

A PATH FORWARD

Empowering Communities in Pacific Offshore Wind Development



2023

brightline
DEFENSE

Acknowledgements

Created by Brightline Defense

Brightline is an environmental justice nonprofit organization that works to empower communities and create sustainable environments. While advocating for clean energy in our communities, our organization pursues equity through programs in job training, air quality monitoring, and youth leadership in California. Brightline's continued work on offshore wind in California and across the United States has included visiting fixed-bottom offshore wind projects on the East Coast of the United States and Europe.

Eddie Ahn | Executive Director
Sarah Xu | Senior Policy Associate
Rebecca Aronson | Policy Analyst
Aaron Saliman | Policy Researcher
Merha Mehzun | Policy Fellow

Additional research and support from Trinity Vang, Jakob Evans, Angel More, Audrey Mallah, Nora Ong, Carolina Correa, and Dilini Lankachandra.

Graphics and Layout | Blane Asrat, Emily Shambaugh, Sarah Xu, and Brian Wong.

Pictures | Sarah Xu and Eddie Ahn, taken during site visits in 2022-2023 in Denmark, Humboldt County, San Luis Obispo County, and Folsom, California.

Cover created by Blane Asrat, an illustrator and designer based in San Francisco. You can find her portfolio at artblane.work and on social media as [@art_blane](https://twitter.com/art_blane).

Table of Contents

I. Executive Summary	1
II. Introduction	2
III. Current State of Pacific Offshore Wind Development	3
A. California: Development Fast Approaching	3
B. Oregon: Call Areas in Southern Oregon Established	4
C. Washington: Emerging Offshore Wind Discussions	4
IV. Designing Equity-Driven Offshore Wind Processes	5
A. The Costs of Offshore Wind Development	5
B. Benefits for Local Communities: Justice Beyond Jobs	6
1. Community Benefit Agreements can uplift communities in the leasing process	6
2. Project Labor Agreements can ensure local economic benefits	6
3. Bid Credits can leverage the federal auction process to provide community benefits	6
4. Case Studies	
a) Vineyard Wind highlights opportunities for community engagement	7
b) New York state is leveraging the offshore wind industry for significant job creation and workforce development programs	8
(1) New York's Climate Leadership and Community Protection Act (CLCPA)	8
(2) New York's commitment to local content and a local workforce for offshore wind development	8
V. Applying Lessons Learned on Benefits to Pacific Offshore Wind Development	9
A. Humboldt: Community-Driven Advocacy Centered by Process	9
1. Transmission and port buildout can generate significant economic benefits	9
2. Tribal and environmental justice engagement in the offshore wind process is crucial	9
3. Offshore wind-related construction and port development bring air pollution concerns	10
4. Maintaining local livelihoods is a key concern for fisheries	10
B. Morro Bay: Additional Energy Grid Considerations	10
1. Offshore wind can bring significant economic benefits to Morro Bay	10
2. Developer-initiated discussions have potential to lead to community benefits	11
3. Avoiding conflicts with the proposed Chumash Heritage National Marine Sanctuary	12
4. Mitigating fishery and fishing livelihood impacts is a key concern	12
C. Oregon: Emerging Fisheries and Community Concerns	13
1. Oregon offshore wind energy cost considerations can provide net economic benefits	13
2. Oregon's significant fishing industry must be meaningfully engaged	13
3. Oregon offshore wind poses challenges to and potential benefits for local Indigenous communities	14
D. Beyond Current Offshore Wind Development	14
1. States will continue to play an important role to deliver offshore wind benefits	14
2. Federal focus on future developments to support benefits through auction design	14
VI. Conclusion	15
VII. Endnotes	16

EXECUTIVE SUMMARY

Offshore wind energy is critical to achieving California’s 100% renewable energy goals. In addition to providing significant workforce development and equity opportunities during construction, offshore wind on the Pacific Coast of the United States can benefit transmission, grid infrastructure development, and the larger community.¹ This report will give an overview of the current state of floating offshore wind development on the Pacific Coast, then focus on environmental justice and community engagement considerations for current Bureau of Ocean Energy Management (BOEM) -designated Call Areas and Wind Energy Areas (WEAs). This report highlights concerns that tribes and local organizations have raised but does not intend to speak for the communities discussed.

Following up on [Brightline’s December 2020 report](#), this report offers a high-level understanding of the state of current floating offshore wind development and critical equity considerations for offshore wind on the Pacific Coast of the United States.



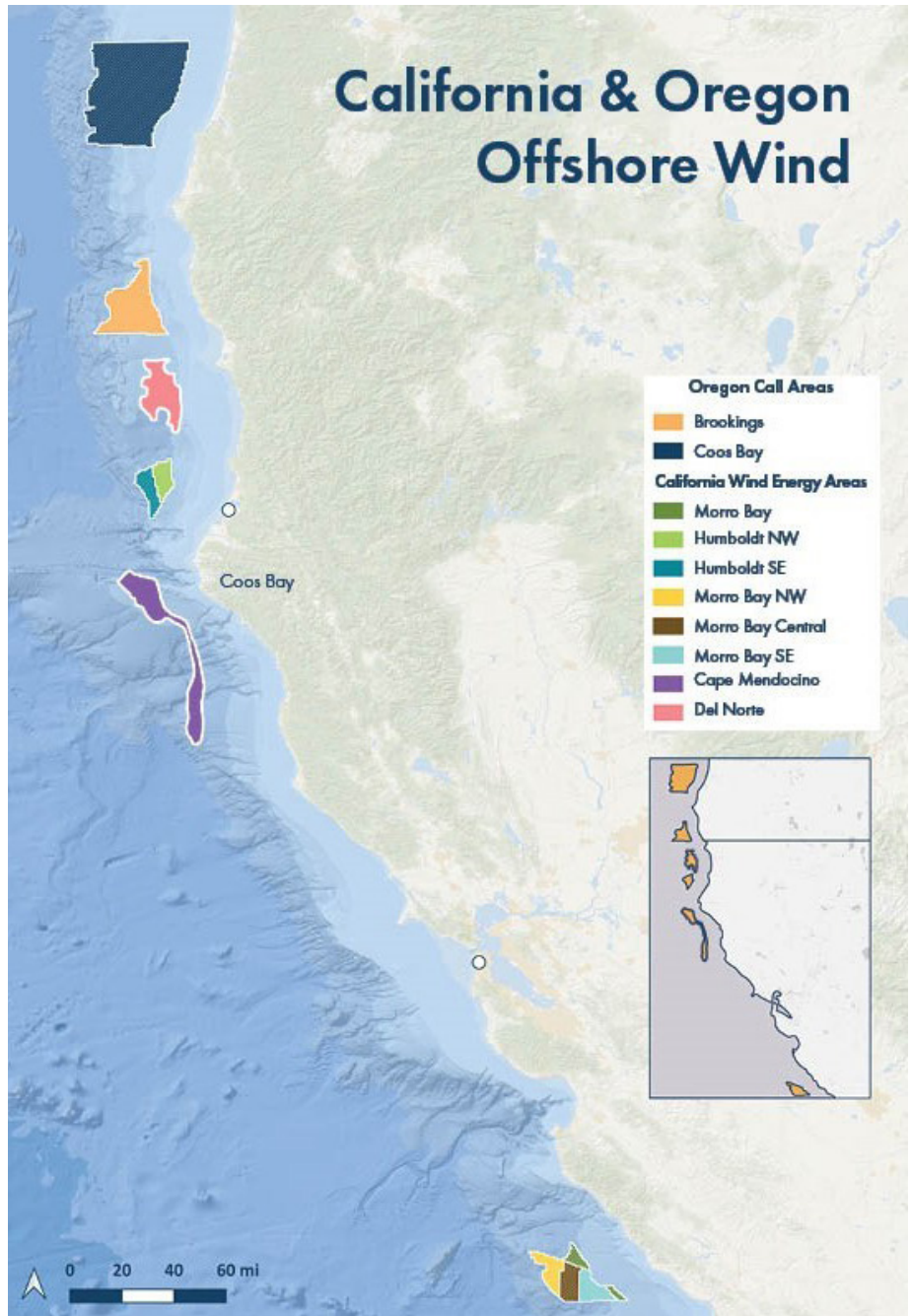
INTRODUCTION

Offshore wind is an important energy source for the United States and California's transition to a clean energy economy. Due to the reliability and abundance of wind across the Pacific Ocean, offshore wind can meet clean energy demands while bolstering the reliability of a grid without fossil fuels.

The path forward to make offshore wind a reality in California requires deep investments not only in transmission and California's ports, but also in communities at the frontlines of offshore wind development. Reaching the Biden Administration's goals of 30 gigawatts (GW) by 2030 and California's planning goals of 25 GW of offshore wind by 2045 will require development beyond the areas auctioned in December 2022 near Humboldt and Morro Bay.² Beyond California, Oregon and Washington are also considering implementing offshore renewable energy. All of these areas pose different challenges for development.

Importantly, offshore wind development on the West Coast also provides unique opportunities for local community benefits and environmental justice. Through early and consistent engagement with affected parties, offshore wind developers can provide and support avenues of communication throughout the planning, development, and implementation process. Project Labor Agreements (PLAs), Memoranda of Understanding (MOUs), and Community Benefits Agreements (CBAs) will help the economic and environmental benefits of offshore wind remain in the projects' host communities and provide opportunities for substantive environmental justice.

