future reference.[85]

NOAA NMFS Science Strategy for Offshore Wind

In 2024, NOAA released a document titled "NMFS West Coast Offshore Wind Energy Strategic Science Plan"[86]. The Plan outlines research directions that are needed to: a) fulfill

[84] https://www.osti.gov/servlets/purl/2438557
[85] https://www.boem.gov/environment/recently-completed-environmental-technical-studies-pacific
[86] https://www.fisheries.noaa.gov/s3//2024-10/offshore-wind-energy-strategic-science-plan-wcr-2024.pdf

NMFS' consultation and authorization mandates with respect to offshore wind energy development; b) advance the scientific understanding of the interactions between offshore wind energy development and NMFS trust resources on the U.S. West Coast, including assessing the effects of planned offshore wind energy activities on fish, fisheries, protected species, habitats, and ecosystems; and c) support the development of strategies to mitigate impacts. The plan outlines six priority areas for research:

1. Habitat impacts
2. Physiological and physical effects
3. Species abundance and distribution
4. Fisheries socioeconomic impacts
5. Ecosystem and climate interactions
6. Impacts on NMFS' scientific surveys

OCCRI Offshore Wind Summary

In 2024, the Oregon Climate Change Research Institute published its biennial assessment of the state of climate change science as it relates to Oregon. [87] Within the report is a summary of offshore wind energy's potential to represent a built-environment response to Oregon energy and climate goals, as well as an overview of the current known state of the science regarding offshore wind environmental and socioeconomic effects. The OCCRI report also discusses Oregon port infrastructure needs and capabilities necessary to support offshore wind development for the state (see Figure below). [88]

Oregon Port Studies to Support Offshore Wind

A collection of studies evaluated the potential for ports in Oregon to provide the infrastructure and services necessary to support an offshore wind industry presence in the state, summarized below.

[87] https://blogs.oregonstate.edu/occri/oregon-climate-assessments/
[88] https://oregonstate.app.box.com/s/j85nuhy5tqieoxdnszoiie8e9xotzrsz

- BOEM conducted a Port of Coos Bay Infrastructure Assessment for Offshore Wind Development[89] in 2022 that evaluated key features and challenges of developing the various types of infrastructure that would be necessary to fully support OSW fabrication, integration, installation, and ongoing maintenance.
- Also in 2022, the SimplyBlue Group performed a similar study of the Coos Bay Port Infrastructure needs and challenges.[90]
- In 2023, NREL conducted a study of the ports along the US west coast and evaluated the impacts of developing a port network to support floating offshore wind. This study included a port-by-port evaluation of whether each would be suitable for Manufacturing & Fabrication facilities, Operations and Maintenance, or large-scale Staging & Integration facilities. [91] This study found that Coos Bay is the only port in Oregon suitable for a full S&I facility, but other ports may be able to sustain the other types of needs depending on their physical characteristics.

Port location	Capabilities			Notes
	S&I	MF	O&M	
Hammond Boat Basin			X	U.S. Army Corps of Engineers maintains channel. Not much space available.
Warrenton		X	X	Water depth can accommodate barges
Astoria			X	Not much land available. Adequate water depth for operations and maintenance vessels.
Wauna				Currently in use, no land available
Port of Columbia County		X		Industrial land, deep-draft access, multiple sites
Port of Portland		X		Multiple sites
Nehalem				No maintained channel
Tillamook Bay at Garibaldi			X	4.5 m (18 ft.) deep, crew transfer vessel only for operations and maintenance, not as close to wind energy areas
Depoe Bay				Entrance channel not adequate for operations and maintenance
Yaquina River/ Toledo/Newport		X	X	U.S. Army Corps of Engineers maintains channel. A maximum of 16 ha (40 acres) may be available.
Waldport				No maintained channel
Siuslaw River at Florence				No land available
Umpqua River at Reedsport		X	X	Shallow water depth in channel
Coos Bay	X	X	X	Best option, but airport and dredging create challenges
Bandon			X	Coquille River depth is 4 m (13 ft.). Crew transfer vehicle only for operations and maintenance site.
Port Orford				No protected harbor
Rogue River (Gold Beach)			X	Crew transfer vessel only due to channel depth
Brookings Harbor at Chetco			X	Crew transfer vessel only due to channel depth

