

A photograph of several offshore wind turbines in the Pacific Ocean. The turbines are white with yellow bases and are spaced out across the horizon. The sky is blue with scattered white clouds. The water is a deep blue.

Pacific Offshore Wind – Fishing, Shipping & Safety

May 29, 2025 Presentation for NAS
Committee

AMERICAN
CLEAN
POWER

Why Offshore Wind?

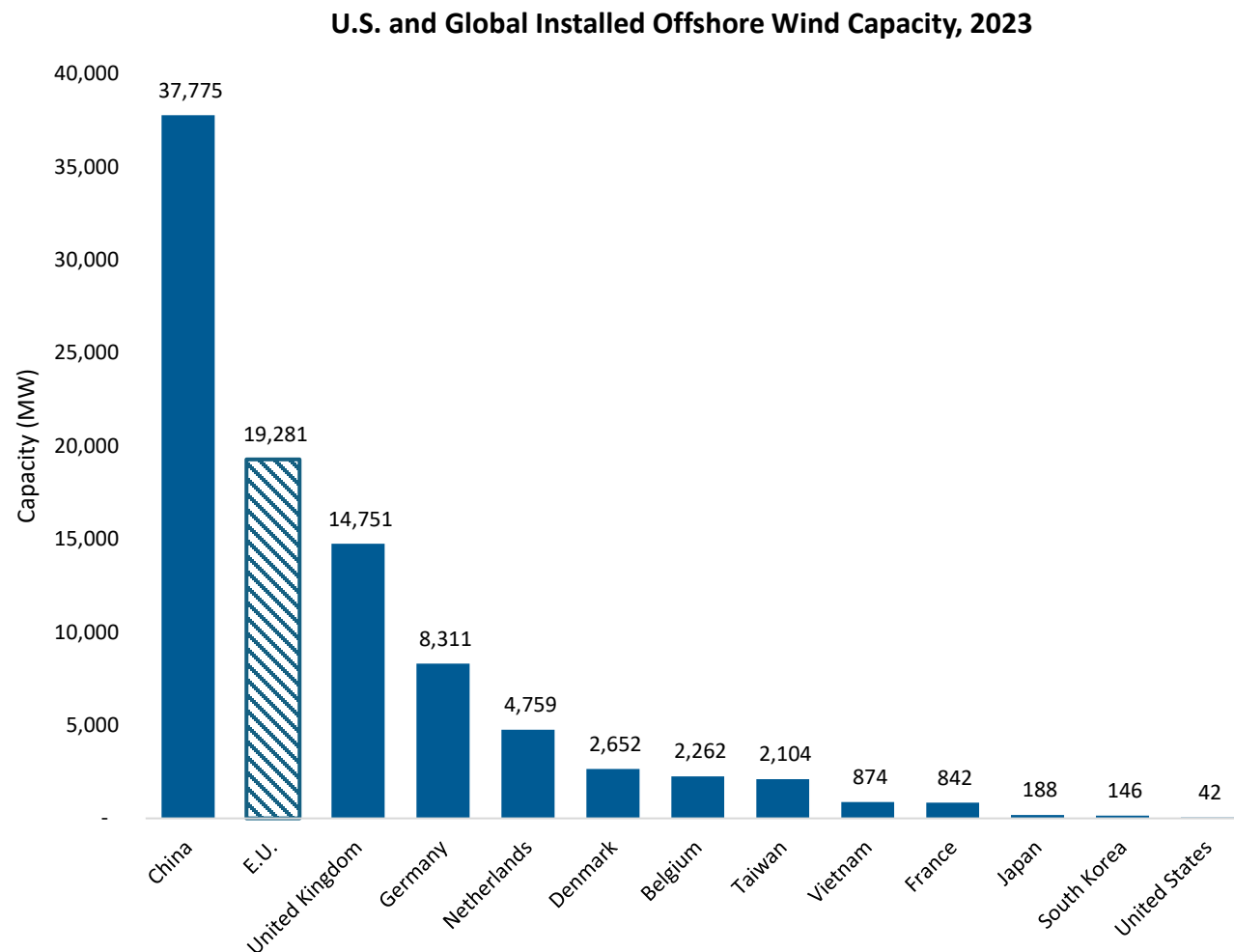


U.S. and Global Installed Offshore Wind Capacity, 2023

In 2023, there were 42 MW of Offshore Wind online in the U.S.

In 2024, there is 174 MW of Offshore Wind online in the U.S.

- China leads the world with over 37,000 MW of cumulative offshore wind capacity installed.
- EU + UK = over 34,000 MW



Source: GWEC Global Wind Report 2024

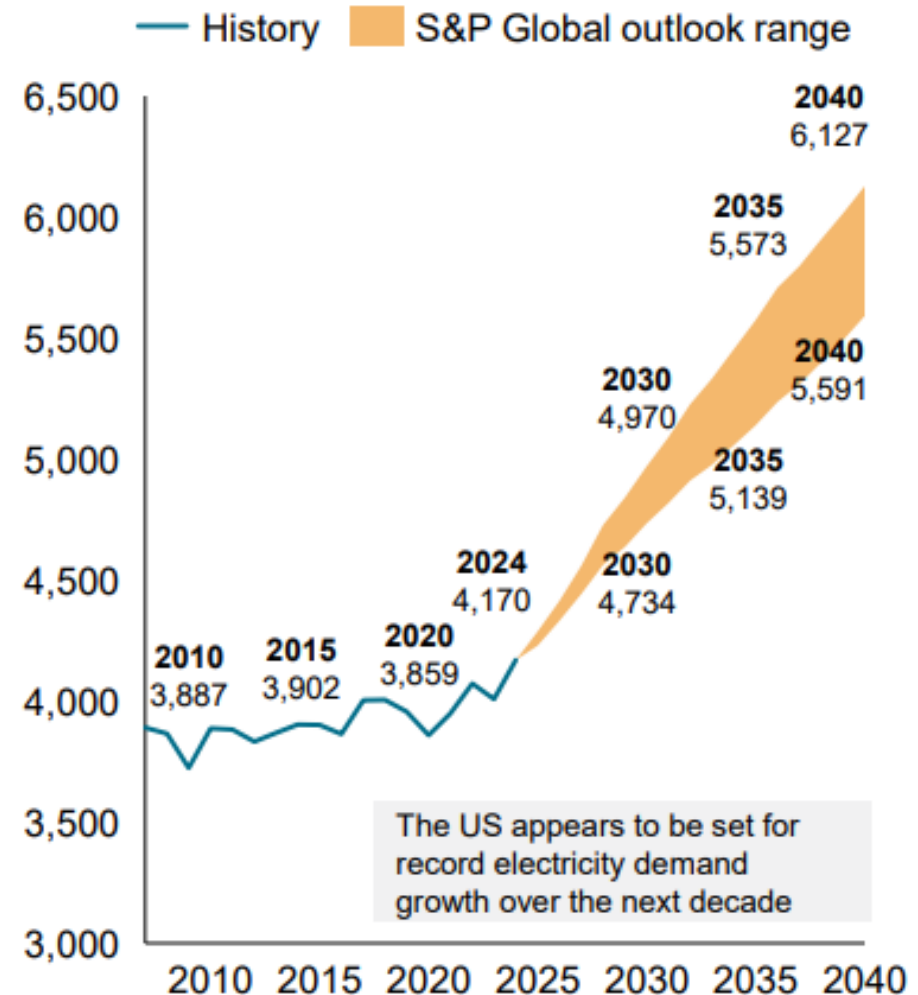
U.S. Set for Record Electricity Demand

- There will be a **35-50% surge in U.S. electricity demand** between 2024 and 2040.
- New Report released on March 10, supported by 7 trade associations
- Drivers of the Surge: data centers, new manufacturing, electrification trends
- Emphasizes the need for an All-of-the-above energy strategy.



U.S. Chamber of Commerce

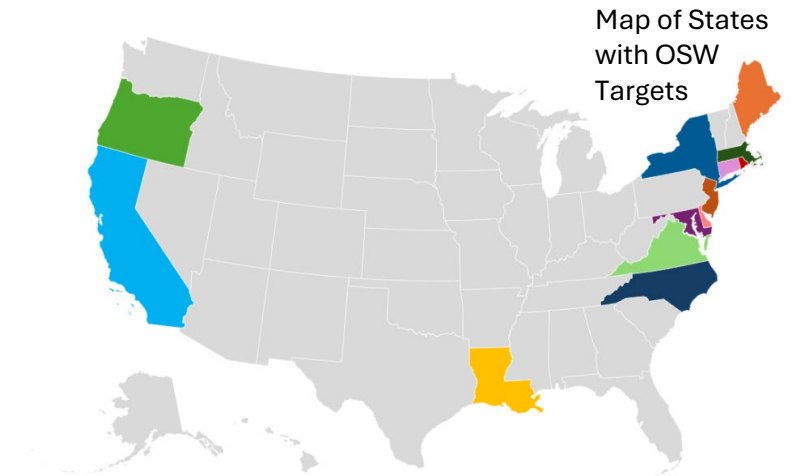
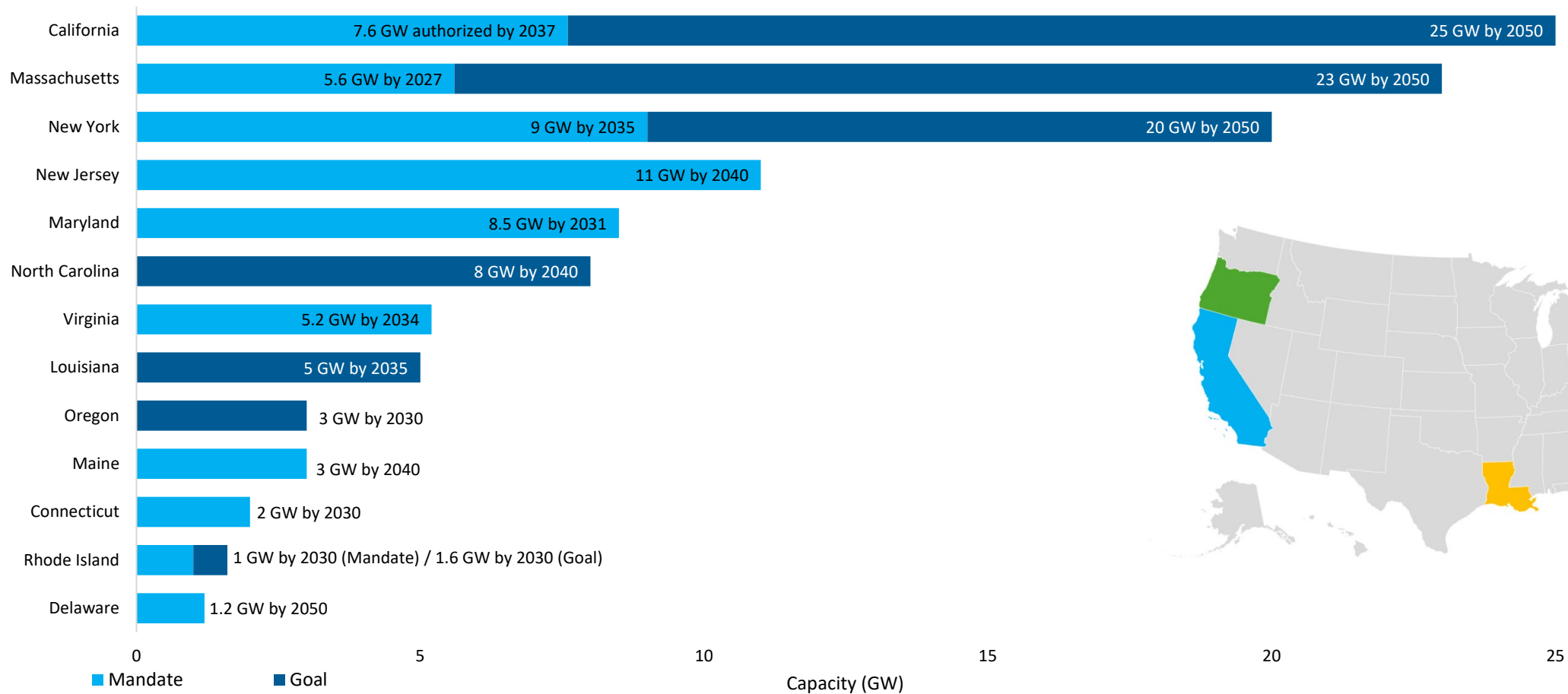
US Lower 48 net on-grid electricity demand TWh



State Goals vs Mandates

Across thirteen states, there are procurement targets (mandates and goals) for over 115 GW of offshore wind capacity. Nine states have legal mandates for offshore wind procurement, totaling 46.5 GW of capacity.