This report will provide an overview of offshore wind planning and development on the West Coast of the United States, as well as provide insight on how this process can be imbued with equity principles. This report is the first in a three part series by Brightline Defense. The exploration of California's seaport requirements and the necessary transmission upgrades to support offshore wind will be explored in later parts of this series.



CURRENT STATE OF PACIFIC OFFSHORE WIND DEVELOPMENT

To date, the United States has developed less than .5 GW of offshore wind. None of these projects are located on the Pacific Coast. Unlike the Atlantic Coast where fixed bottom designs can be used, the waters off the coasts of California, Oregon, and Washington are deeper and will require floating offshore wind platforms. In recent years, BOEM has been significantly ramping up offshore wind activities with over 18 projects in permitting and development processes that have the combined potential to generate over 40 GWs.³

BOEM's auction and permitting processes are critical to offshore wind development, as the majority of planned projects are in federal waters. Governed by the Outer Continental Shelf Lands Act (OCSLA), BOEM runs auctions by first identifying areas and publishing calls for more information on the potential for offshore wind development. These areas, also known as Call Areas, are also determined by considering academic studies, wind energy potential, and issues raised through public comments. Call Areas may become WEAs which marks the next step for offshore wind energy development. WEAs are then auctioned off with an opportunity for public comments to impact the Final Sale Notice (FSN) that outlines auction procedures. Site assessment and construction follow auctions after extensive permitting and approvals.⁴



View of Humboldt Bay in 2023

California: Development Fast Approaching

California is further along in the offshore wind development process than other states on the West Coast. The FSN for the Pacific Wind Lease Sale 1 (PACW-1) published October 18, 2022 and the related auction was held on December 6, 2022.⁵ The final energy generation potential of the development of the five total lease areas is approximately 3.9 GW.⁶ On a statewide-scale, these current offshore wind areas have the potential to create 13,000 full time equivalent jobs during the construction phase and 900 annual jobs during the operations phase while increasing annual statewide economic output by nearly 3 billion dollars.⁷ While the auction process is now completed, the actual building of turbines is likely a few years away due to permitting procedures and port and transmission development.

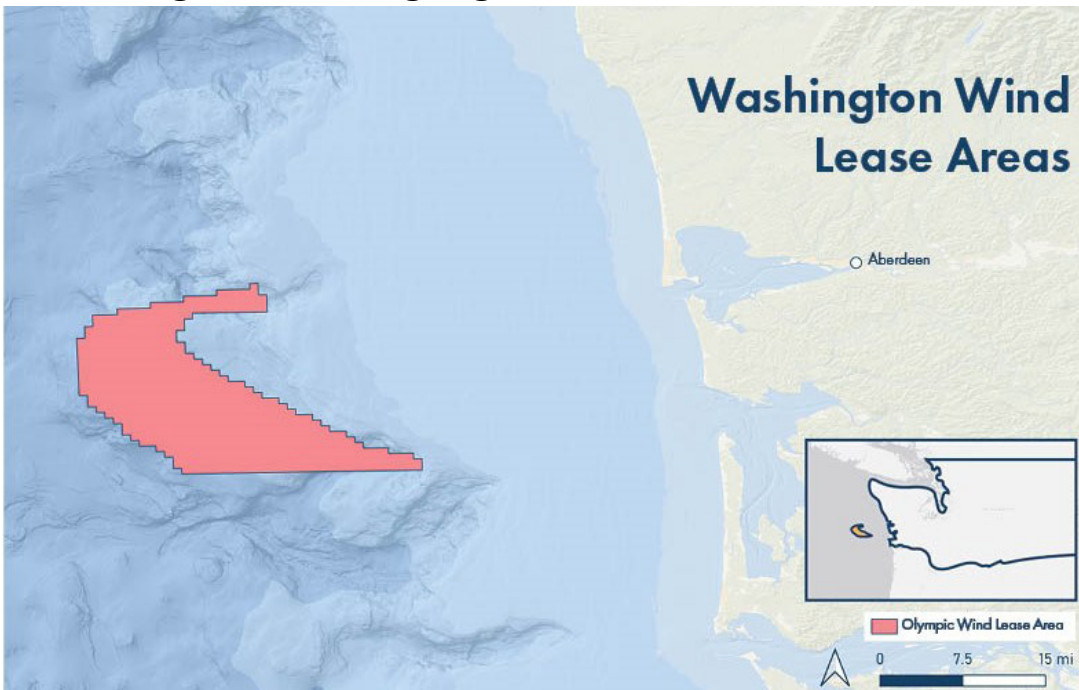
Oregon: Call Areas in Southern Oregon Established

Oregon's two Call Areas were announced on April 27, 2022: the areas off the coasts of Brookings and Coos Bay. Another Call Area off of Port Orford was considered but ultimately removed.⁸ On a state-wide level, Oregon House Bill 3375 (Smith, 2021) established a planning goal for the development of 3 GW of commercial scale floating offshore wind energy projects within federal waters off the Oregon Coast by 2030. Prioritizing the delivery of energy to key population centers, the bill requires offshore wind projects that exhibit the potential to:⁹

- Contribute significantly to Oregon's existing renewable portfolio standards;¹⁰
- Be delivered to the populated centers in Willamette Valley along existing coast range transmission corridors, while minimizing any transmission upgrades; and
- Contribute positive benefits to the Pacific Northwest transmission grid and help resolve transmission constraints.



Washington: Emerging Offshore Wind Discussions



In April 2022, Trident Winds, an active offshore wind developer, submitted an unsolicited lease request for federal areas off Washington's coast. This submission could jumpstart the Washington offshore wind development process.¹¹ The area, referred to by Trident Winds as Olympic Winds, has the potential to provide 2 GW of offshore wind energy.¹²

DESIGNING EQUITY-CENTERED OFFSHORE WIND PROCESSES

The offshore wind industry has the potential to have wide-scale, generational impacts on local communities. On one hand, local communities could face negative impacts, including: the disruption of access to cultural and recreational resources, stress on limited housing resources, and decreased living affordability. On the other hand, investments can create a virtuous cycle where initial economic investments are repeatedly reinvested into community projects and benefits. Ideally, the offshore wind development process should be harnessed as an opportunity to usher in positive transformative change that centers around equity.

The Cost of Offshore Wind Energy Development

It is important to consider the impacts that offshore wind will have on the cost of energy itself, especially as inflation concerns continue into 2023. Energy costs incorporate not only the construction and operation of energy generation sources but also transmission costs. While current offshore wind development costs may be high relative to other forms of energy, those costs are projected to decrease over time on account of economies of scale and ongoing technological improvements. The levelized cost of energy (LCOE) is a metric used to calculate an energy generation source's total cost of generation, measured in dollars per megawatt hour (MWh). LCOE for offshore wind depends on a variety of factors such as manufacturing costs, water depth, and operational costs.¹³ Floating projects in the Pacific will be critical to drive down the LCOE from its current \$160/MWh to a projected \$60-\$63/MWh in 2032.¹⁴

In light of these cost concerns, the Biden Administration announced a Floating Offshore Wind Shot program in September 2022. A part of a larger Department of Energy research and development program, the Floating Offshore Wind Shot aims to accelerate innovation in floating offshore wind to decrease floating wind energy costs to \$45/MWh by 2035.¹⁵



The California Independent Service Operator building in Folsom, California.

What goes into Levelized Cost of Energy (LCOE)?

Fixed Costs

Start with the up front costs, such as turbine manufacturing and steel costs. These are incurred at the outset.

Variable Costs

Add variable costs, such as operation and fuel costs. Future costs are adjusted.

Energy Output

Calculate the total energy the offshore wind project will generate over its approximately 30 year lifetime. Divide the total costs by this energy figure.

Benefits for Local Communities: Justice Beyond Jobs

Offshore wind development can and should create benefits for local communities beyond the creation of good jobs. For example, the National Congress of American Indians has requested more decision-making opportunities and continued transparent engagement in the offshore wind process.¹⁶ Discontent on the part of the Pacific Fishery Council regarding current offshore wind practices also highlight the need for deeper engagement among local communities by government agencies and offshore wind developers.¹⁷ Additionally, offshore wind can create opportunities for community input in adaptive management practices and environmental monitoring as was central to the Regional Wildlife Science Collaborative on Offshore Wind on the East Coast to help address local concerns.¹⁸

Community Benefit Agreements can uplift communities in the leasing process

An important way to deliver benefits to communities impacted by offshore wind developments is through CBAs, where developers agree to provide certain benefits to communities affected by their projects. CBAs can allocate financial and other types of support for communities. The auction is a key process to encourage or require collaboration between developers and local communities such as tribes, commercial fishermen, and historically underserved communities. CBAs can also benefit developers, as the leasing process awards non-monetary credits in multi-factor auctions – reducing the cash payment that developers have to provide.¹⁹ Non-monetary credits in the bidding process can encourage CBA commitments and support community engagement early in the offshore wind farm development process. The PACW-1 auction included a bid credit that incentivizes CBAs for developers.²⁰

Project Labor Agreements can ensure local economic benefits

Another way to deliver benefits to communities is through PLAs. As agreements between developers and labor unions, PLAs can include strong provisions for equity through Local and Targeted Hire provisions. In addition to designating work hours for local communities, thereby generating skilled and trained jobs for the region, these provisions can also support the training and hiring among tribes and historically underserved communities. PLAs can additionally support strong workforce development, training programs and improve safety by ensuring that labor standards are met. Strong PLAs with thoughtful Local and Targeted Hiring provisions can secure employment and economic growth for local communities, supporting continued community reinvestments. PLAs have already been used in offshore wind development projects in the United States. For example, offshore wind projects off the coast of Martha's Vineyard and Virginia Beach have signed PLAs with local trade unions to support worker safety and strong training programs.²¹ Additionally, Ørsted has signed a PLA with the North America's Building Trades Union (NABTU) to create job opportunities and apprenticeship programs related to offshore wind.²² PLAs are likely to be a key lever to deliver jobs and workforce development training programs to local communities.