Table 3. Oregon port capabilities for offshore wind. Green, yellow, and red indicate good, moderate, and unlikely candidate sites, respectively. S&I, staging and integration; MF, manufacturing and fabrication; O&M = operations and maintenance. Adapted from Shields et al. 2023.

- A 2023 study evaluating the impacts of developing a port network for floating offshore wind energy on the West Coast (Shields et al. 2023a)[92] found that the number of ports required on the West Coast to reach 55 GW of

Figure 9. Oregon Port Capabilities to Support Different Offshore Wind Development Needs. Green, yellow, and red indicate good, moderate, and unlikely candidate sites, respectively.S&I = Staging and Integration; MF = Manufacturing and Fabrication; O&M = Operations and Maintenance. (Source: Oregon Seventh Climate Change assessment, OCCRI, 2024)

[89] https://www.boem.gov/sites/default/files/documents/renewable-energy/studies/BOEM-2022-073.pdf
[90] https://simplybluegroup.com/wp-content/uploads/2022/03/Coos-Bay-Offshore-Port-Infrastructure-Study-Final-Technical-Report.pdf
[91] https://docs.nrel.gov/docs/fy23osti/86864.pdf
[92] https://docs.nrel.gov/docs/fy23osti/86864.pdf

offshore wind energy by 2045 is 9 staging and integration sites (4-5 ports) and 17 operations and maintenance sites. This would require an investment of roughly $11 billion. Manufacturing ports are required in addition to the staging, integration, operations and maintenance sites mentioned above. Manufacturing ports along the coast are required because offshore wind components are, in general, too large to be transported over land toward the coastline. An additional $11-19 billion would be needed to build these manufacturing sites and the consequent local supply chain developed would reduce lifetime vessel emissions by 40% since it would eliminate the need for transporting major offshore wind components across the Pacific Ocean.

National and International Research on Offshore Wind Energy Effects

Much effort and investment are being made around the US and the world to better understand the potential environmental effects of offshore wind energy to the ocean environment and species. A vast knowledgebase is forming around this topic, including:

- Pacific Northwest National Laboratories TETHYS knowledgebase[93]: TETHYS is an online database dedicated to advancing ocean energy industries by providing access to environmental information and research findings that can support siting, permitting processes, management decisions, and operational strategies while minimizing risk to the environment. The TETHYS Knowledge Base contains thousands of documents on the environmental effects of land-based wind energy, fixed offshore wind energy, and floating offshore wind energy, as well as marine energy. Since launching in 2012, TETHYS has a rich history of providing access to authoritative environmental information and continues to create new resources. TETHYS has collected more than 8,000 documents related to the environmental effects of wind energy (land-based and offshore). All documents are available in a table format via the TETHYS Knowledge Base.
- US Offshore Wind Synthesis of Environmental Effects Research[94]: The U.S. Offshore Wind Synthesis of Environmental Effects Research (SEER) effort aims to synthesize key issues and disseminate existing knowledge about environmental effects, inform applicability to U.S. waters, and prioritize future research needs. The work includes research briefs, webinars, research recommendations, and information on Pacific coast environmental research relevant to offshore wind.

[93] https://tethys.pnnl.gov/knowledge-base-all
[94] https://tethys.pnnl.gov/us-offshore-wind-synthesis-environmental-effects-research-seer

- Wind Energy-Environmental Research & Engagement Network (WREN)[95]: WREN was established by the International Energy Agency (IEA) Wind Technology Collaboration Program in October 2024 to focus on environmental issues associated with commercial development of land-based and offshore wind energy projects. The primary objective of WREN is to advance the coexistence of wind energy and the environment through international collaboration. Their work includes publications, science summaries, wind monitoring and mitigation technology catalog, and webinars.