State Offshore Wind Mandates and Goals



Topline U.S. Offshore Wind Capacity

Capacity Online: 174 MW

- Block Island Wind Farm (30 MW)
- Coastal Virginia Offshore Wind Pilot (12 MW)
- South Fork Wind Farm (132 MW)

Capacity Under Construction or in Advanced Development: 15.5 GW

- Under Construction: Vineyard Wind 1, CVOW, Revolution Wind, Sunrise Wind, Empire Wind 1 (over 4 GW)
- Advanced Development: has secured electrical offtake (over 11 GW)

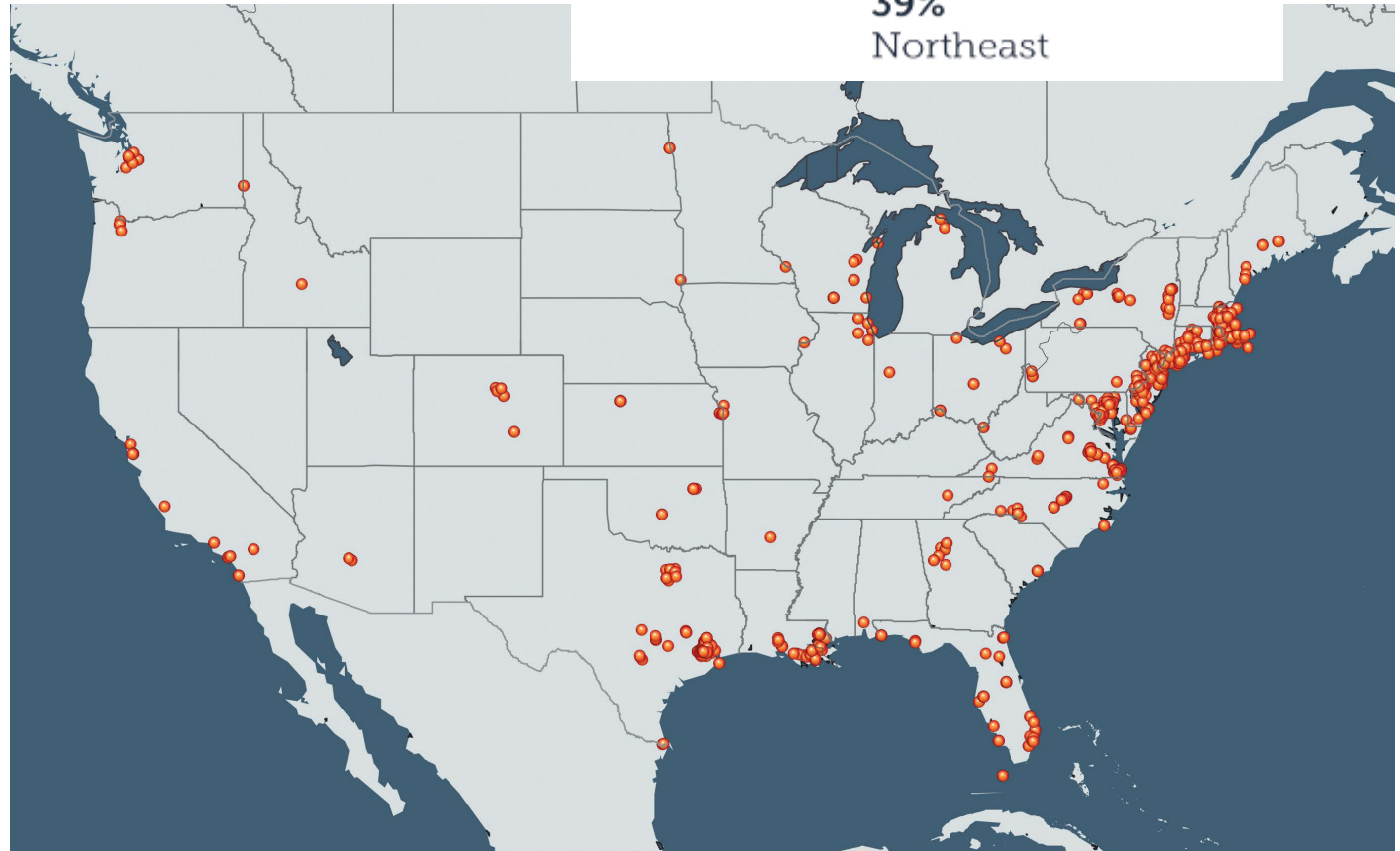
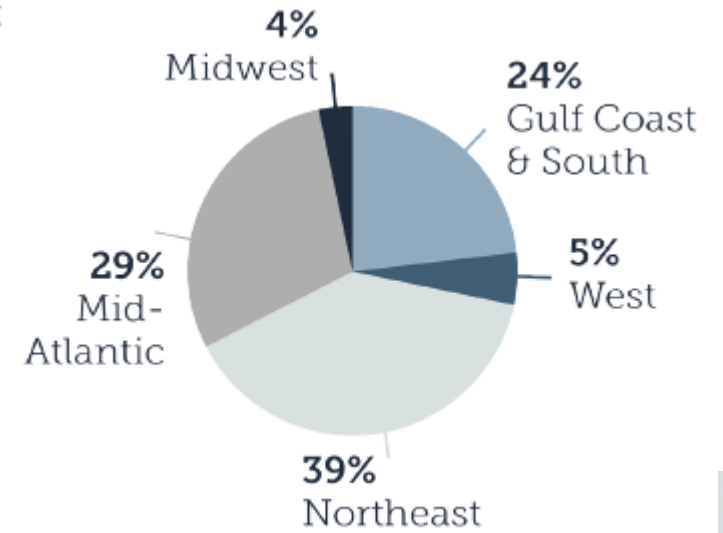
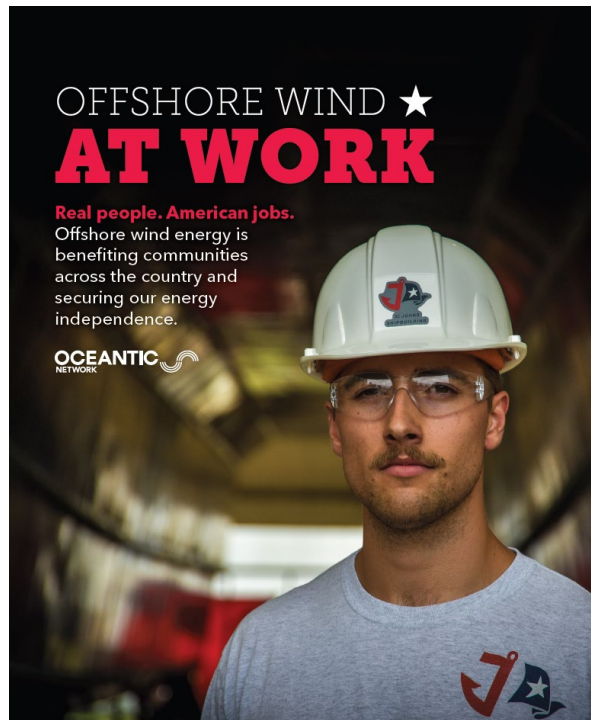
Capacity in Early Development: 57 GW

- There are 37 early development projects with leases in federal waters and 4 early development projects to be built in state waters



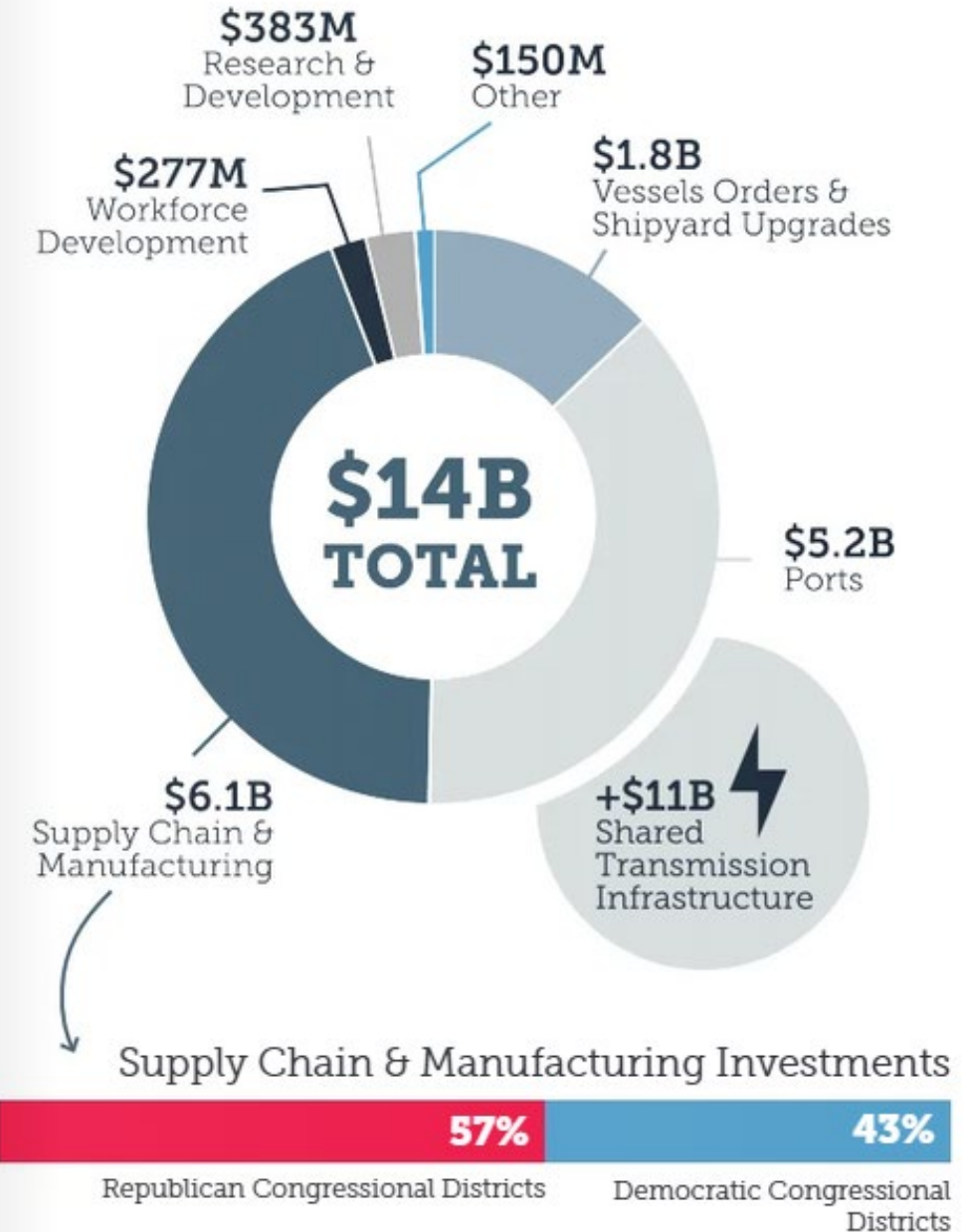
Infrastructure and Investment

- \$25 billion in announced supply chain investments.
- \$4 billion into steel production.
- \$1.8 billion of direct investment into new shipbuilding



Infrastructure and Investment

- 1,932 Supply Chain Contracts across 40 States
- 57% of Investments are in Republican Congressional Districts



Port Investments

- **\$5.2 Billion Invested** in U.S. Offshore Wind Ports
- **25 U.S. ports involved** in OSW or preparing to support the industry including:
 - Portsmouth Marine Terminal, VA
 - New Bedford Foss Marine Terminal, MA
 - New London State Pier, CT
 - ProvPort, RI
 - Salem Offshore Wind Terminal, MA
 - South Brooklyn Marine Terminal, NY



Riggs Distler Advanced Foundation Components for Orsted's Revolution Wind project. ProvPort, RI

Offshore Wind Investments in U.S.-flagged Vessels

The offshore wind industry is already investing in over 43 new offshore wind vessels. Investments include 29 Crew Transfer Vessels (CTV), 7 Service Operation Vessels (SOV), 2 different types of installation vessels, and 2 tugs and barges.