Bid Credits can leverage the federal auction process to provide community benefits

Both CBAs and PLAs can be included in offshore wind design through the auction process as requirements or in exchange for bid credits. Requirements for all developers, also known as stipulations, set a foundation for the benefits an auction can deliver. Auction procedures can also include optional bid credits, where bidders that can demonstrate commitments to specific factors are eligible to receive a percentage credit of their cash bid to elevate their overall bid. In the 2022 Carolina Long Bay auction, bid credits were used to increase developer bids for those who had or those who committed to workforce development programs.²³ Bid credits have been used in a number of BOEM-led offshore wind auctions. California's PACW-1 auction offered up to a 30% bid credit consisting of a 20% workforce and supply chain development credit, 5% lease area user CBA credit, and 5% general CBA bid credit.

Case Study

Vineyard Wind highlights opportunities for community engagement

Located in Massachusetts, Vineyard Wind is one of the United States' first fixed-bottom offshore wind projects. In 2021, Vineyard Winds signed a PLA with the Southeastern Massachusetts Building Trades Council.²⁴ These agreements will cement developers' promises of local hiring and supply chains after project implementation has begun. Most significantly, the PLA supports outreach initiatives to recruit and train people from underserved communities with a \$500,000 special fund for pre-apprenticeship and other recruitment programs.

Vineyard Wind also entered into a CBA with Vineyard Power Cooperative, an energy development group in Martha's Vineyard in 2015. The CBA developed a framework for delivering benefits to the local community and laid the groundwork for a purchasing power agreement.²⁵ This engagement directly led to increased public participation and information sharing on the Vineyard Wind project.²⁶ This partnership shows how local community choice aggregators like Vineyard Power Cooperative can work with offshore wind developers to provide opportunities for public engagement and benefits.²⁷

Finally, in partnership with the Town and County of Nantucket, Vineyard Winds created the Nantucket Offshore Wind Community Fund to invest in the community, supporting coastal resiliency and local historical resources. Vineyard Winds provided an initial \$4 million to this fund in 2020, several years after securing the lease and the initial CBA in the region.²⁸



A wind turbine nacelle in the Port of Ejsberg in October 2022 during a tour with California state agencies and other advocates.

Case Study

New York State is leveraging the offshore wind industry for significant job creation and workforce development programs

There are three general areas identified for offshore wind development off the coast of New York state: Empire Wind, the New York Bight (NY Bight), and Sunrise Wind.²⁹ Empire Wind and Sunrise Wind have submitted and are awaiting approval of Construction and Operation Plans (COP) while the NY Bight area recently made headlines for the record lease sales of over \$4.37 billion.³⁰

Both COPs — for the Sunrise Wind 2013 lease, and the Empire Wind 2016 lease — contain recommendations for mitigating the impacts of operations on environmental justice communities continuously assessing those impacts throughout the development process.³¹ The NY Bight Final Sale Notice also outlined several stipulations for Project Labor Agreements, local supply chain investments, transmission planning, and reporting requirements on engagement with tribes and underserved communities.³² Given these upcoming projects, New York is leveraging offshore wind to create jobs and workforce development programs through:

1. New York's Climate Leadership and Community Protection Act (CLCPA)

Passed in 2019, New York's Climate Leadership and Community Protection Act (CLCPA) set a state target of 9 GW of offshore energy by 2035. Additionally, the CLCPA recognizes that environmental justice concerns will persist without direct action and sets a goal for disadvantaged communities to receive 40% of "overall benefits of spending on clean energy and energy efficiency programs, projects or investment."³³ The actual benefits realized by the CLCPA are unclear, especially because offshore wind development projects are federally located and have not yet generated many jobs or monetary benefits for the state.³⁴

2. New York's commitment to local content and a local workforce for offshore wind development

The State of New York has committed to generating a strong local offshore wind workforce and supporting a local supply chain through the Sunrise Wind project. In October 2021, Governor Kathy Hochul announced a state investment of \$86 million to promote a local New York supply chain for offshore wind components, local unionized workforce development, and targeted investments into port development.³⁵

New York also funds the Offshore Wind Training Institute (OWTI) which provides specialized education in offshore wind operations, maintenance, and construction practices.³⁶ Additionally, the OWTI provides funding opportunities for other educational programs that can support offshore wind jobs; these competitive grants stipulate that at least 50% of trainees must be from disadvantaged communities or priority populations.³⁷ Combined with local supply chain development, the impacts of OWTI could bring significant equity benefits to New York offshore wind projects. New York state-led programs and policies help to center racial and socioeconomic equity in the state's offshore wind projects. New York's state policies and guidance in offshore wind have provided strong frameworks for the development of community benefits.³⁸

APPLYING LESSONS LEARNED FOR BENEFITS ON THE PACIFIC

Humboldt: Community-Driven Advocacy Centered by Process

To date, the Humboldt region has been deeply engaged in offshore wind, with community groups, tribes, and other parties meeting with developers, state, and federal representatives. In addition to the significant offshore wind potential beyond the current Wind Energy Areas, the Humboldt region may support significant development off the coast of Cape Mendocino, Crescent Bay, and Southern Oregon.

Transmission and port buildout can generate significant economic benefits

The economic impacts of offshore wind reach beyond the construction of the wind turbines themselves. Critically, the Humboldt region is not as well connected to the greater California energy grid, nor does it currently have adequate port infrastructure for offshore wind development. The Humboldt WEA may have a capacity of around 1.8 GW, enough to power 500,000 homes.³⁹ This energy potential would require further transmission build out, both off the coast and on land. Additionally, the California Energy Commission (CEC) recently approved a \$10.5 million dollar grant to begin port upgrades related to offshore wind.⁴⁰ Federal investments and tax breaks will also provide much needed capital as the total estimated cost for wind-related port upgrades are around \$124 million.⁴¹ The Humboldt Bay Recreation and Conservation District with Crowley Wind Services' recently announced partnership affirms intentions to move forward on constructing wind-related facilities.⁴² These offshore wind-related developments are also opportunities for long-term, good-paying jobs and economic growth in the Humboldt region.

Tribal and environmental justice engagement in the offshore wind process is crucial

There is significant existing interest by tribes and local community organizations to become involved in shaping offshore wind development in the Humboldt region. The Humboldt Area Foundation developed the Redwood Region Climate & Community Resilience Hub (CORE Hub), which advocates for an equitable buildout of offshore wind energy.⁴³ Additionally, the Redwood Coast Energy Authority (RCEA), a joint powers agency that serves many organizations in Humboldt county, submitted an offshore wind development proposal that included letters of engagement with local tribes, community groups, and agencies signaling an intent for ongoing partnership and communication.⁴⁴ While ultimately unsuccessful in securing a lease in PACW-1, RCEA was one of the qualified bidders in the December 2022 Humboldt WEA auction.⁴⁵

Government-to-government consultations and engagement of tribal communities play a huge role in these outcomes. Public comments submitted by the California Indian Legal Services, CORE Hub, and the Yurok Tribe also highlight specific concerns related to tribal communities. These concerns include the need for Targeted Hiring for tribal communities as well as increased support for the greater Humboldt Area.⁴⁶ Additionally, tribes have expressed concerns and need for additional protective measures to address the high rates of Murdered and Missing Indigenous People in Northern California.⁴⁷

Additional support for deep consultations and engagement of local communities can be found in state processes such as the California Coastal Commission (CCC) Consistency Decision. Regarding offshore wind development in Humboldt, the CCC laid out the conditions that lessees will "engage with environmental justice and local communities," which could help ensure that procedural justice remains a cornerstone of offshore wind development in the Humboldt WEA.⁴⁸

Offshore wind-related construction and port development bring air pollution concerns

Additionally, environmental justice issues have arisen with offshore wind-related infrastructure construction and development. The Humboldt Bay Harbor District is a significant source of pollution in Humboldt county, and related activity at the port could increase local residents' exposure to pollution.⁴⁹ Low or zero-emission alternatives for port activities and infrastructure construction should be considered, such as the use of electric and low-NOx trucks and electric machinery.⁵⁰ Further, the offshore wind developer could take this opportunity to fund environmental remediation projects in the area, which would have a positive impact on local environmental equity.