2025 GAO Report on Offshore Wind Development

In 2025, the Government Accountability Office (GAO) released a report titled "Offshore Wind Energy: Actions Needed to Address Gaps in Interior's Oversight of Department"[96]. The GAO found that U.S. offshore wind projects bring potential benefits—including reductions in greenhouse gas emissions, better air quality, and economic and community development—but also carry uncertain risks to marine life, ecosystems, commercial fishing, Tribal resources, radar and defense systems, maritime navigation, and cultural landscapes.

In its recommendations, the GAO noted gaps in the federal oversight process by BOEM and the Bureau of Safety and Environmental Enforcement (BSEE), particularly regarding meaningful Tribal consultation, engagement with the fishing industry, community outreach, and regional capacity. The GAO recommended that BOEM improve oversight and stakeholder engagement and provided six key recommendations[97]:

1. Congress should consider amending language in legislation to address limitations in BOEM's authority to enable it to provide adequate support for capacity building for Tribes and tribal organizations that provide Indigenous expertise to the offshore wind leasing process.
2. The BOEM Director should take steps to address gaps in its approach to tribal consultation, including clearly demonstrating and routinely reporting on its progress. This should include ensuring that annual tribal consultation reports clearly document decisions regarding tribal implications and preparing and submitting to Tribes a record of consultation that describes input and how it was addressed, as well as the reasoning for any instances in which input was not incorporated.

[95] https://tethys.pnnl.gov/about-wren
[96] https://www.gao.gov/products/gao-25-106998
[97] https://www.gao.gov/assets/gao-25-106998.pd

3. BOEM should take steps to ensure that it adequately demonstrates and publicly reports its consideration of fishing industry input.
4. BOEM and BSEE should establish guidance for leaseholders with respect to leaseholder communication and engagement plans, clearly define the agencies' respective roles and responsibilities, and develop a plan to monitor implementation of these plans.
5. BOEM and BSEE should take steps to ensure that they have sufficient resources in place to oversee offshore wind energy development, including by establishing a physical office to oversee development in the North Atlantic region.
6. BOEM should develop guidance and specific requirements for leaseholders' data collection and sharing across offshore wind energy projects.

2025 Oregon Energy Strategy

In 2023, House Bill 3630 directed the Oregon Department of Energy to develop a state energy strategy and to submit a final report to the Governor and Legislature by November 1, 2025[98]. That report must: (1) summarize the state energy strategy and pathways to achieving the state's energy policy objectives; (2) describe the department's engagement process and how perspectives informed the energy strategy; and (3) recommend legislation or changes to policy necessary to implement the state energy strategy. The Strategy presents pathways to achieving Oregon's energy policy objectives and legislative and policy recommendations and summarizes the process undertaken to develop the pathways and recommendations, including the technical analysis and engagement to inform pathways and policies.

Grid implications of Offshore Wind for Oregon and the Region

The National Renewable Energy Laboratory (NREL) has completed multiple studies of the potential grid impacts of offshore wind for Oregon and the associated cost of energy. A 2019 study[99] found that by 2032, the levelized cost of energy (LCOE) for offshore wind is expected to range between $75/MWh off the north coast of Oregon and $50/MWh off the south coast ($0.075-0.05 per kWh) based on their respective average wind speeds, if built at a scale of 67 x 15MW turbines with a 1GW total plant capacity at approximately 1 mile spacing. (see updated projections[100]). It should be noted that this cost estimate does not include the cost of any necessary port upgrades or bulk transmission (i.e., upland electrical grid) upgrades. These costs compare against a projected average Northwest wholesale