Vessel Type	Vessel Name	Status	Location	Manager
Barge	Edison Chouest Barge 1	Ordered	Houma, LA	Edison Chouest
Barge	Edison Chouest Barge 2	Ordered	Houma, LA	Edison Chouest
Rock Installation	Acadia	Under Construction	Philly Shipyard, PA	Great Lakes Dredge and Dock
SOV	Eco Edison	Under Construction	Edison Chouest, LA	Edison Chouest
SOV	Cade Candies	Retrofit	Candies Shipbuilders, LA	GE/Otto Candies
SOV	Hornbeck SOV	Retrofit	Allanton Shipyard, FL	Hornbeck Offshore Services
SOV	Northstar Navigator	Retrofit	Clermont, NJ	Northstar Marine Services
SOV	Paul Candies	Retrofit	Candies Shipbuilders, LA	Siemens Gamesa/Otto Candies
SOV	CREST SOV	Under Construction	Fincantieri, WI	Crowley/ESVAGT
SOV	Equinor SOV	Under Construction	Edison Chouest, LA	Edison Chouest
Tug	Edison Chouest Tug 1	Ordered	Gulfport, MS	Edison Chouest
Tug	Edison Chouest Tug 2	Ordered	Gulfport, MS	Edison Chouest
Wind Turbine Installation Vessel	Charybdis	Under Construction	Keppel AmFELS, TX	Dominion Energy

Vessel Type	Vessel Name	Status	Location	Manager
CTV	Atlantic Endeavor	In Service	Blount Boats, RI	Atlantic Wind Transfers
CTV	Atlantic Pioneer	In Service	Blount Boats, RI	Atlantic Wind Transfers
CTV	AWT CTV 3	Under Construction	St. Johns Ship Building, FL	Atlantic Wind Transfers
CTV	AWT CTV 4	Under Construction	St. Johns Ship Building, FL	Atlantic Wind Transfers
CTV	AWT CTV 5	Ordered	St. Johns Ship Building, FL	Atlantic Wind Transfers
CTV	AWT CTV 6	Ordered	St. Johns Ship Building, FL	Atlantic Wind Transfers
CTV	AWT CTV 7	Ordered	St. Johns Ship Building, FL	Atlantic Wind Transfers
CTV	AWT CTV 8	Ordered	St. Johns Ship Building, FL	Atlantic Wind Transfers
CTV	Eco Edison Mini-CTV	Under Construction	Edison Chouest, LA	Edison Chouest
CTV	Patriot CTV	Under Construction	Gladding-Hearn Shipbuilding, MA	Patriot Offshore Maritime
CTV	WINDEA Courageous	In Service	St. Johns Ship Building, FL	WINDEA
CTV	WINDEA Intrepid	In Service	Gulf Craft, LA	WINDEA
CTV	AOS CTV 1	Under Construction	Blount Boats, RI	American Offshore Services
CTV	AOS CTV 2	Under Construction	Blount Boats, RI	American Offshore Services
CTV	AOS CTV 3	Under Construction	Blount Boats, RI	American Offshore Services
CTV	AOS CTV 4	Under Construction	Blount Boats, RI	American Offshore Services
CTV	Windserve Odyssey	In Service	North Kingstown, RI	Windserve Marine
CTV	Windserve Genesis	In Service	North Kingstown, RI	Windserve Marine
CTV	Windserve Journey	In Service	North Kingstown, RI	Windserve Marine
CTV	Windserve Explorer	Under Construction	North Kingstown, RI	Windserve Marine
CTV	TBD	Ordered	Platypus Marine, WA	Damen/Platypus Marine
CTV	SouthCoast Wind CTV	Ordered	Gladding-Hearn Shipbuilding, MA	SouthCoast Wind
CTV	WINDEA Enterprise	In Service	Gulf Craft, LA	WINDEA
CTV	WINDEA Ranger	Under Construction	Breaux Brothers, LA	WINDEA
CTV	WINDEA Reliance	Under Construction	St. Johns Ship Building, FL	WINDEA
CTV	WINDEA Gateway Endeavor	In Service	Bridgeport, CT	WINDEA
CTV	Windserve Frontier	Under Construction	North Kingstown, RI	Windserve Marine
CTV	Windserve Spartan	Under Construction	North Kingstown, RI	Windserve Marine
OSV/CTV	Gaspee	In Service	Colonna's Shipyard, VA	McAllister Towing
OSV/CTV	Roger Williams	In Service	Providence, RI	McAllister Towing



Why Floating Wind?



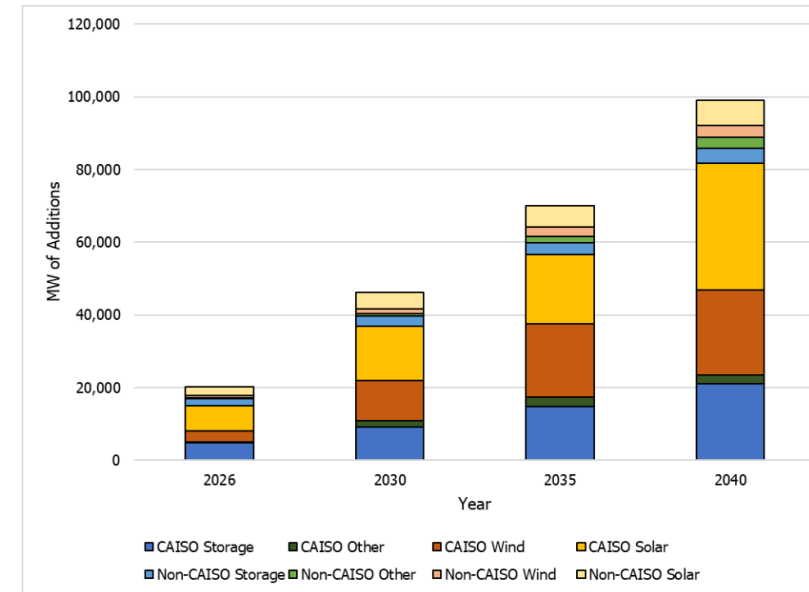
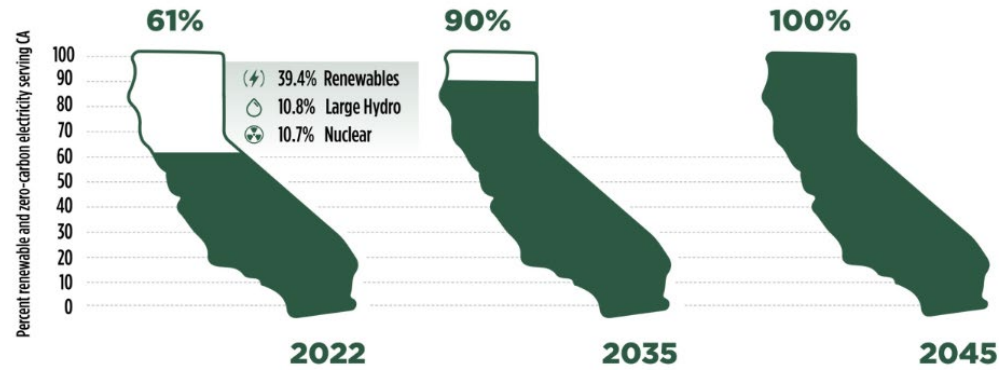
Source: NREL



Why OSW in California?

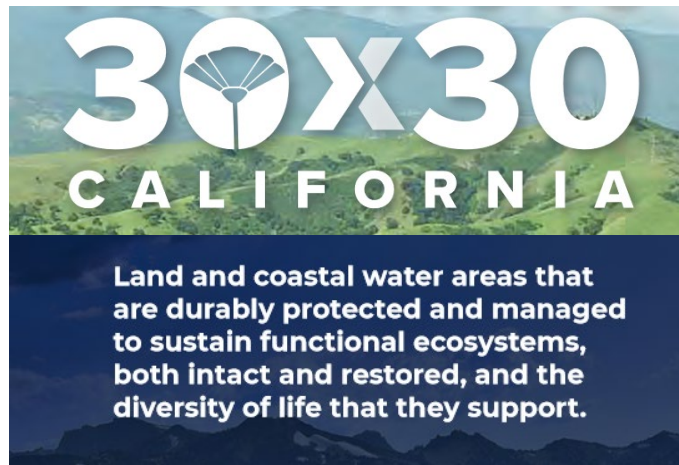
California is on track to achieve 100% clean electricity

with 61% of the state's electricity already coming from renewable and zero-carbon resources