Maintaining local livelihoods is a key concern for fisheries

Fishermen remain an important part of the Humboldt economy. The fishing industry should be included in the offshore wind development plans in the Humboldt region. Seven fishermen's associations combined to form the California Fishermen's Resiliency Association in order to negotiate with developers on offshore wind.⁵¹ While a recent U.S. Army Corps of Engineers study found that the number of fishermen is comparatively low in Humboldt compared to the rest of the state, fish landings still amount to approximately five metric tons per year which is valued at around 12 million dollars.⁵²

Fishing organizations are likely to develop a strategy with state agencies for understanding and mitigating offshore wind's adverse impacts to fisheries.⁵³ Fishermen have asked for increased monitoring of fishery impacts at the site, such as determining whether turbines concentrate local fish populations, which could reduce fishery production in other parts of the bay.⁵⁴ Maintaining the livelihoods and developing shared mitigation strategies with fishermen will continue to be important in offshore wind development.

Morro Bay: Additional Energy Grid Considerations

The Morro Bay and the broader Central California Coast region have had a long history of energy generation, with significant oil and gas generation facilities and the Diablo Canyon nuclear plant. The Morro Bay WEA offers opportunities for local communities to shut down natural gas powered plants located in environmental justice communities.⁵⁵ Local government agencies and elected officials have been strong drivers of offshore wind-related grid conversations.⁵⁶ While these grid considerations are important, further community engagement and environmental justice considerations are critical to the equitable development of offshore wind in the region.

Offshore wind can bring significant economic benefits to Morro Bay

The Morro Bay offshore wind projects could generate significant jobs and economic benefits during a project's 30-year operational phase. After construction, offshore wind operations would also generate \$16.6 million in local economic activity each year.⁵⁷ Additionally, local counties can expect a spike in employment during the 3-year assembly period, when direct and indirect local employment effects could reach 700 annual jobs, largely due to turbine manufacture, port upgrades, and retrofits of the Morro Bay Power Plant.⁵⁸



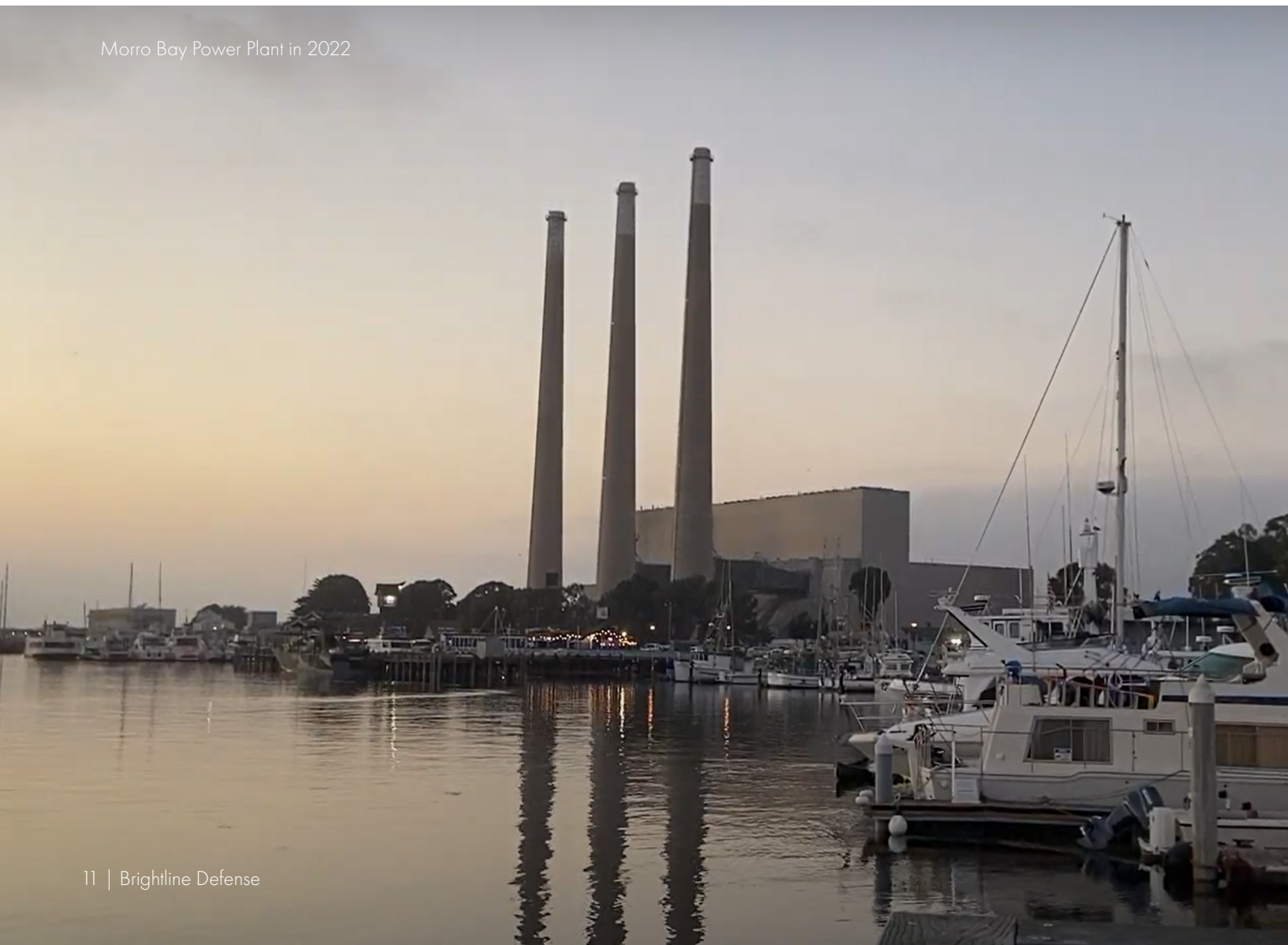
View of boats on
Humboldt Bay

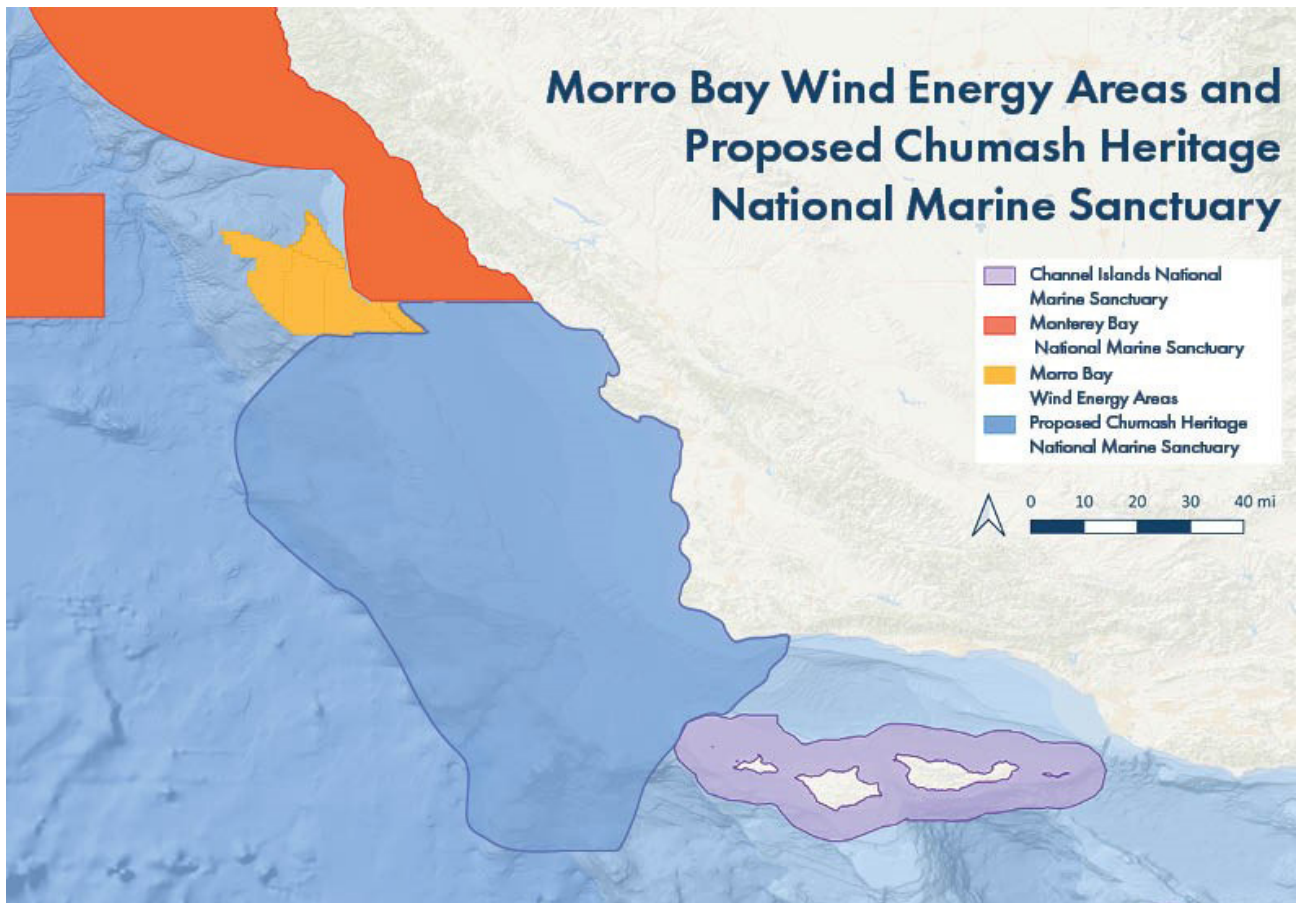
These economic activities could be delivered through existing developer commitments to local hiring, local training, and local supply chain development. Targeted Hiring and training of individuals most likely to be impacted by the offshore wind development, such as fishermen. A CBA between Castle Wind and the City of Morro Bay specifies that Castle Wind would help fund “green solutions” in the city, such as electric car chargers.⁵⁹ The City of Morro Bay could call upon this “green solutions” agreement to mitigate environmental and human health impacts from port infrastructure upgrades and the associated increase in boat, automobile, truck, and human traffic.⁶⁰ Additional developers using the bid credits in the BOEM auction process could bring further economic benefits to the Morro Bay region.