[98] https://www.oregon.gov/energy/Data-and-Reports/Pages/Energy-Strategy.aspx
[99] https://docs.nrel.gov/docs/fy20osti/74597.pdf
[100] https://docs.nrel.gov/docs/fy22osti/80908.pdf

price of $0.067 per kWh based on 2024 data[101] and the wholesale electricity rate charged by BPA to consumer-owned utilities of $0.035 per kWh[102]. The cost improvements for floating offshore wind over time are estimated to derive from technology improvements (larger turbines, better control algorithms, improvement in materials, digitalization), increasing plant sizes as economies of scale grow, maturing supply chains, industrialization and serial production, increased competition, and lower risk from industry maturing. It should be noted that these costs do not include the costs of support needs such as port upgrades and bulk transmission system upgrades.

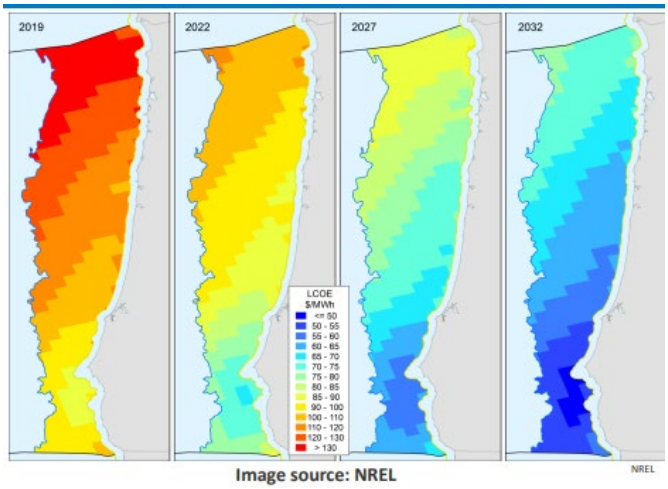


Figure 10. Estimated Levelized Cost of Energy Based on Offshore Wind Energy Location Offshore Oregon (PNNL, 2021)

An additional factor is the compatibility of offshore wind generation with the demands on the grid in Oregon and the Pacific Northwest. Oregon currently derives approximately 40 percent of its electricity from the hydroelectric system, but in late summer this energy source can be constrained by low river flows due to depleting water resources and increasing water temperatures that require a higher amount of "spill" over the dams to maintain river flow. By contrast, offshore wind holds a more consistent production profile through the summer than hydroelectric resources (PNNL) [103,104]. In winter months, offshore wind coincides well with peak demands in Washington[105]. The net capacity factor[106] in the modeled offshore wind scenario was expected to range from 39 percent off the north coast

[101] https://www.eia.gov/todayinenergy/detail.php?id=61244
[102] https://www.bpa.gov/energy-and-services/rate-and-tariff-proceedings/power-rates
[103] https://docs.nrel.gov/docs/fy22osti/81244.pdf
[104] https://www.pnnl.gov/main/publications/external/technical_reports/PNNL-29935.pdf; pnnl.gov/main/publications/external/technical_reports/PNNL-37067.pdf
[105] E3 offshore wind grid impact study, 2023.
[106] Net Capacity Factor is the share of energy actually produced over time versus the energy that would be produced if the plant ran at full nameplate output continuously (shown as a percentage).

to 57 percent off the south coast, which compares favorably to the 39.8 percent capacity factor for onshore wind in the Columbia Gorge and 16-20 percent for utility-scale solar in Oregon.

Two separate studies found that the total net transmission system benefits of adding offshore wind to the grid would outweigh the costs of offshore and onshore transmission expenditure[107],[108]. These studies assumed a cost of floating OSW consistent with the National Renewable Energy Laboratory's Annual Technology Baseline[109], but not all aspects of OSW infrastructure (e.g., port and manufacturing facility development) were included in the transmission cost/benefit model.