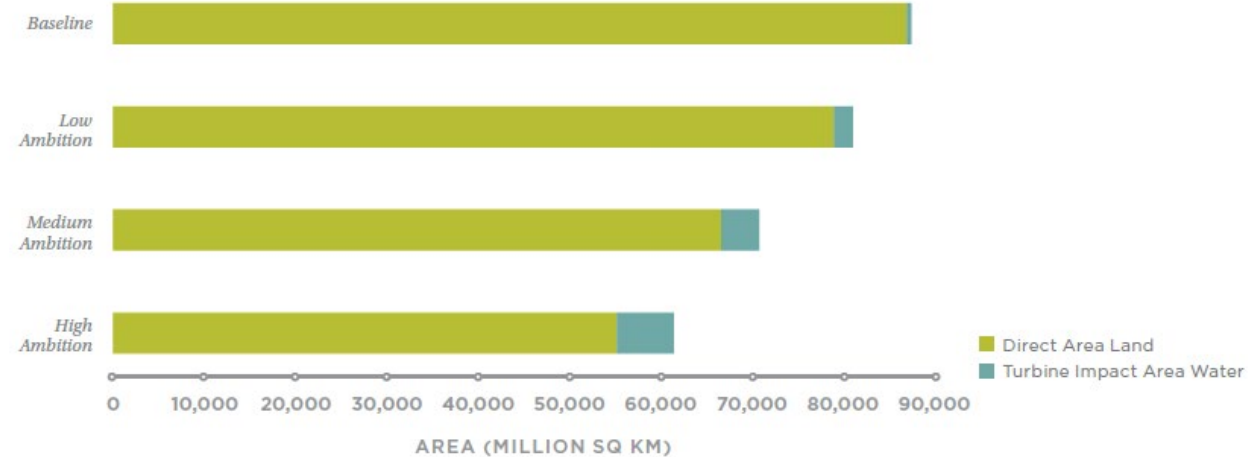


Source: California Energy Commission

Balancing Conservation Goals with Clean Energy

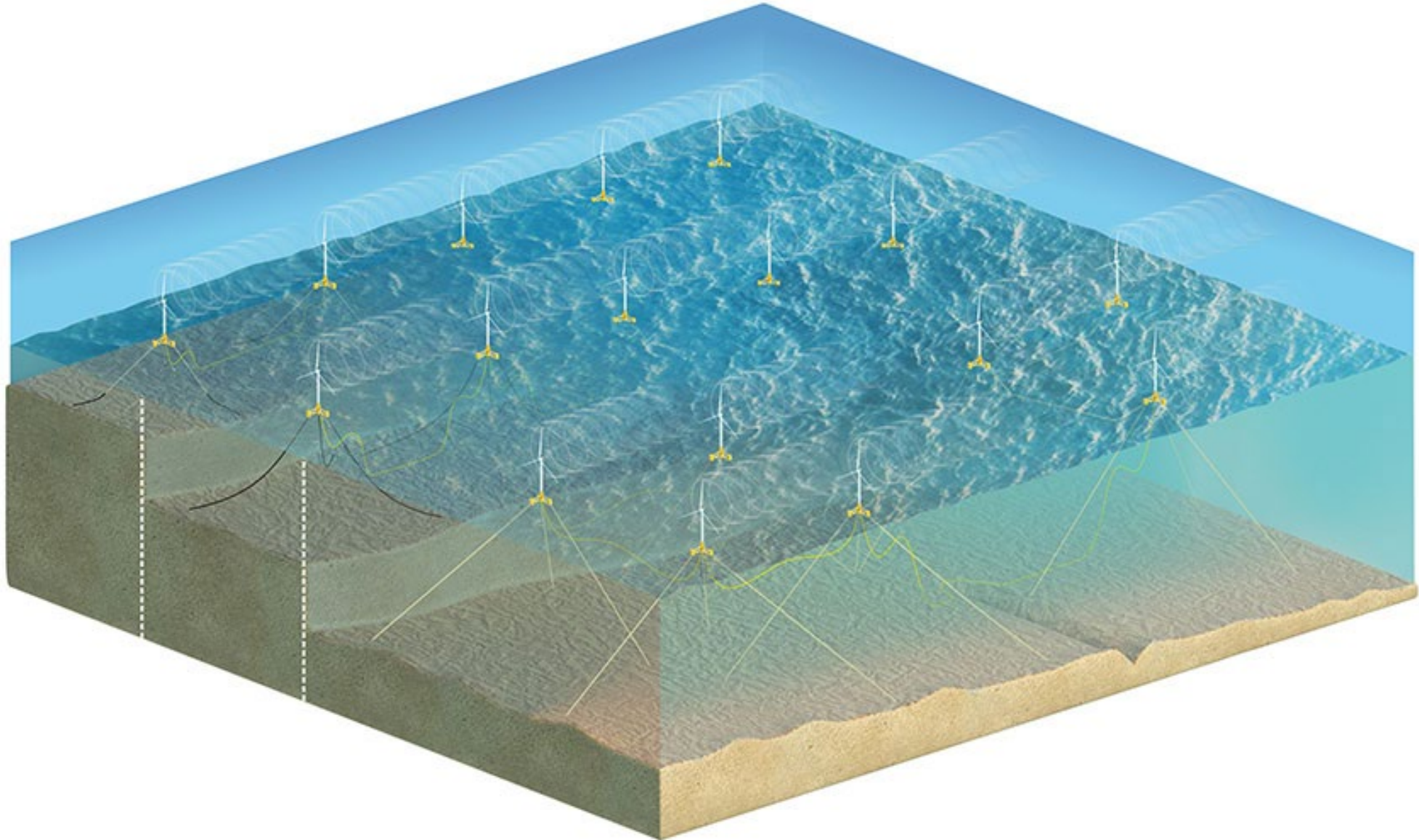


Reducing total impact area over land and water



Source: Energy Innovation 2035 OSW report

Floating OSW Design



Source: NREL

What will it comprise?

Table 1. Representative Project Design Envelope

Element	Project Design Element	Typical Range
Plant Layout	Plant capacity	750–3,000 MW
	Number of wind turbines	30–200
	Turbine spacing	920 m–3 km (0.5–1.6 nautical miles [nmi])
	Watch circle radius	Up to 350 m (1,150 ft)
	Capacity density	3–9 MW/km ²
Wind Turbines and Substructures	Turbine rating	15–25 MW
	Turbine rotor diameter	230–305 m (750–1,000 ft)
	Total turbine height	260–335 m (850–1,100 ft)
	Turbine installation method	A floating substructure, with turbine preinstalled at port or sheltered location, towed out to site by a towing vessel group/a floating substructure towed to site, with turbine installed at site by a wind turbine installation vessel or heavy-lift vessel.
	Substructure type	Semisubmersible, barge, or tension-leg platform (TLP); conventional spar may not be feasible but other ballast-stabilized designs may be considered.
Moorings	Mooring line configuration	Taut, semi-taut, or tension leg; catenary moorings are possible but less likely.
	Mooring arrangements	3–12 mooring lines per turbine or substation; shared-anchor arrangements are possible, shared-mooring arrangements are possible but less likely.
	Mooring line materials	Synthetic fiber rope (polyester, high-modulus polyethylene, nylon), steel chain, steel wire rope, steel or fiber tendons

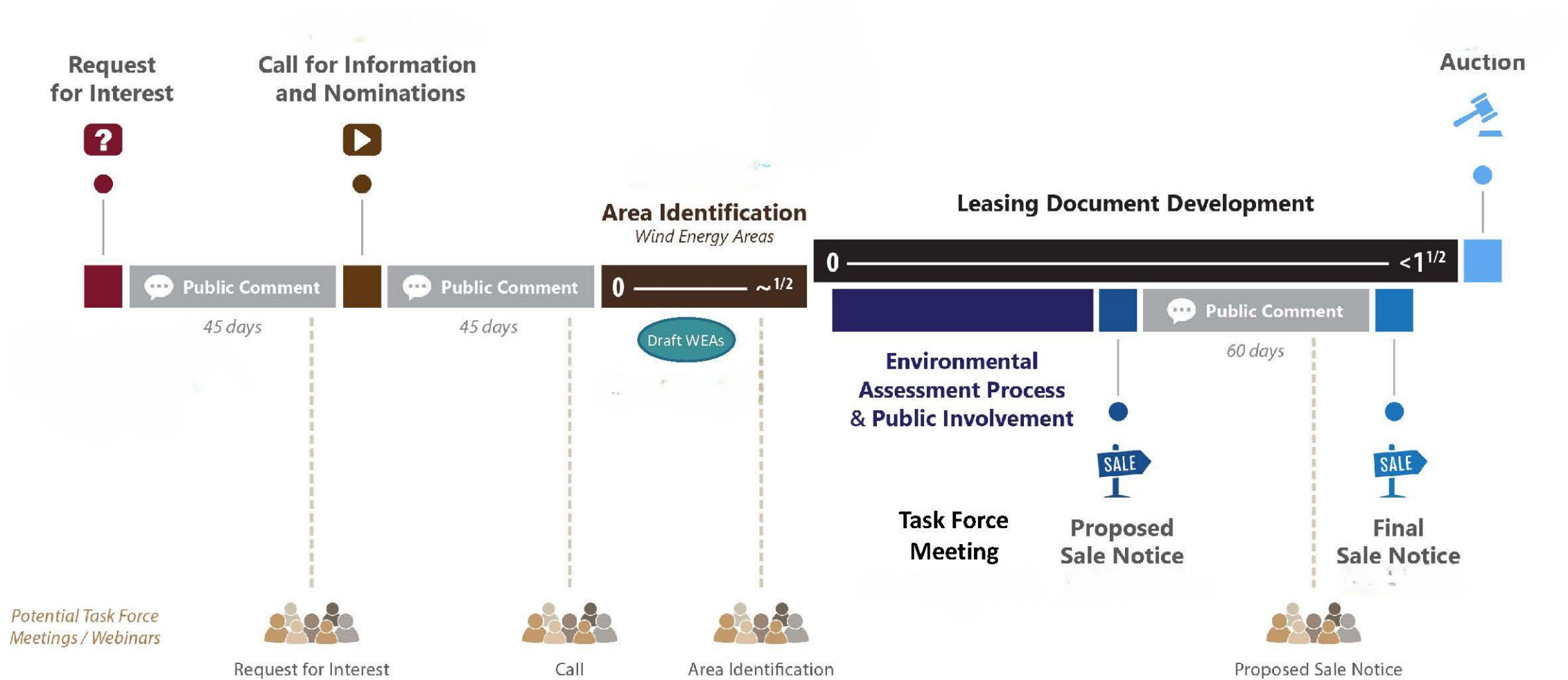
		(e.g., carbon fiber). May also include buoyancy modules, clump weights, load reduction devices, and other accessories.
	Anchor type	Depending on soil type and mooring configuration: suction caisson, helical anchor, plate anchor (vertical load anchor or suction-embedded plate anchor), dynamically embedded (torpedo) anchor, driven pile, drilled pile, micropile, gravity anchor; drag embedment anchor is possible but less likely.
	Anchor material	Steel or concrete; drilled piles and micropiles may use grout.
	Seabed footprint radius	50–2,600 m (160–8,500 ft)
Array Cables	Seabed contact area	200–300,000 m ² (0.05–75 acres)
	Total array cable length	1–5 km (0.5–2.7 nmi) average per turbine; individual cables may be up to 20–30 km (10.8–16.2 nmi) in some circumstances.
	Array cable diameter	14–25 cm (5.5–9.8 inches [in.])
	Target array cable depth	At least 60 m (200 ft) below water surface.
	Array cable configurations	Cables and mooring lines may be suspended in the water column, laid on the seabed, or buried. Suspended cable configurations can include but are not limited to lazy wave, catenary, steep wave, or suspended U.
	Array cable installation methods	Cable-lay vessel, possibly assisted by a remotely operated vessel (ROV) and/or construction support vessel.
	Cable protection types	Dynamic cables: accessories for cable protection may include bend stiffeners, dynamic bend restrictors, buoyancy modules, sleeves, seabed tethers, anchors or any other combination of protection means as determined by the site-specific design. Seabed: protection could include burial, rock dumping or mattresses.
	Number of export cables	2–8