Developer-initiated discussions have potential to lead to community benefits

Castle Wind has been an active developer in the offshore wind space on the Pacific Coast and particularly engaged in the Morro Bay Area. The City of Morro Bay and Castle Wind signed a Memorandum of Cooperation on October 5, 2015, announcing cooperation between the two parties to work on the proposed project.⁶¹ On August 8, 2017, Castle Wind brought a CBA to the Morro Bay City Council, but it was not approved because of lack of support from the Morro Bay Commercial Fishermen’s Organization (MBCFO).⁶² The City of Morro Bay also requested an analysis of the positive economic benefits and impacts to Morro Bay and the region.⁶³ The City of Morro Bay and Castle Wind took three years to establish a CBA that was signed on November 29, 2018. While Castle Wind did not win any lease areas in the December 2022 auction, these agreements highlight the precedent for local community and developers to create pathways for more benefits.

Morro Bay Power Plant in 2022





Avoiding conflicts with the proposed Chumash Heritage National Marine Sanctuary

The biodiversity off of California’s Central Coast is important to offshore wind discussions, especially as the Morro Bay WEA would border the proposed Chumash Heritage National Marine Sanctuary. While the two areas do not overlap, BOEM is prohibited from leasing and building in federally-designated national marine sanctuaries. In their letter to the National Oceanic and Atmospheric Administration (NOAA), BOEM outlined its goals with offshore wind development and the cooperation needed for allowing transmission cables and construction activities.⁶⁴ The Chumash Heritage National Marine Sanctuary would preserve coastal marine ecosystems as well as sacred Chumash sites.⁶⁵ The co-designation and cooperation between NOAA and BOEM are important levers to maintain the dual environmental justice goals of tribal sovereignty and energy decarbonization.

Mitigating fishery and fishing livelihood impacts is a key concern

Local fishermen are a cornerstone of the Morro Bay community. The most recent Morro Bay Commercial Fisheries Economic Impact Report, dated 2017, detailed an average landing of 3-4 million pounds per year, which in turn yielded 7-8 million dollars and supported an estimated 200 jobs in Morro Bay, or 5.7% of the city’s 3,500 local jobs.⁶⁶ Fishermen have raised concerns about the loss of further fishing grounds to the offshore wind development.⁶⁷

In 2022, Castle Wind also signed a Mutual Benefits Agreement in partnership with MBCFO and Port San Luis Commercial Fishermen’s Association (PSLCFA). It created a fund to support MBCFO and PSLCFA members, along with a fund for infrastructure and equipment that would benefit the fishing industry.⁶⁸ These agreements between local communities and Castle Wind show opportunities for agreements for offshore wind areas and delivering benefits to current lease area users.



Oregon: Emerging Fisheries and Community Concerns

The conversation on offshore wind in Oregon is still developing but already includes robust discussions on community challenges and benefits. The Oregon House passed a bill in 2021 that directed the Oregon Department of Energy to study the benefits and challenges of deploying 3 GW of floating offshore wind in the state.⁶⁹ The interest in offshore wind further increased when the Bureau of Ocean Energy Management identified two Call Areas in Oregon in 2022.⁷⁰ Learning from other recent energy projects, Oregon's fishing and local communities are already having discussions about offshore wind's potential impacts.

Oregon offshore wind energy cost considerations can provide net economic benefits

The cost of offshore wind development is important for the Oregon energy market viability.⁷¹ A National Renewable Energy Laboratory report demonstrates that 2.6 GW of offshore wind energy in Oregon could provide cumulative benefits of \$85/MWh, which is higher than the predicted 2032 LCOE for offshore wind used in the study, \$63/MWh.⁷² These benefits come from displacing 880-1580 MW of gas-fired power while maintaining the same level of statewide energy reliability. By reducing fossil fuel pollution, reducing total system variable costs (fossil fuels have higher variable costs than renewables), and ensuring robust system capacity when net demand is high ("capacity value"), offshore wind in Oregon provides net positive economic benefits.⁷³ Further, with proper transmission and storage buildout, even a 5 GW installation could produce positive net economic benefits, ranging from \$65-\$75/MWh, again higher than the \$63/MWh LCOE that is predicted. These numbers do not include localized economic benefits from offshore wind development, such as job creation and increased local spending; rather, they indicate that on a long-term, state-wide level, offshore wind in Oregon passes rudimentary cost-benefit analysis.

Oregon's significant fishing industry must be meaningfully engaged

Oregon's fishing industry is a critical community to consider due to its size and importance to the state's economy.⁷⁴ Oregon's fishing industry accounts for \$1.2 billion of state GDP, compared to \$200 million in California, representing .5% and .007% of state GDP, respectively.⁷⁵ Monetary compensation for Oregon fishermen would likely need to be greater than the compensation used in California, in addition to mitigations needed to further support a thriving fishing industry.

Maintaining frequent communication with fishermen is necessary to build trust with fishing communities; fishermen have often reported that having their input meaningfully considered is crucial, especially considering local perceptions that East Coast fishermen were not meaningfully involved in East Coast offshore wind projects.⁷⁶ Indeed, after Oregon Call Areas were proposed, representatives from fishing communities raised concerns that the areas encroached on productive fishing grounds, and many fear that offshore wind planning processes will not include enough meaningful engagement with fishermen.⁷⁷ BOEM has since changed the Call Areas, eliminating one entirely. It remains to be seen how fishermen will react to this development. Concerns about displacing local economic activity with out-of-state or out-of-country economic benefits could be mitigated by local hiring and supply chain stipulations.⁷⁸ Oregon has seen local sourcing agreements previously in agreements on past energy projects.⁷⁹

Oregon offshore wind poses challenges to and potential benefits for local Indigenous communities

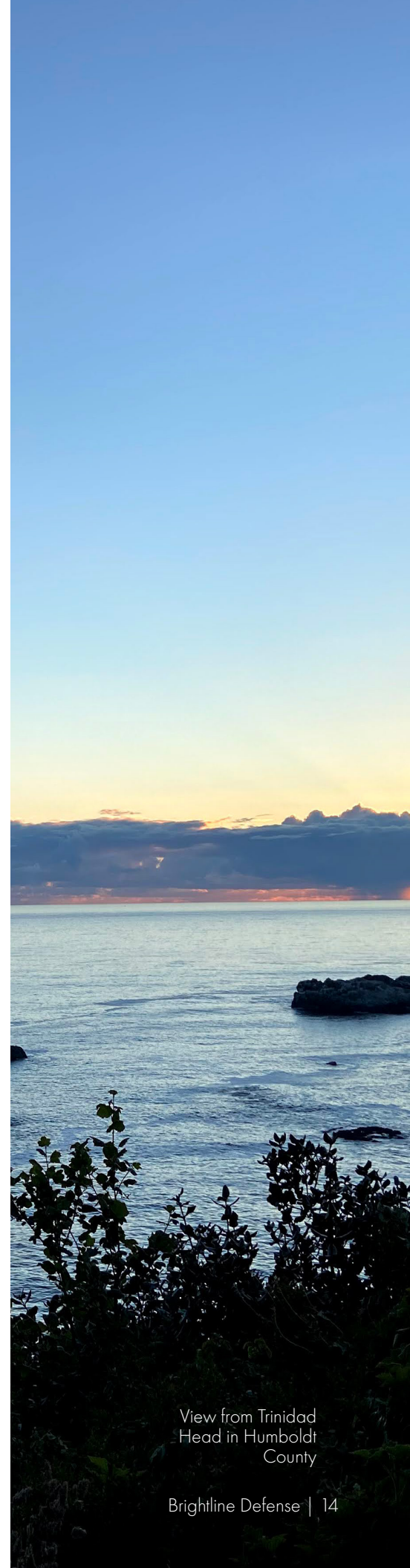
As in California, tribes and local communities in Oregon have an interest in offshore wind. Indigenous tribes in Southern Oregon have historically derived economic and cultural livelihoods from salmon and steelhead fishing, and based on tribes' recent opposition of a natural gas pipeline, preserving fish species will be a primary concern for offshore wind development.⁸⁰ While the Coos Call Area edges into some ocean salmon fisheries, the majority of such fisheries are outside the Call Areas; the Brookings Call Area, which was later removed, had the highest encroachment into salmon fisheries.⁸¹ Additionally, most salmon migrations occur in the Columbia river, away from the Call Areas.⁸² Early and frequent consultations with local tribes are needed to have an equity-centered development process.