Offshore wind also holds potential benefits to overall northwest grid reliability and resiliency, with the ability to stabilize coastal grids through reduced costs of power outages, reduction in need for backup systems, and sources of power that are resilient to disasters such as wildfires, winter storms, or earthquakes. A capacity of 1 GW of offshore wind power off the Oregon coast would also relieve the capacity of the west-east transmission lines between the coast and the rest of the state grid, which would in turn free up transmission to serve additional inland loads. (PNNL 2020) The 2021 PNNL study also found that the current regional transmission system can accommodate up to 2.6 GW of new offshore wind generation with minimal transmission investment, but the generation would need to spread across the entire north-south span of the coast to utilize the five existing transmission lines that cross the coast range. Under this scenario, the equivalent of up to 84-89 percent of coastal power loads could be served by OSW. A study commissioned in 2022 found that significant transmission upgrades would be required to support a 3 GW build-out of offshore wind generation, if development focused only on the south coast, and could require costly and long lead time efforts, potentially costing up to 1.2 billion dollars and taking 10-15 years before construction could begin. (NorthernGrid, 2022[110]). By contrast, a smaller scale capacity of approximately 1.1 GW may require only moderate grid infrastructure investment ($45-68 million).

[107] https://docs.nrel.gov/docs/fy22osti/81244.pdf
[108] https://www.pnnl.gov/main/publications/external/technical_reports/PNNL-29935.pdf
[109] Index | Electricity | 2024 | ATB | NREL
[110] https://www.northerngrid.net/private-media/documents/2022_ESR_OSW_Approved.pdf

Offshore Wind Point of Interconnection	Max Nameplate Capacity (MW)	Max Injected power* (MW)
Clatsop (1-North)	361	301
Tillamook (2-North Central)	553	461
Toledo (3-Central)	156	130
Wendson (4-South Central)	613	512
Fairview (5-South)	941	785
Total	2625	2189

Figure 11. Current maximum additional energy capacity capabilities at the five coastal substations connecting to the Willamette Valley.

The PNNL study found that transmission congestion is the main driver of offshore wind curtailment. If the trans-coastal transmission is upgraded, power can be delivered into the Willamette Valley and curtailment[111] of offshore wind off the coast of Oregon would be minimal. As an alternative, co-located energy storage (e.g., grid-connected batteries) on the coast could reduce offshore wind curtailment by approximately 15 percent (NREL 2021[112]). Grid upgrades could also facilitate export of power from Oregon to California to serve evening loads, but interstate transmission congestion limits this ability presently. The sites off the southern half of the coast included in this study have higher average wind speeds than the northern sites, but they are also farther from existing coastal substations. If the cost of undersea transmission were studied, trade-offs between the cost of interconnection and capacity factors might be discovered. These studies do not capture the barriers to smaller scale transmission between the offshore wind turbines and the high voltage coastal substations, like right-of-way and reactive power support.

Economic Development Potential Related to Oregon Offshore Wind Energy

Offshore wind energy projects require substantial supporting infrastructure, including port upgrades, local supply chains, assembly and installation work, ongoing maintenance, and likely transmission grid upgrades. Coastal economies have the potential to benefit from the high-quality, well paying "family wage" jobs that contribute to a diversified economic activity. The overall job forecasts for total floating offshore wind jobs can range significantly.

A 2016 study by NREL[113] estimated the potential for jobs and economic impacts in Oregon coastal counties from two future offshore wind development scenarios: a 5.5GW and 2.9 GW total deployment between 2020-2050. Under the 5.5GW scenario, it estimated that development would add between $1.6-2.8 billion to the gross domestic product of the coastal counties through 2050 and support 1,600 – 3,000 long-term jobs in Oregon coastal