Source: BOEM PEIS Vol 2, Appendix A, RPDE

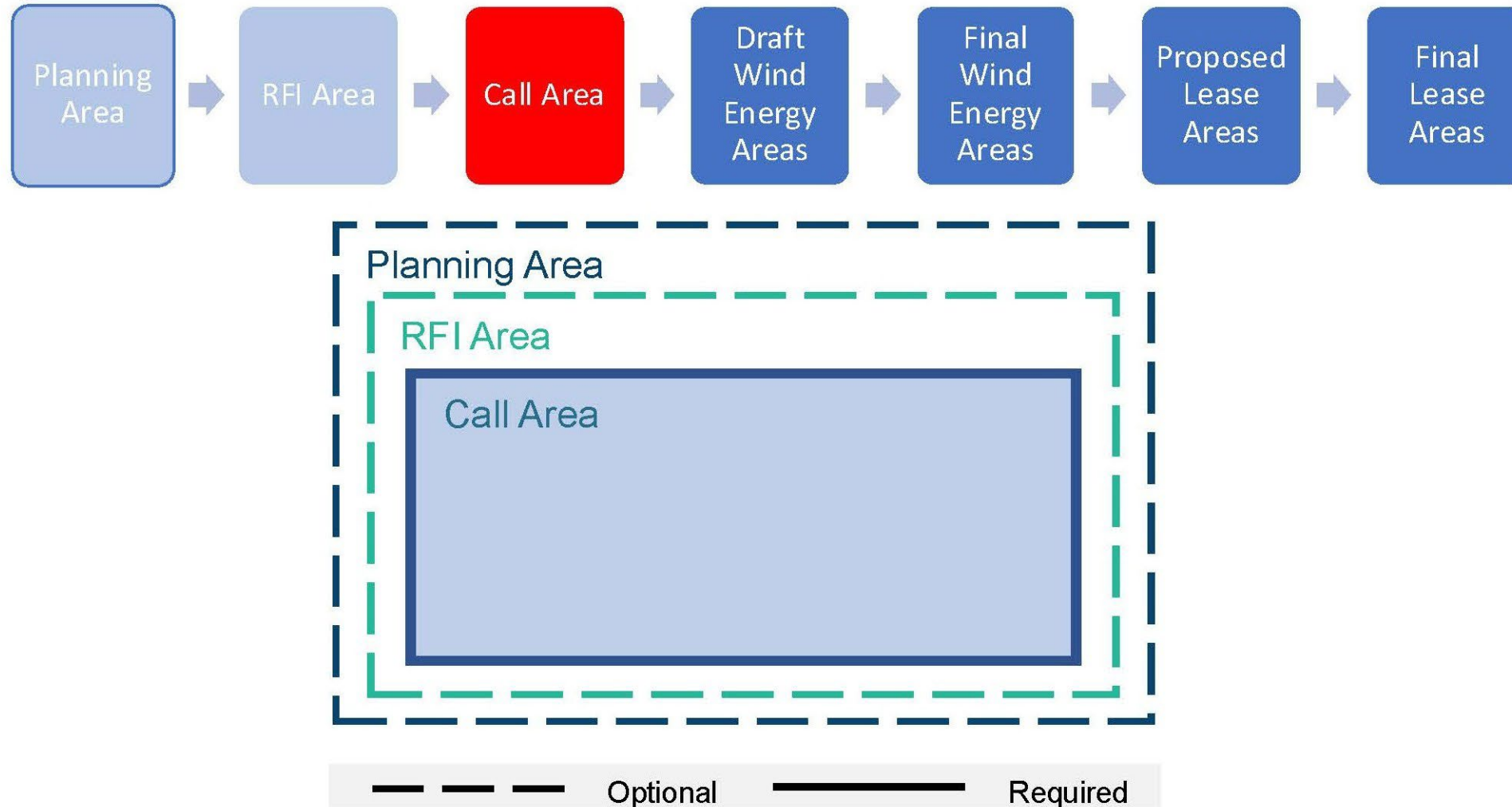
Federal Leasing & Permitting



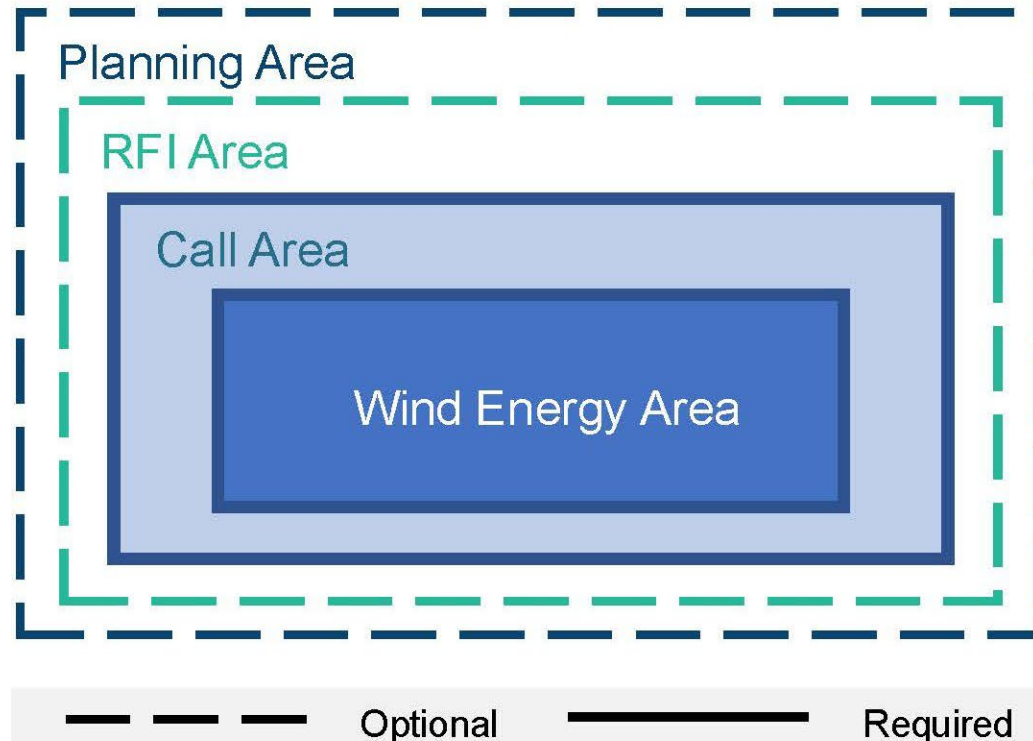
Overview: Identification of Lease Areas



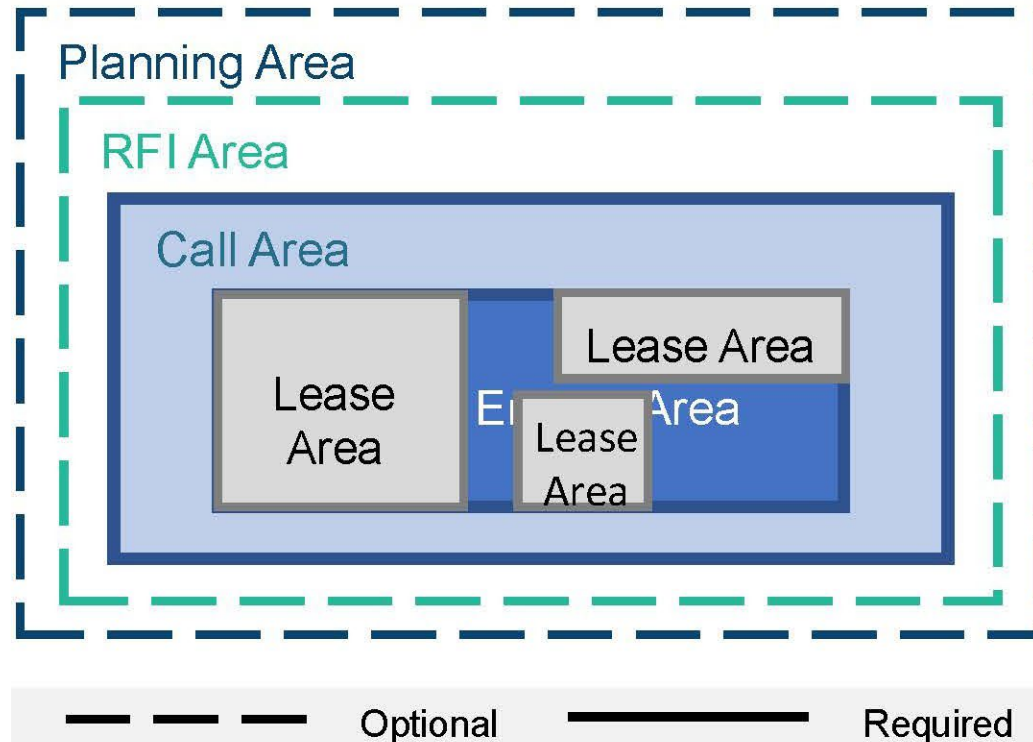
Identification of Lease Areas: Call Areas



Identification of Lease Areas: WEAs



Identification of Lease Areas: Lease Areas



Evolution of Leasing Process

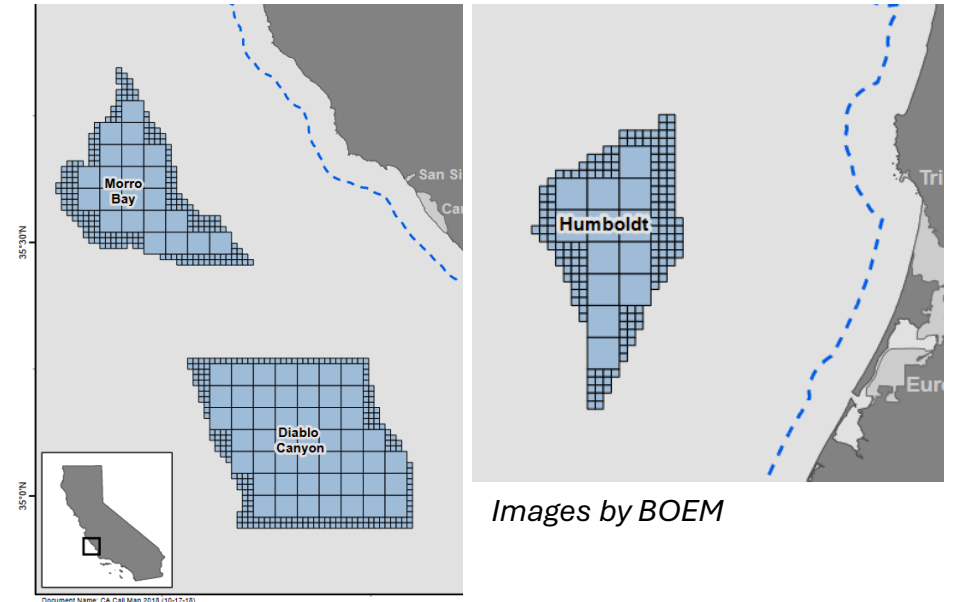
- The area identification process has evolved as lessons learned have been implemented and new resources have become available
- Inclusion of Draft WEAs and public comment period
- Partnership with NOAA's National Centers for Coastal Ocean Science (NCCOS)
 - Ecosystem-wide spatial suitability model developed and used to identify areas that are most suitable for offshore wind development
 - Draft and final reports created
- Central Atlantic 2 Call included entire central Atlantic coast (SC/NC border to southern NJ) from 3 nm to the limits of water depths that could be used for conventional foundations



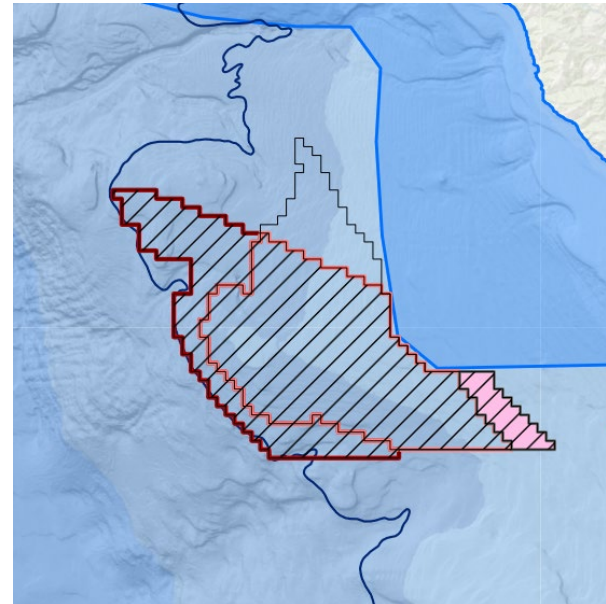
CA History: Getting to the first auction

- **2016** – Trident Winds unsolicited lease request; RFI following
- **2018** – Call for Information & Nominations: Humboldt, Morro Bay and Diablo Canyon
- **2021** – DOI, DOD, California agreement to advance MB & Humboldt call areas
 - *“Today’s announcement comes after years of collaboration between the Departments of the Interior and Defense to find areas offshore the central coast of California that are compatible with the Department of Defense’s training and testing operations”*
- **2021** - BOEM second call on Morro Bay
- **May 2022** - PSN
- **August 2022** – AB 525 Goals report
- **December 2022** - Auction
- **June 2023** - 5 leases executed

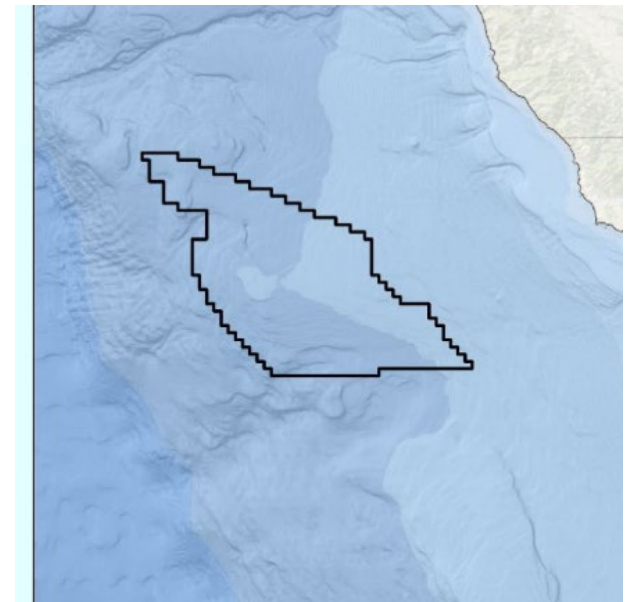
2018 Call Areas



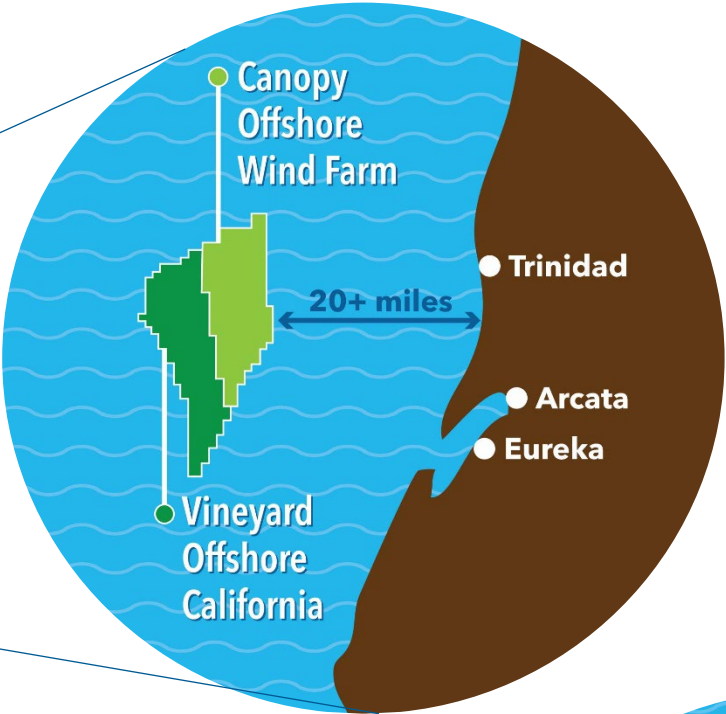
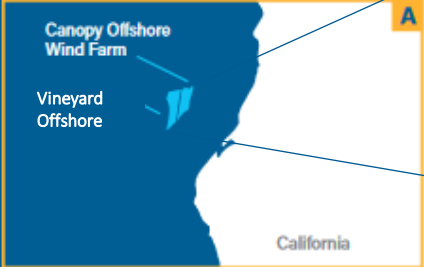
2021 Morro Bay Call Area