Beyond Current Offshore Wind Development States will continue to play an important role to deliver offshore wind benefits

State strategic planning, such as that led in California by the California Energy Commission under Assembly Bill 525 is important, but further steps must be taken to ensure that material support and benefits are delivered to local communities. Both Oregon and California's state governments can play significant roles in working with federal agencies to uplift regional community voices and advocate for state-specific benefits.⁸³ States and local governments can also enact policies that protect further benefits such as support for strong workforce development programs that target tribes and historically underserved communities. State government-led programs on the East Coast have opened up for deep investments in communities through the nurturing of women- and minority-owned businesses and creation of targeted job training programs.⁸⁴ Furthermore, states can lead environmental and adaptive management practices that are coupled with stakeholder bodies like the Regional Wildlife Science Collaborative for Offshore wind. The role of state governments will continue to be important with the further development of offshore wind on the Pacific Coast.

Federal focus on future developments to support benefits through auction design

As BOEM continues to lead floating and fixed-bottom offshore wind auctions throughout the county, the lease process has evolved to include provisions to direct benefits to regional communities. As seen in the December 2022 California auction, the auction design included benefits allocated to communities not seen in previous lease processes.⁸⁵ However, bid factors and stipulations in California were not enough to meet the needs outlined by regional tribes and communities.⁸⁶ BOEM's auction process continues to be a critical piece for regional community benefits delivery that can be further improved.



View from Trinidad Head in Humboldt County

CONCLUSION

Floating offshore wind development on the Pacific Coast of the United States has the potential to bring strong community benefits and opportunities. With development quickly moving in California's Humboldt and Morro Bay Wind Energy Areas, attention should be given to community interests to mitigate impacts of offshore wind especially with tribes, fishing communities, and local underserved communities. Community voices have been driving equity conversations, including the need for deep investments into local infrastructure, programs, and people. While offshore wind development in Oregon and Washington is still emerging, fishing and local community concerns are important to consider as development continues. The path forward to the equitable development of offshore wind on the Pacific Coast must center around community interests.



Offshore wind turbines off the coast of Denmark

Endnotes

- 1 Eddie Ahn, Sarah Xu, Dilini Lankachandra, et al., *California Offshore Wind: Winding Up for Economic Growth & Environmental Equity*, Brightline Defense, December 2020, <https://www.offshorewindnow.com/brightline-defense-report>.
- 2 The California Energy Commission (CEC) has set a planning goal of 25 GW by 2045. The California Air Resources Board (CARB) included 20 GW of offshore wind in their 2022 scoping plan that outlines California's plan for a carbon neutral future.
2022 Scoping Plan for Achieving Carbon Neutrality, California Air Resources Board (November 16, 2022), <https://ww2.arb.ca.gov/sites/default/files/2022-11/2022-sp.pdf>.
Offshore Wind Energy Develop off the California Coast CEC-900-2022-001-REV, California Energy Commission (August 2022), <https://www.energy.ca.gov/filebrowser/download/4361>.
- 3 *Biden Administration Jumpstarts Offshore Wind Energy Projects to Create Jobs*, White House (March 29, 2021), <https://www.whitehouse.gov/briefing-room/statements-releases/2021/03/29/fact-sheet-biden-administration-jumpstarts-offshore-wind-energy-projects-to-create-jobs/>.
- 4 Walter Musial, Paul Spitsen, Patrick Duffy, Philipp Beiter, Melinda Marquis, Rob Hammond, and Matt Shields, *Offshore Wind Market Report: 2022 Edition*, U.S. Department of Energy (2022), <https://www.energy.gov/sites/default/files/2022-09/offshore-wind-market-report-2022-v2.pdf>.
- 5 Jen McCann, *What Is the Permitting Process for Large Wind Farms?* (July 1, 2020), <https://web.uri.edu/offshore-renewable-energy/ate/what-is-the-permitting-process-for-large-wind-farms/>.
- 6 87 FR 64093, <https://www.federalregister.gov/documents/2022/10/21/2022-22871/pacific-wind-lease-sale-1-pacw-1-for-commercial-leasing-for-wind-power-on-the-outer-continental>.
- 7 The energy generation potential estimations do vary based on final leasing area designs and are limited based on transmission capacity. The 3.9 GW estimation is based on the California Independent Service Operator (CAISO) 20-Year Transmission Outlook.
20-Year Transmission Outlook, California Independent Service Operator (May 2022), <http://www.caiso.com/Initiative-Documents/20-YearTransmissionOutlook-May2022.pdf>.
- 8 The "3 billion dollars" figure measures total statewide output, including other parts of California, not just the North Coast. Steve Hackett and Julia Anderson, *California North Coast Offshore Wind Studies Economic Development and Impacts*, Schatz Energy Research Center (2020), <http://schatzcenter.org/pubs/2020-OSW-R10.pdf>.
- 9 The reduction of three Call Areas to two was led by BOEM after receiving feedback during a February 2022 presentation on Oregon offshore wind potential.
Presentation by BOEM to the Oregon Department of Energy (ODOE) Floating Offshore Wind Study Public Meeting 3, Bureau of Ocean Energy Management (May 11, 2022), <https://www.oregon.gov/energy/energy-oregon/Documents/2022-05-11-ODOE-FOSW-Meeting-PPT.pdf>.
- 10 *Relating to floating offshore wind energy; and prescribing an effective date*, HB-3375, 81st OREGON LEGISLATIVE ASSEMBLY (2021), <https://olis.oregonlegislature.gov/liz/2021R1/Downloads/MeasureDocument/HB3375/Enrolled>.
- 11 *Renewable Portfolio Standard*, Oregon Department of Energy (n.d.) <https://www.oregon.gov/energy/energy-oregon/pages/renewable-portfolio-standard.aspx>.
- 12 Trident Winds had submitted an unsolicited lease to a region that has evolved to the current Morro Bay Wind Energy Area in 2016.
Request for Interest in California Offshore Wind, Bureau of Ocean Energy Management (n.d.), <https://www.boem.gov/Request-for-Interest-in-California-Offshore-Wind>.
- 13 *Unsolicited Request for an Outer Continental Shelf Renewable Energy Commercial Lease Under 30 CFR 585.230*, Trident Winds (April 12, 2022), https://tridentwinds.com/wp-content/uploads/2022/04/2020-04-12_twinc_ow_boem-ur_public_v1.pdf.
- 14 Philipp Beiter, Walt Musial, Patrick Duffy, Aubryn Cooperman, Matt Shields, Donna Heimiller, and Mike Optis, *The Cost of Floating Offshore Wind Energy in California Between 2019 and 2032*, National Renewable Energy Laboratory (November, 2020) <https://www.nrel.gov/docs/fy21osti/77384.pdf>.
- 15 *Ibid.*
- 16 *Floating Offshore Wind Shot*, Department of Energy (n.d.), <https://www.energy.gov/eere/wind/floating-offshore-wind-shot>.
- 17 *Offshore Wind Moratorium: Resolution: #ECWS-23-005*, National Congress of American Indians (February 2023), <https://assets.bwbx.io/documents/users/iqjWHBFdfxIU/r2DmaqtznhvU/v0>.
- 18 Kirk Moore, *Pacific fishery council calls for a new start to offshore wind planning*, National Fisherman (March 11, 2023), <https://www.nationalfisherman.com/west-coast-pacific/pacific-fishery-council-calls-for-new-start-to-offshore-wind-planning>.
- 19 *Regional Wildlife Science Collaborative on Offshore Wind*, RWSC (n.d.), <https://rWSC.org/about/>.
- 20 Lawrence M. Ausubel and Peter Cramton, *Auction Design for Wind Rights*, Bureau of Ocean Energy Management (August 9, 2011), https://www.boem.gov/sites/default/files/uploadedFiles/BOEM/Renewable_Energy_Program/Regulatory_Information/AusubelCramtonPaper1.pdf.
- 21 *Supra* 5.
- 22 *Dominion Energy, Trade Unions Announce Coastal Virginia Offshore Wind Partnership*, Dominion Energy (September 16, 2021), <https://news.dominionenergy.com/2021-09-16-Dominion-Energy,-Trade-Unions-Announce-Coastal-Virginia-Offshore-Wind-Partnership>.
Building Trades Unions and Vineyard Wind Sign Historic Project Labor Agreement, Ed Markey (July 16, 2021), <https://www.markey.senate.gov/news/press-releases/building-trades-unions-and-vineyard-wind-sign-historic-project-labor-agreement>.
- 23 *North America's Building Trades Unions and Ørsted Agree to Build an American Offshore Wind Energy Industry with American Labor*, Ørsted (May 5, 2022), <https://us.ored.com/news-archive/2022/05/national-off>

shore-wind-agreement.

23 86 FR 60274, <https://www.federalregister.gov/documents/2021/11/01/2021-23801/atlantic-wind-lease-sale-9-atlw-9-for-commercial-leasing-for-wind-power-on-the-outer-continenta>.