[111] "Wind curtailment is defined here as the percent of energy not delivered, or spilled, to the electric grid relative to the possible output of the OSW site." (PNNL, 2020)
[112] NREL, 2021. Evaluating the Impact of Oregon Offshore Wind Josh Novacheck and Marty Schwarz
[113] https://docs.nrel.gov/docs/fy16osti/65432.pdf

counties for the duration of the offshore wind project's operational life. In addition, the construction phase would add 18,000-33,000 FTE job-years between 2020-2050.[114] The 2.9GW scenario was estimated to support 680 – 1,100 long-term jobs, with 12,000-14,000 construction-phase job-years. These estimates were found to be highly dependent on the proportion of locally sourced parts, equipment, and labor. It should be noted that these hypothetical scenarios should be refined and balanced against other factors in an offshore wind system, such as siting limitations for offshore arrays and port upgrades, transmission upgrade costs, and local supply chain capabilities.

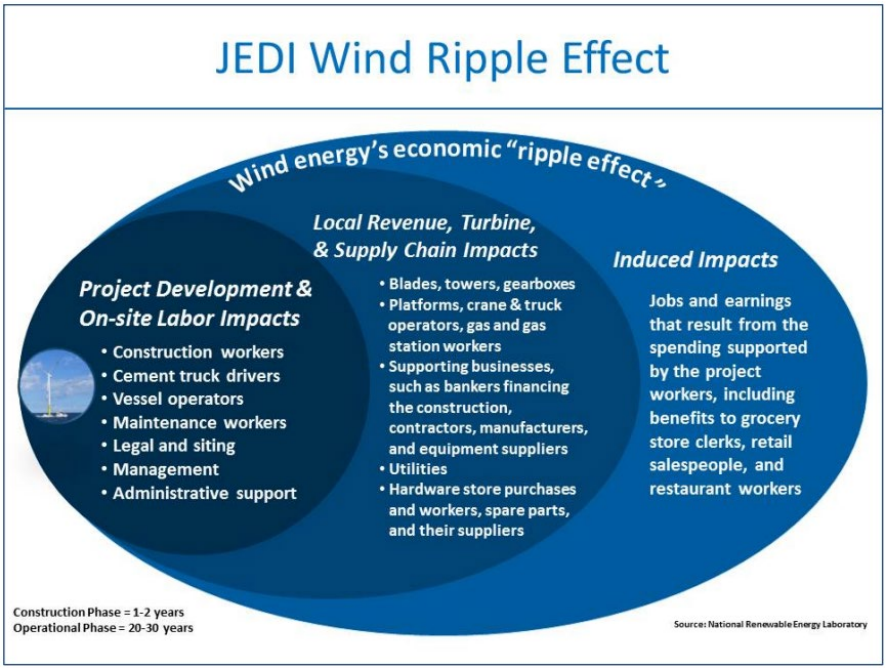


Figure 12. Economic Ripple Effects from Offshore Wind Energy Development (NREL, 2016)

A more recent study from 2025 by the Schatz Energy Research Center in California conducted a modeling assessment of the workforce opportunities that could result from supporting a single 1.5 GW offshore wind project.[115] An important finding of the study was not only the total number of jobs, but how the workforce needs varied by project phase and job type. Component supply chain activities accounted for approximately 60 percent of the jobs, and 76 percent of those were associated with producing the materials for fabrication and manufacturing (e.g., steel production). These represented approximately 6,000 FTEs for a duration of four years, but it should be noted that the extent to which fabrication and

[114] A job-year is one full time job for one year. For example, 1 person working full time for 10 years, or 5 people working full time for 2 years each total 10 job-years.
[115] https://schatzcenter.org/docs/2025-OSW-R1-workforce-SchatzCenter.pdf

manufacturing opportunities accrue to Oregon as opposed to other places would depend on the level of corresponding manufacturing supply chain development in Oregon. The staging, assembly, and installation of the project only accounted for 10 percent of jobs (1,000 FTEs for four years), and of these 44 percent were associated with specialized vessel operations, which may be sourced outside of Oregon. Development and soft costs (including onshore electrical interconnection, site assessment, project management, and other professional services) accounted for 11 percent of jobs (averaging 740 FTEs across six years of pre-operation). Long-term operations and maintenance accounted for 18 percent of the total jobs, representing 4.92 FTEs/MW or 210 jobs lasting through the 35-year operation of the project post-construction. Of the jobs represented, approximately 40 percent constituted professional occupations such as engineering, life and physical sciences, or management.