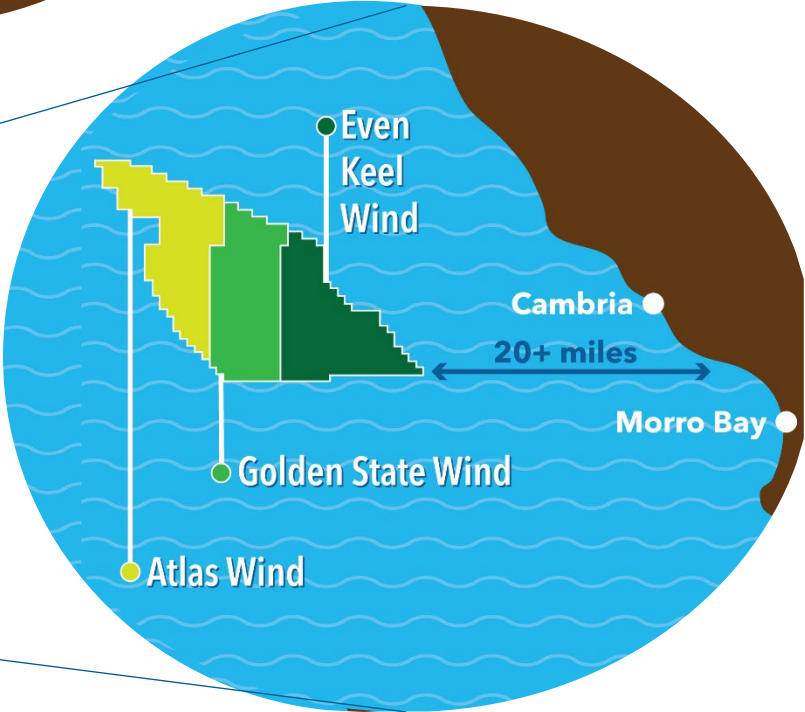
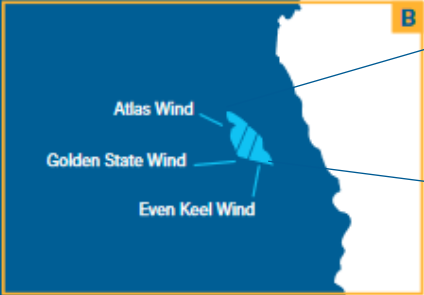
2022 Morro Bay Lease Area



California Leases



10 GW total development potential across 5 leases



Bidding Credit Obligations

Leaseholder	Total Bidding Credit (Million)	Workforce & Supply Chain	Lease Area Use	General Community
RWE	\$36	\$24	\$6	\$6
Vineyard	\$40	\$26.7	\$6.7	\$6.7
Equinor	\$30	\$20	\$5	\$5
Golden State Wind	\$30	\$24	\$6	\$0
Invenergy	\$33.5	\$22.3	\$5.6	\$5.6
Total	\$170	\$117	\$29	\$23

^[1] <https://www.boem.gov/renewable-energy/state-activities/california>

Oregon & Washington

Oregon 2022 Call Areas

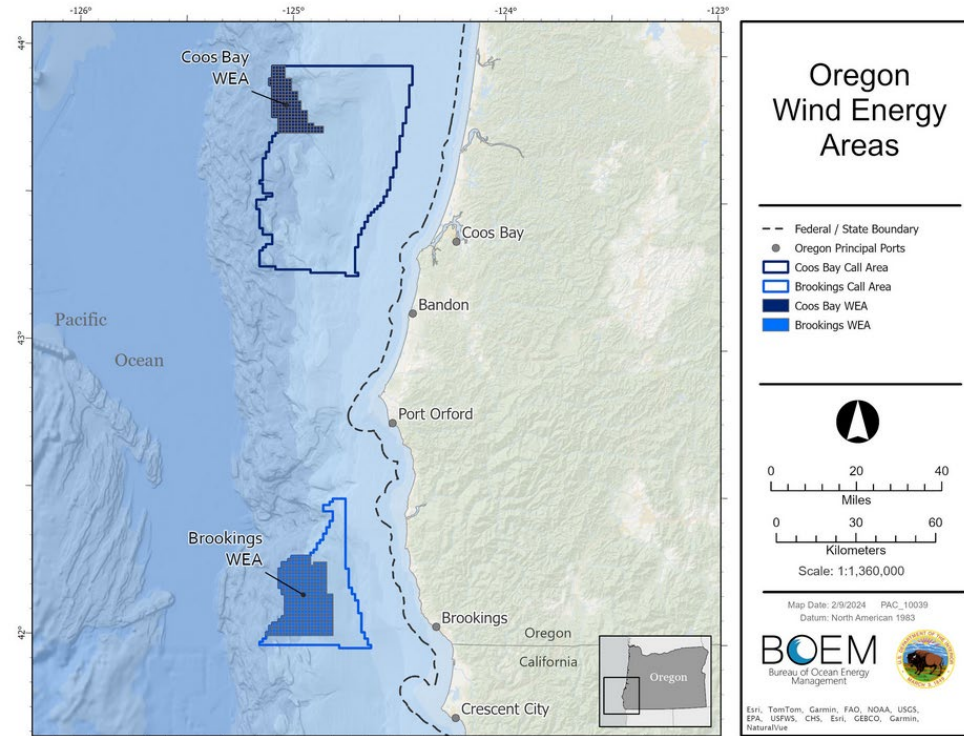
Proposed Call Areas
Task Force Meeting, February 2022



Call Areas
Federal Notice, April 2022



Oregon 2024 Lease Areas



Images by BOEM

OR Lease auction planned for late 2024, later cancelled

Oregon

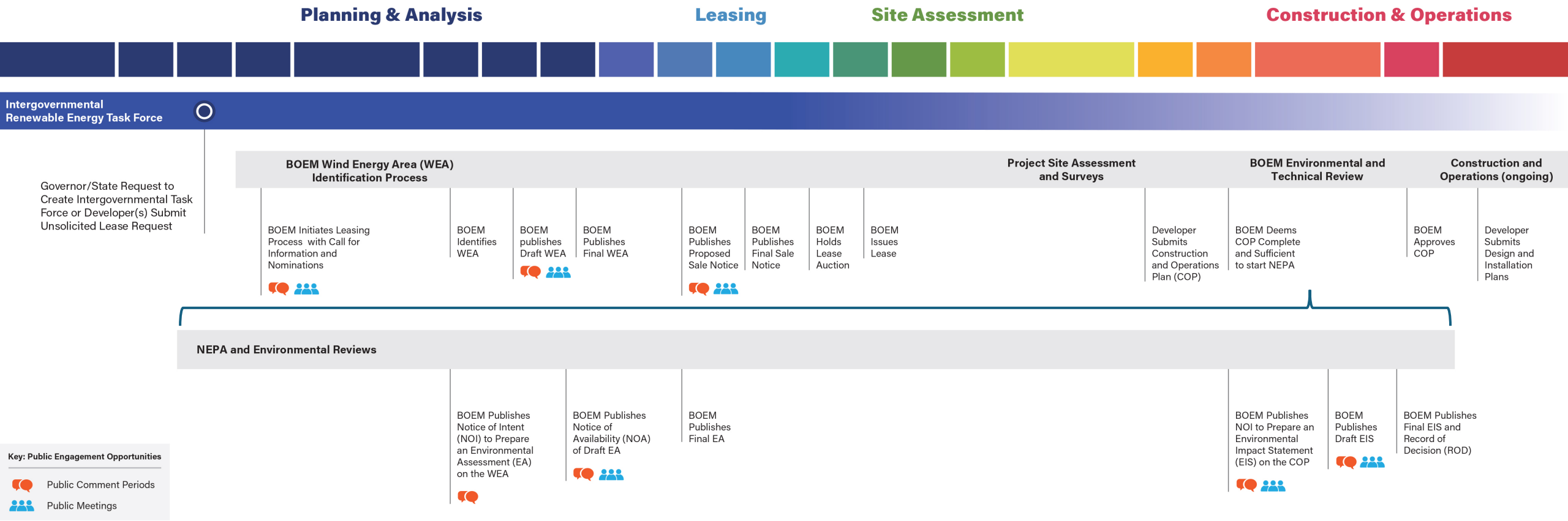
- OR's HB 4080 calls for a state agency roadmap, labor provisions on OSW construction, and funding and staff for state agency CZMA review.
- 2023-2024 Governor's Office Task force produced April 2024 "Oregon Floating Offshore Wind Energy Roadmap with Exit Ramps: Consideration"
- 2025 Roadmap in development

Washington

- Early efforts at mapping what a stakeholder process supplementing formal federal process would look like

Federal Leasing & Permitting Process

- Leasing: **41 Leases** = **\$6.1 billion** in leasing revenue and **\$6.4B** in lease rent payments over the terms of the project (and billions more in operating fees) for the federal government
- Permitting: As of February 2025: **10 projects with COP approval**, 5 projects with NOI



COP Requirements



A Construction and Operations Plan Must Demonstrate

Conform to applicable laws, regulations, and lease provisions
30 CFR 585.621(a)

Does not unreasonably interfere with other uses of the OCS, including national security
30 CFR 585.621(c)

Uses best available and safest technology
30 CFR 585.621(e)

Uses properly trained personnel
30 CFR 585.621(g)



Adherence to safety
30 CFR 585.621(b)

Does not cause undue harm or damage to natural resources; life; property; the marine, coastal, or human environment
30 CFR 585.621(d)

Uses best management practices
30 CFR 585.621(f)



BOEM Bureau of
Ocean Energy Management



Contents of a Construction and Operations Plan

30 CFR 585.626 and 585.627

1

Project Information

Describes all planned facilities and proposed activities, including onshore and support facilities, and the construction, operations, and the conceptual decommissioning plans, including project easements

2

Survey Results

Results and data derived from site characterization surveys performed by the Lessee

3

Certification Verification Agent (CVA) Nomination

For Reports required in 30 CFR 585 Subpart G



4

Oil Spill Response Plan (OSRP)

As required by 30 CFR Part 254

5

Safety Management System (SMS)