24 Supra 21.

25 *Community Benefits Agreement Summary, Vineyard Power Cooperative and Offshore MW*, <https://static1.squarespace.com/static/57797a98414fb50acf42515d/t/579b845229687f6efd779504/1469809746655/Community+Benefits+Agreement+Summary.pdf>.

26 Sarah C. Klain, Terre Satterfield, Suzanne MacDonald, Nicholas Battista, and Kai Chan, *Will communities "open-up" to offshore wind? Lessons learned from New England Islands in the United States*, *Energy Research & Social Science* (December 2017), <https://www.sciencedirect.com/science/article/pii/S2214629617301172>.

27 Because CCAs are grounded in local communities and run by elected officials (thus publicly accountable), they provide unique opportunities for civic engagement as opposed to an investor-owned utility; like Vineyard Wind, they promote renewable energy and local control of energy resources. However CCA's are not a one-to-one comparison with Vineyard Power, as they are public institutions, not community-owned non-profits.

Felicity Monk, *How Is Energy Justice Built Into Community Choice Aggregation? A Comparative Case Study of the Lowell Community Choice Power Supply Program and Cape Light Compact, Massachusetts* (2020), <https://aura.antioch.edu/cgi/viewcontent.cgi?article=1624&context=etds>.

28 *Vineyard Wind and Nantucket Announce Community Partnership* (September 8, 2020), <https://www.nantucket-ma.gov/DocumentCenter/View/37349/Vineyard-Wind-and-Town-of-Nantucket-Press-Release-Septembe-8-2020-PDF?bidId=>.

29 Importantly, the South Fork Wind Project off the coast of Massachusetts and Rhode Island will connect to the grid on Long Island. Developer Ørsted has a \$28.9 million "Host Community Agreement" with East Hampton Town, a wealthy community. This reflects the similar community fund in Massachusetts with the Town and County of Nantucket, where wealthy communities have been able to secure significant benefits.

Adnan Durakovic, *Ørsted Agrees to Multi-Million South Fork Community Benefit Package*, *Offshore Wind Biz* (September 14, 2020), <https://www.offshorewind.biz/2020/09/14/orsted-agrees-to-multi-million-south-fork-community-benefit-package/>.

30 *Biden-Harris Administration Sets Offshore Energy Records with \$4.37 Billion in Winning Bids for Wind Sale*, U.S. Department of the Interior (February 25, 2022), <https://www.doi.gov/pressreleases/biden-harris-administration-sets-offshore-energy-records-437-billion-winning-bids-wind>.

31 *Construction & Operations Plans: Sunrise Wind Farm Project, Sunrise Wind* (August 23, 2021), <https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/SRW01-COP-2021-08-23.pdf>.

Empire Offshore Wind: Empower Wind Project (EW 1 and EW 2), Equinor (July 2021), https://www.boem.gov/sites/default/files/documents/renewable-energy/Public_EOW%20COP_v3.4_Volume%201_Redacted.pdf.

32 81 Fed. Reg. 75429 <https://www.boem.gov/sites/default/files/renewable-energy-program/State-Activities/NY/NY-FSN-Federal-Register-10-31-16.pdf>

33 *Our Climate Act, New York State* (n.d.), <https://climate.ny.gov/Our-Climite-Act>.

34 Hillary Aidun, Julia Li, and Antonia Pereira, *The Climate Leadership and Community Protection Act's Environmental Justice Promise*, *Columbia Law School Sabin Center for Climate Change Law* (April 2021), <https://climate.law.columbia.edu/sites/default/files/content/CLCPA%20EJ%20White%20Paper%204.8.21.pdf>.

35 *Governor Hochul Announces Largest, Single New York State Offshore Wind Supply Chain Award of \$86 Million to Support Sunrise Wind Project*, *New York State* (October 8, 2021), <https://www.governor.ny.gov/news/governor-hochul-announces-largest-single-new-york-state-offshore-wind-supply-chain-award-86>.

36 *Workforce Development, New York State* (n.d.), <https://www.nyserda.ny.gov/All-Programs/Offshore-Wind/Focus-Areas/Supply-Chain-Economic-Development/Workforce-Development>.

37 For New York, "Disadvantaged Communities" are defined as census tracts with the greatest percentage of households earning below 50 percent of median and are designated "environmental justice areas"; "priority populations" include veterans, individuals with disabilities, low-income individuals, fossil fuel workers, previously incarcerated individuals, young people trained for environmental work, homeless individuals, and single parents.

New York State Offshore Wind Training Institute – Workforce Training and Skills Development, *NYSERDA* (2021), <https://portal.nyserda.ny.gov/servlet/servlet.FileDownload?file=00P1000000RdXfxEAF>.

38 The relative success of New York State's community-centered projects indicate that the role of California's state agencies, such as the California Energy Commission and California Public Utilities Commission, could be vital to securing community benefits.

39 Aisha Cissna, *Redwood Coast Energy Authority's Comments on the Proposed Decision Adopting 2021 Preferred System Plan*, *CPUC* (January 14, 2022), <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M441/K159/441159640.PDF>.

40 *State Approves \$10.5 Million to Prepare the Port of Humboldt Bay for Offshore Wind*, *California Energy Commission* (March 9, 2022), <https://www.energy.ca.gov/news/2022-03/state-approves-105-million-prepare-port-humboldt-bay-offshore-wind>.

41 *Special Meeting Of The Board Of Commissioners Humboldt Bay Harbor, Recreation And Conservation District*, *North Coast Journal* (July 1, 2021), https://www.northcoastjournal.com/media/pdf/agenda_packet_07-01-2021.pdf.

42 Isabella Vanderheiden, *Together We Can Shape Offshore Wind for The West Coast*, *Lost Coast Outpost* (October 27 2022), <https://lostcoastoutpost.com/2022/oct/27/together-we-can-shape-offshore-wind-west-coast-har/>.

43 *Redwood CORE hub* (n.d.), <https://redwoodcorehub.org/>.

44 *The Da'luk, Wiyot Tribe* (September 1, 2021), <https://www.wiyot.us/Archive/ViewFile/Item/259>.

45 Supra 5.

46 In response to PSN comments, BOEM outlined FSN stipulations that could direct funding to mitigate adverse impacts of offshore wind development.

Pacific Wind Lease Sale (PACW-1) Final Sale Notice (FSN) Response to Comments, *Bureau of Ocean Energy Management* (October 2022), <https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/>

PACW-1%20Response%20to%20CA%20PSN%20Comments.pdf.

47 Comment from Yurok Tribe, Bureau of Ocean Energy Management (July 31, 2022), <https://www.regulations.gov/comment/BOEM-2022-0017-0037>.

48 "Engagement" entails the development of an Engagement Plan in coordination with communities, that lays out how the developer will conduct outreach to environmental justice communities (such as low income and BIPOC communities, including non-proficient English speakers) during all phases of project development.

CD-0001-22, California Coastal Commission (April 7, 2022), <https://documents.coastal.ca.gov/reports/2022/4/Th8a/Th8a-4-2022-appendices.pdf>.

49 CalEnviroScreen 4.0 (October 20, 2021), <https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-40>. Ports Primer: 7.1 Environmental Impacts, EPA (n.d.), <https://www.epa.gov/community-port-collaboration/ports-primer-71-environmental-impacts>.

50 The Port of Los Angeles has implemented and plans to continue to reduce the air pollution of their ports through similar measures.

Port of Los Angeles Inventory of Air Emissions - 2020, Port of Los Angeles (n.d.), <https://www.portoflosangeles.org/environment/air-quality/air-emissions-inventory>.

51 Sonia Warach, *Fishermen join forces amid Humboldt County offshore wind development*, Times-Standard (June 11, 2022), <https://www.times-standard.com/2022/06/11/fishermen-join-forces-amid-humboldt-county-offshore-wind-development/>.

Fishermen's importance to Humboldt county is further affirmed by a Memorandum of Understanding (MOU) between RCEA and Fishermen, dated August 31, 2018.

Memorandum Of Understanding Between The Redwood Coast Energy Authority And The Humboldt Fishermen's Marketing Association, Redwood Coast Energy Authority (August 31, 2018), <https://redwoodenergy.org/wp-content/uploads/2018/12/HFMA-RCEA-MOU-Final-MRMsigned.pdf>.

52 86 FR 40791, <https://www.regulations.gov/document/USCG-2021-0345-0001>.

Humboldt Bay Maritime Industrial Use Market Study, BST Associates for Humboldt County, Humboldt County (May 31, 2018), <https://humboldt.gov.org/DocumentCenter/View/64265/Humboldt-Bay-Maritime-Industrial-Use-Market-Study-2018-PDF>.

53 CD-0001-22, California Coastal Commission (April 7, 2022), <https://documents.coastal.ca.gov/reports/2022/4/Th8a/Th8a-4-2022-appendices.pdf>.

54 Meeting of Joint Committee on Fisheries and Aquaculture, California Senate (May 3, 2019), <https://www.senate.ca.gov/media/joint-committee-fisheries-aquaculture-20190503/video>.

55 CAISO's 20-Year Transmission Outlooks identifies the Morro Bay WEA as needing less transmission improvements due to the existing energy grid.