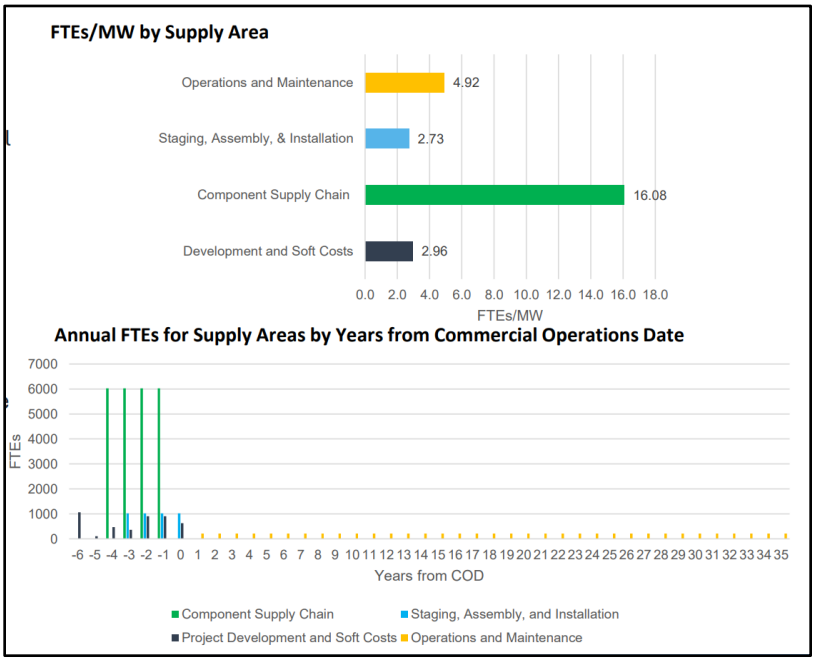


Figure 13. Summary Data of Job Duration and Supply Area Over the Course of an Offshore Wind Project Lifecycle (Schatz, 2025)

Appendix E: Permitting Guidance Appendix Concept

Appendix E: Permitting Guidance Appendix Concept

Note: For the public review draft of the Roadmap, DLCD intends to include a guidance appendix for potential offshore wind developers to help them understand what actions they can take to improve their chances of a successful offshore wind project proposal.

Early concepts of guidance points include:

- Stay informed on the contents of the OR research agenda and participate in answering key questions that will be relevant to future federal consistency review.
- Consult the state for a list of relevant enforceable policies to be applied at the COP stage.
- Early coordination with state and local agencies to discuss information needs.
- Be open with data collected to support the permits.
- Start conversations early with affected communities and support capacity for them to engage in community agreement discussions.
- Consult with the state about the identification of potentially affected communities to inform Community Agreement conversations.
- Meet early with Tribes to understand their interests and participate in tri-party discussions with Tribes and the state to understand policy consistency expectations.
- Begin the process of designing an adaptive management approach early in the permit development process to understand monitoring needs and come to agreement on response action options and a framework for ongoing coordination.
- Provide clarity as early in the process as possible regarding project design specifications, options, and supply chain fulfillment plans and needs that may be met within the state. Provide best estimates of how many and what types of jobs might accrue to Oregon and when they may be needed.
- Coordinate early with labor organizations, apprenticeship program providers, and other workforce development resources in the state.
- Participate in the siting and planning phase, before leasing, to inform that process and begin to build relationships and trust.
- Offshore wind developers should coordinate with the developers of support projects onshore and within estuaries, such that the timing of permit applications presents a single holistic “decision package” for state review consideration.