As required in 30 CFR 585.810

6

Other Information & Certifications

Information needed to conduct process for NEPA & other relevant laws

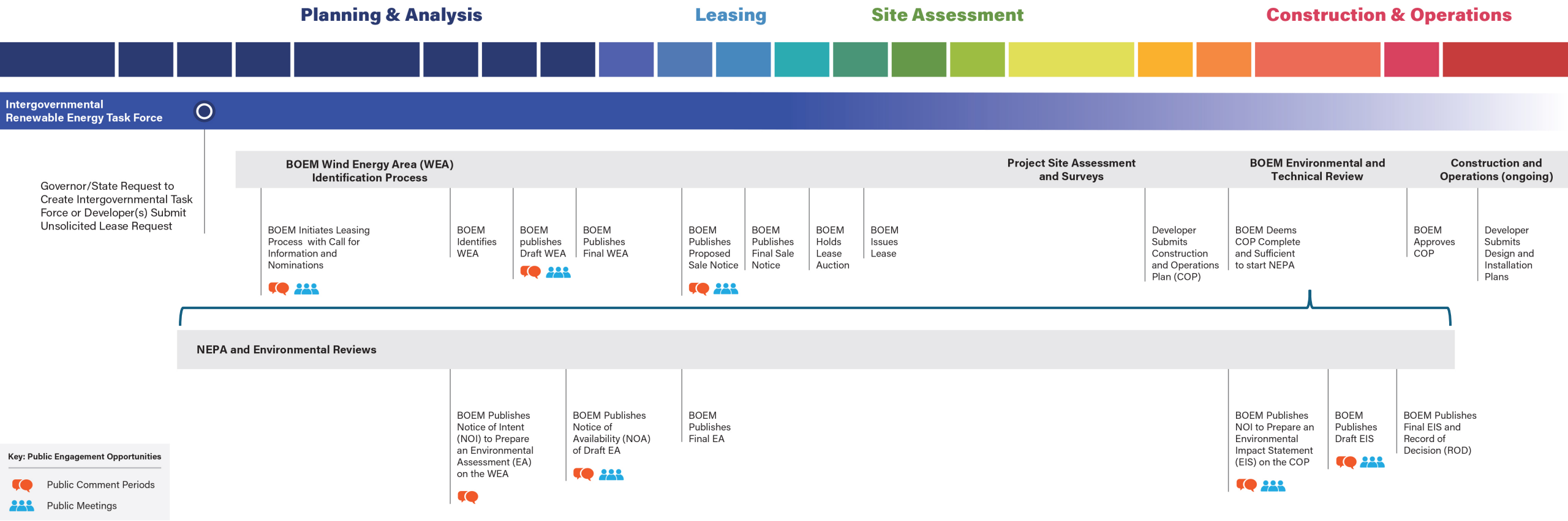
Guidelines: [www.https://www.boem.gov/renewable-energy/national-and-regional-guidelines-renewable-energy-activities](https://www.boem.gov/renewable-energy/national-and-regional-guidelines-renewable-energy-activities)



BOEM Bureau of
Ocean Energy Management

Federal Leasing & Permitting Process

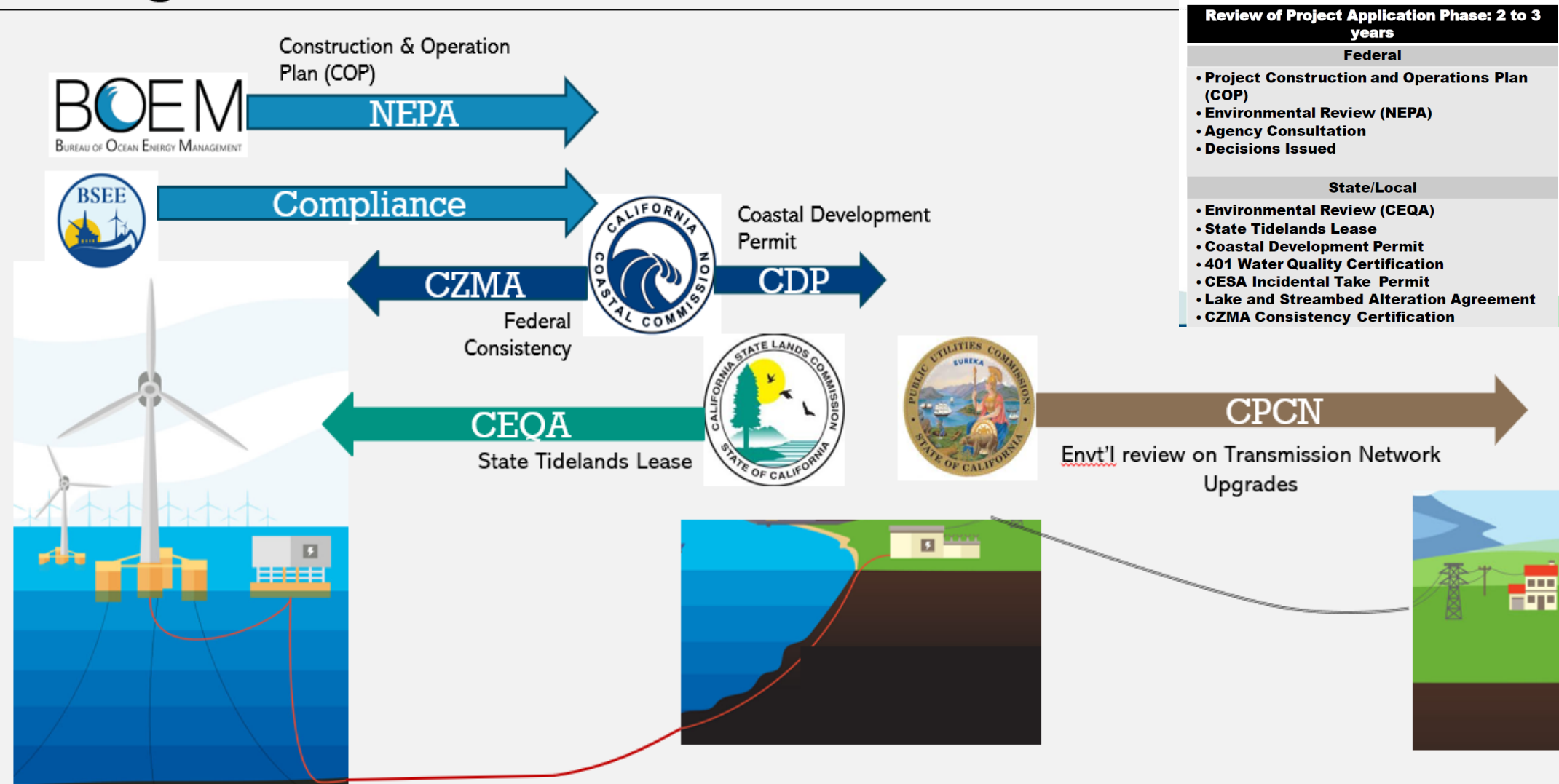
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California State Permitting



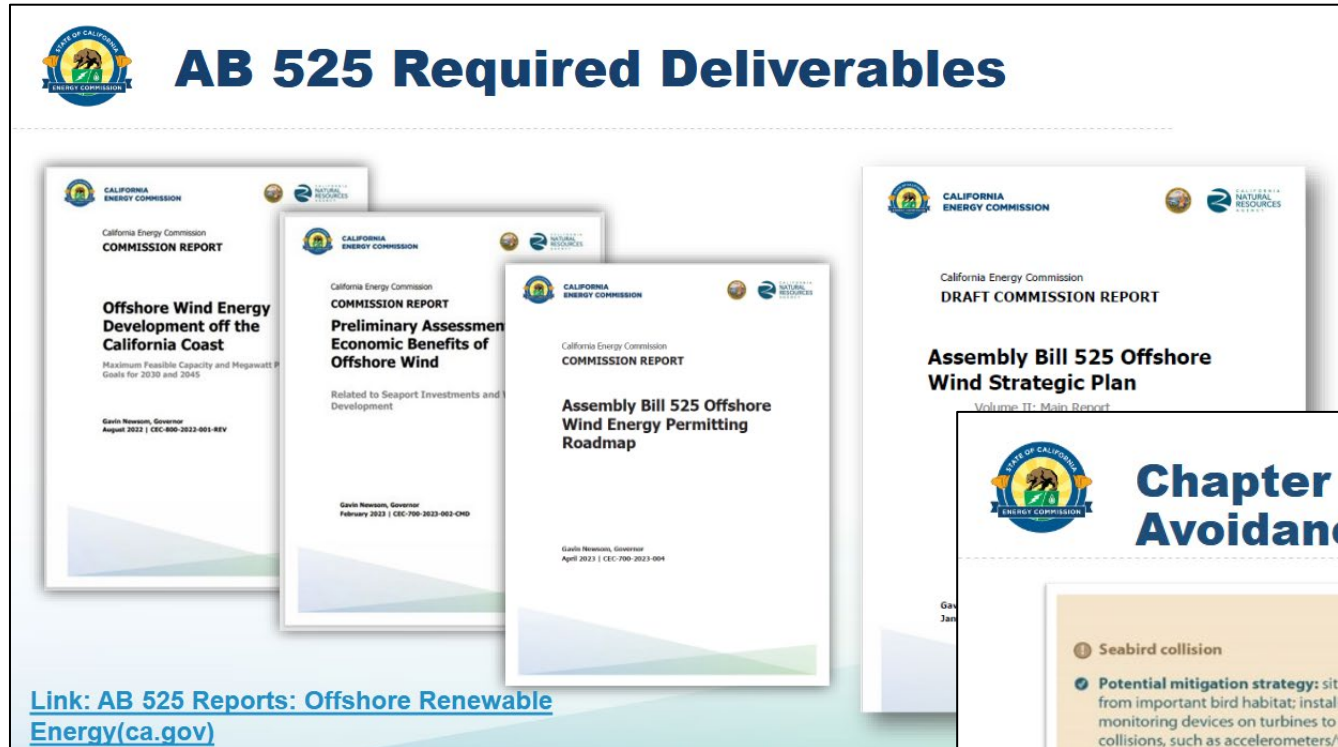
Permitting (Schematic for illustration, not comprehensive)