20-Year Transmission Outlook, California Independent Service Operator (May 2022), <http://www.caiso.com/Initiative-Documents/20-YearTransmissionOutlook-May2022.pdf>.

Comment from Brightline Defense Project and the Central Coast Alliance United for a Sustainable Economy (CAUSE), Bureau of Ocean Energy Management (May 16, 2022), <https://www.regulations.gov/comment/BOEM-2021-0044-0160>.

56 Many Morro Bay and San Luis Obispo state and local elected officials testified at the House Committee on Natural resources Subcommittee hearing on offshore wind.

Power in the Pacific, *Unlocking Offshore Wind Energy for the American West*, U.S. House of Representatives (September 8, 2022), <https://docs.house.gov/Committee/Calendar/ByEvent.aspx?EventID=115084>.

57 Note: these figures are from 2019, when the predicted project size was 765 MW. The project has since been increased to 1000 MW, which could result in 150 annual local jobs during the O&M phase. A later report suggested that 1000 MW could result in over 100 annual jobs during the operational phase.

Hamilton, *Economic and Fiscal Impacts of the Morro Bay Offshore (MBO) Wind Farm Project*, Castle Wind (May 2, 2018) https://castlewind.com/wp-content/uploads/2019/09/MBOWF_Trident_Report.050218.pdf.

58 Cyrus Ramezani, Christopher Almacen, and Ben Stephan, *Economic Impact Of Offshore Wind Farm Development On The Central Coast Of California*, REACH Central Coast (April 3, 2021), https://reachcentralcoast.org/wp-content/uploads/Economic_Value_OSW_REACH.pdf.

59 Community Benefits Agreement Castle Wind Morro Bay Offshore Wind Farm Project (November 29, 2018) <https://s3.documentcloud.org/documents/5448635/Read-the-community-benefits-agreement-between.pdf>.

60 Ports Primer, EPA (n.d.), <https://www.epa.gov/community-port-collaboration/ports-primer-71-environmental-impacts>.

61 Minutes - Morro Bay City Council Special Meeting & Closed Session, Morro Bay City Council, \ (January 8, 2019), <http://www.morro-bay.ca.us/Archive/ViewFile/Item/4920>.

62 11 29 18 CMB City Council Special Meeting, Morro Bay City Council (November 29 2018), <https://youtu.be/vbGqohM6cbA?t=5216>.

63 29 18 CMB City Council Special Meeting, Morro Bay City Council (November 29 2018), <https://youtu.be/vbGqohM6cbA?t=5216>.

64 Comment from Bureau of Ocean Energy Management, NOAA (January 30, 2022), <https://www.regulations.gov/comment/NOAA-NOS-2021-0080-1055>.

65 An Area in Need of Protection, Proposed Chumash National Marine Sanctuary, Chumash Sanctuary (n.d.), <https://chumashsanctuary.org/purpose/>.

66 Morro Bay Commercial Fisheries 2017 Economic Impact Report, Lisa Wise Consulting, Inc. for MBCFO (December 2017) https://www.mbcfo.org/uploads/1/4/4/8/14484252/lwc_final_mb-econ2017_121817.pdf.

67 Supra 59.

68 Participation in the Morro Bay Lease Areas Mutual Benefits Corporation will be open to all developers and qualified fishermen, Castle Wind (October 19, 2022), <https://www.castlewind.com/new-mutual-benefits-corporation/>.

69 Floating Offshore Wind Study: Benefits & Challenges for Oregon, Oregon Department of Energy (n.d.), <https://www.oregon.gov/energy/energy-oregon/Pages/fosw.aspx>.

Relating to floating offshore wind energy; and prescribing an effective date, HB-3375, 81st OREGON LEGISLATIVE AS-
Brightline Defense | 18

SEMBLY (2021), <https://olis.oregonlegislature.gov/liz/2021R1/Downloads/MeasureDocument/HB3375/Enrolled>.
70 Bradley Parks, *Interior eyes Oregon for offshore wind energy development*, OPB (October 20, 2021), <https://www.opb.org/article/2021/10/20/offshore-wind-oregon-coast-biden/>.
71 *Floating Offshore Wind: Benefits & Challenges for Oregon*, Oregon Department of Energy (September 15, 2022), <https://www.oregon.gov/energy/Data-and-Reports/Documents/2022-Floating-Offshore-Wind-Report.pdf>.
72 A 2032 LCOE refers to an OSW project that begins delivering energy in 2032. This year is chosen because Oregon OSW will likely not start producing until at least 2030.
Josh Novacheck and Marty Schwarz, *Evaluating the Grid Impact of Oregon Offshore Wind*, National Renewable Energy Laboratory (October 2021), <https://www.nrel.gov/docs/fy22osti/81244.pdf> (31).
The \$63/MWh LCOE comes from an earlier NREL report which assumed 8 GW of floating offshore wind deployed by 2032, and a 7.5% decrease in cost for each doubling of installed capacity. This cost reduction rate is based on empirical cost reductions for fixed-bottom offshore wind.
Walt Musial, Patrick Duffy, Donna Heimiller, Philipp Beiter, *Updated Oregon Floating Offshore Wind Cost Modeling*, National Renewable Energy Laboratory (September 24, 2021), <https://www.nrel.gov/docs/fy22osti/80908.pdf>.
73 Josh Novacheck and Marty Schwarz, *Evaluating the Grid Impact of Oregon Offshore Wind*, National Renewable Energy Laboratory (October 2021), <https://www.nrel.gov/docs/fy22osti/81244.pdf>.
74 *Oregon Wind Fisheries Workshop - Module 3: Pacific salmon, highly migratory species, and coastal pelagic species*, BOEM (August 11, 2021) <https://www.boem.gov/regions/pacific-ocs-region/renewable-energy/oregon-wind-fisheries-workshop-module-3-pacific-salmon>.
75 *Economic Impact of Oregon's Marine Fisheries*, Oregon Department of Fish and Wildlife (n.d.), https://www.dfw.state.or.us/agency/economic_impact.asp.
Humboldt Bay Maritime Industrial Use Market Study, BST Associates for Humboldt County (n.d.), <https://humboldt.gov.org/DocumentCenter/View/64265/Humboldt-Bay-Maritime-Industrial-Use-Market-Study-2018-PDF>.
76 *Data Gathering and Engagement Summary Report*, Kearns and West for BOEM (January 2022), <https://www.boem.gov/sites/default/files/documents/Data%20Gathering%20and%20Engagement%20Report%20OR%20OSW%20Energy%20Planning%20January%202022.pdf>.
77 *West Coast Offshore Wind Call Area Announcement Raises Concerns, Oregon Dungeness Crab Commission Southern Oregon Ocean Resource Coalition*, Tillamook Headlight Herald (February 27, 2022), https://www.tillamook-headlightherald.com/news/west-coast-offshore-wind-call-area-announcement-raises-concerns/article_f071545a-95c0-11ec-be1e-03b41543e79c.html.
78 These types of benefits were seen in the Project Labor Agreement on the Vineyard Winds Project.
Building Trades Union and Vineyard Wind Sign Historic Project Labor Agreement, Vineyard Wind (2021), <https://www.vineyardwind.com/press-releases/2021/7/16/building-trades-union-and-vineyard-wind-sign-historic-project-labor-agreement>.
79 The WindFloat Pacific project highlights the need for community engagement and agreements for the success of large scale energy projects.
Kevin Banister, *WindFloat Pacific Project, Final Scientific and Technical Report*, Principle Power (January 17, 2017), <https://www.osti.gov/servlets/purl/1339449>.
80 Anna Smith, *What Northwestern tribes say about the Jordan Cove pipeline*, High Country News (January 29, 2018) <https://www.hcn.org/issues/50.2/tribal-affairs-what-northwestern-tribes-say-about-the-jordan-cove-pipeline>.
81 Whitney Hauer and Frank Pendleton, *BOEM Oregon Intergovernmental Renewable Energy Task Force Meeting*, BOEM (February 25, 2022), <https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/BOEM%20Oregon%20Proposed%20Call%20Area%20Presentation.pdf>.
82 *West Coast Salmon Fishing and Southern Residents: Part 2*, NOAA Fisheries, NOAA (April 3, 2020), <https://www.fisheries.noaa.gov/feature-story/west-coast-salmon-fishing-and-southern-residents-part-2>.
83 A joint letter from California State Agencies highlights and further enumerates the importance of investing offshore wind benefits in local communities and states.
Comment from California State Agencies, BOEM (July 31, 2022), <https://www.regulations.gov/comment/BOEM-2022-0017-0043>.
84 Vero Bourg-Meyers and Sam Schacht, *Offshore Wind and Equity: State of the States Report*, Clean Energy States Alliance (November 2022), <https://www.cesa.org/wp-content/uploads/Offshore-Wind-and-Equity.pdf>.
85 For example, compared to the Carolina Long Bay auction, the Pacific Wind Lease Sale 1 included more bid credits and stipulations for community engagement and local benefits.
Supra 23.
86 Carly Wipf, *Environmental and community organizations rally for a cut of offshore wind funding*, KRCR (October 21, 2022), <https://krcrtv.com/north-coast-news/eureka-local-news/environmental-and-community-organizations-rally-for-a-cut-of-offshore-wind-funding>.