State & Federal Permits in California – Detail

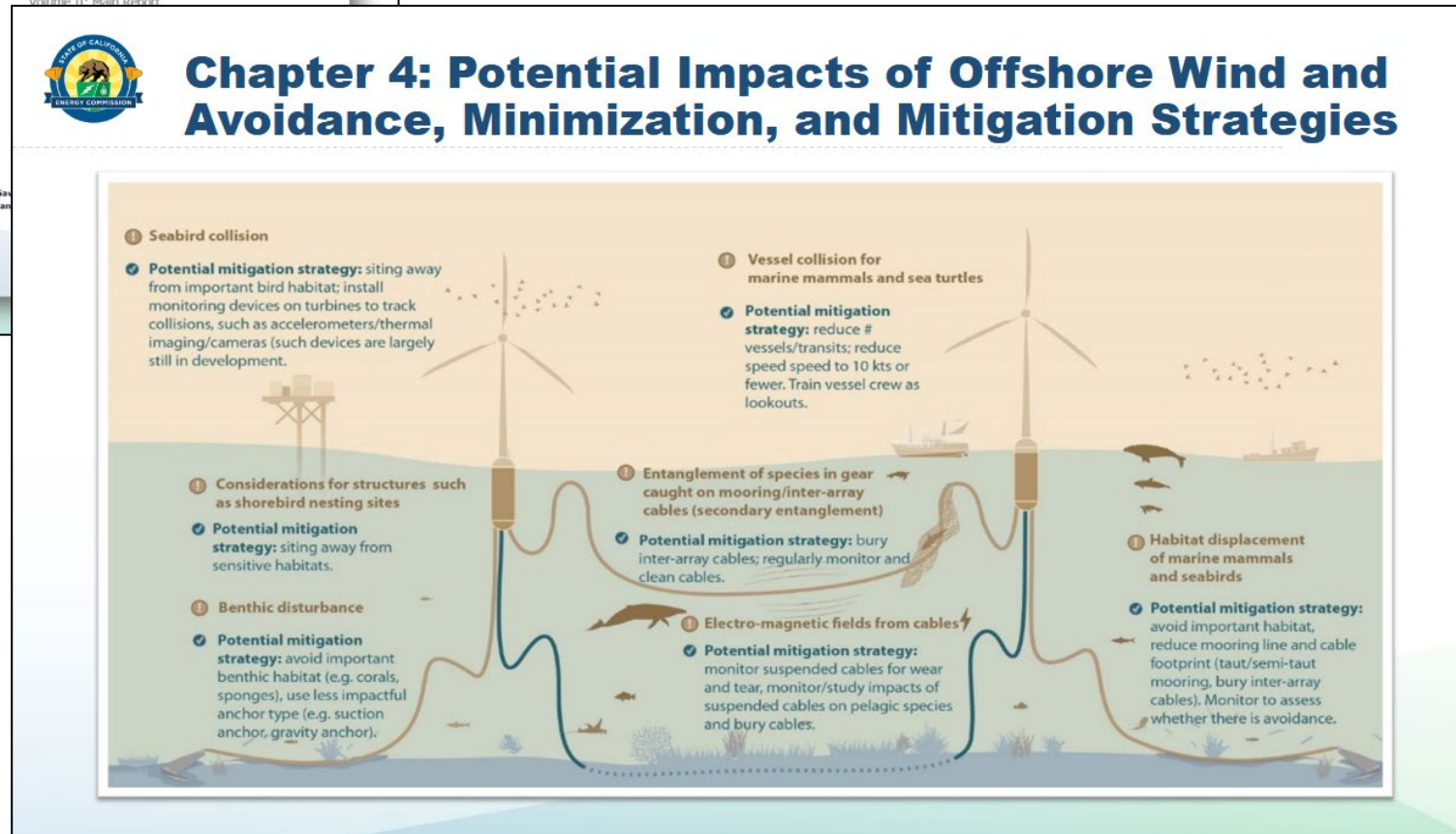
BOEM OCS Lease	COP Surveys, Reports and Studies		Project-Level Federal and State Permits	
Federal Permits/Consultations	Surveys, Reports, and Studies to comply with federal and CA State Requirements		Federal Permits/Consultations	
BOEM NEPA EA/Finding of No Significant Impact	Site Assessment Plan	Hydrodynamic and Sediment Transport Modeling Report	BOEM NEPA EIS Record of Decision	Endangered Species Act (ESA) Section 7 Consultation
USFWS/NMFS Endangered Species Act (ESA) Section 7 Consultation	COP Survey Plan	Acoustic Assessment Reports – Underwater, In Air, and onshore	Federal Aviation Administration (FAA) Obstruction Evaluation / Airport Airspace Analysis	NMFS Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA) Section 305(b) EFH Consultation
NMFS Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA) Section 305(b) EFH Consultation	Geophysical and Geotechnical (G&G) Survey Reports and Site Characterization Report	Munitions and Explosives of Concern Desktop Study	Individual Clean Water Act (CWA) Section 404 Permit	Bald and Golden Eagle Protection Act (BGEPA) Incidental Take Permit, Migratory Bird Treaty Act (MBTA) Compliance
National Historic Preservation Act (NHPA) Section 106 Consultation	Sediment Profile Imaging and Benthic Survey Report	Marine and Onshore Archaeological Resources Assessment	Individual Permit pursuant to Section 10 of the Rivers and Harbors Act of 1899	Marine Mammal Protection Act (MMPA) Authorization
CCC Federal Consistency Determination Concurrence	Benthic Assessment Report and Post-Construction Monitoring	Historic Architectural Resources Survey and Historic Resources Visual Impact Assessment	US Coast Guard Private Aids to Navigation Application	USFWS Incidental Take Authorization (IHA) or Letter of Authorization
	Offshore and Onshore Electromagnetic Frequency (EMF) Assessment	Visual Resource and Visual Impact Assessments	Clean Air Act (CAA) Outer Continental Shelf Air Permit	National Historic Preservation Act (NHPA) Section 106 Consultation
	Air Emissions Inventory	MetOcean Report		State Permits/Consultations
	Fisheries Technical Report and Communication and Outreach Plan	Commercial and Recreational Fisheries Technical Report	State Lands Commission State Tidelands Lease	CCC CZM Consistency Certification and Coastal Development Permit
	Essential Fish Habitat (EFH) Assessment	Economic Development Analysis	California Environmental Quality Act (CEQA) EIR Notice of Determination	Assembly Bill (AB) 52 Tribal Consultation
	Avian and Bat Risk Assessment	Coastal Zone Management (CZM) Federal Consistency Certification Documentation	CPUC Permit to Construct (possibly needed by IOU)	CDFW California Endangered Species Act (CESA) Consultation and Incidental Take Permit
	Biological Resources Reports: Marine Mammals, Sea Turtles Gish, Habitat, Wetlands, Rare/Protected Species, Invasive Species	Safety Management Systems – Construction and Operations	CDFW Section 1600 Streambed Alteration Agreement	National Pollutant Discharge and Elimination System (NPDES) Construction General Permit
	Animal Exposure Modeling/Assessment		CA Department of Transportation (CalTrans) Encroachment Permit (if needed)	Regional Water Quality Control Board CWA Section 401 Water Quality Certification
	Navigational Risk Assessment Waste/Spill Prevention Plans			Regional/Local Permits
			Local Review and Approvals including Conditional Use, Zoning, Building Permit, etc.	

AB 525 Offshore Wind Strategic Plan – Finalized 2024



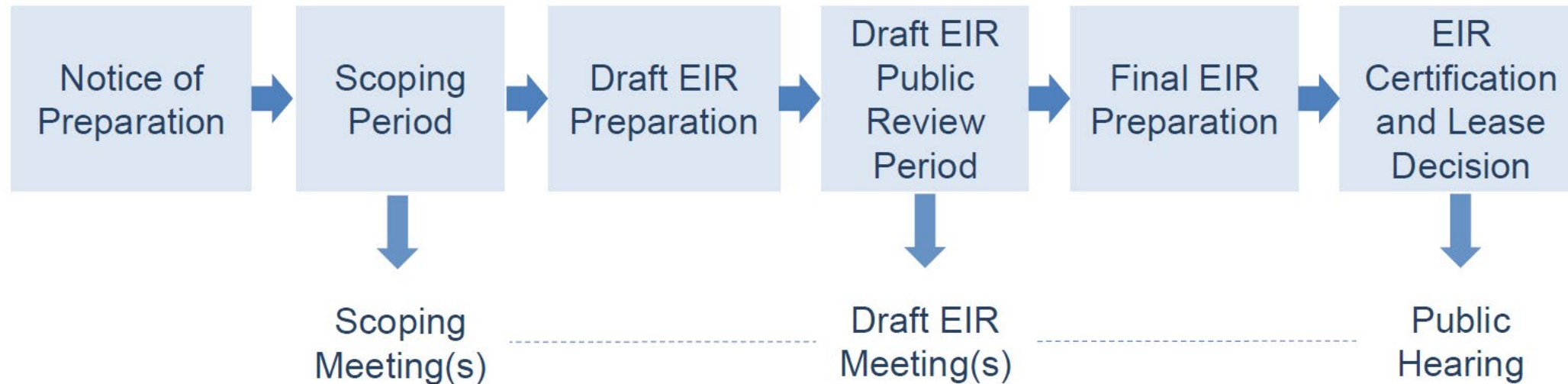
[Link: AB 525 Reports: Offshore Renewable Energy\(ca.gov\)](https://www.energy.ca.gov/publications/2023/ab-525-offshore-wind-strategic-plan)

Source:
www.energy.ca.gov/publications/2023/ab-525-offshore-wind-strategic-plan



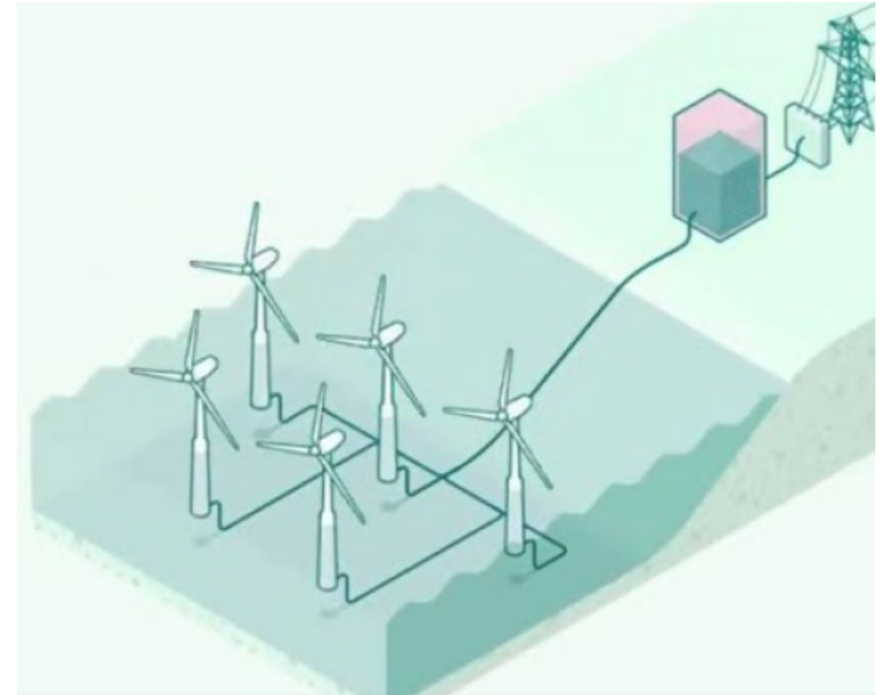


Environmental Impact Report (EIR) Process



Offshore Wind Context

- Coastal Zone Management Act Review:
 - Lease area development
 - Export cables in federal waters
- Coastal Act Review:
 - Export Cables in state waters
 - Cable landings to shore
 - Shore-side infrastructure
- Concurrent review for projects crossing federal and state waters



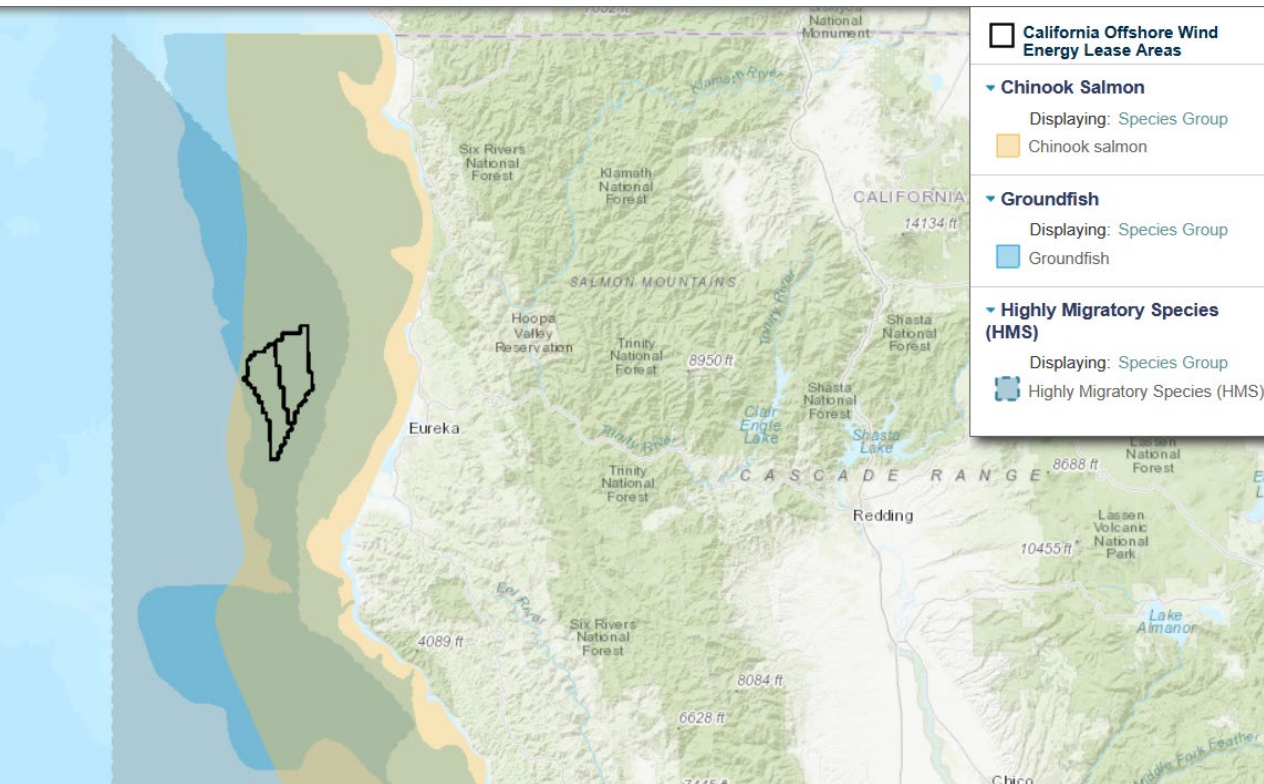
Not to scale

Image credit: allsustainableolutions.com

Fishing Considerations

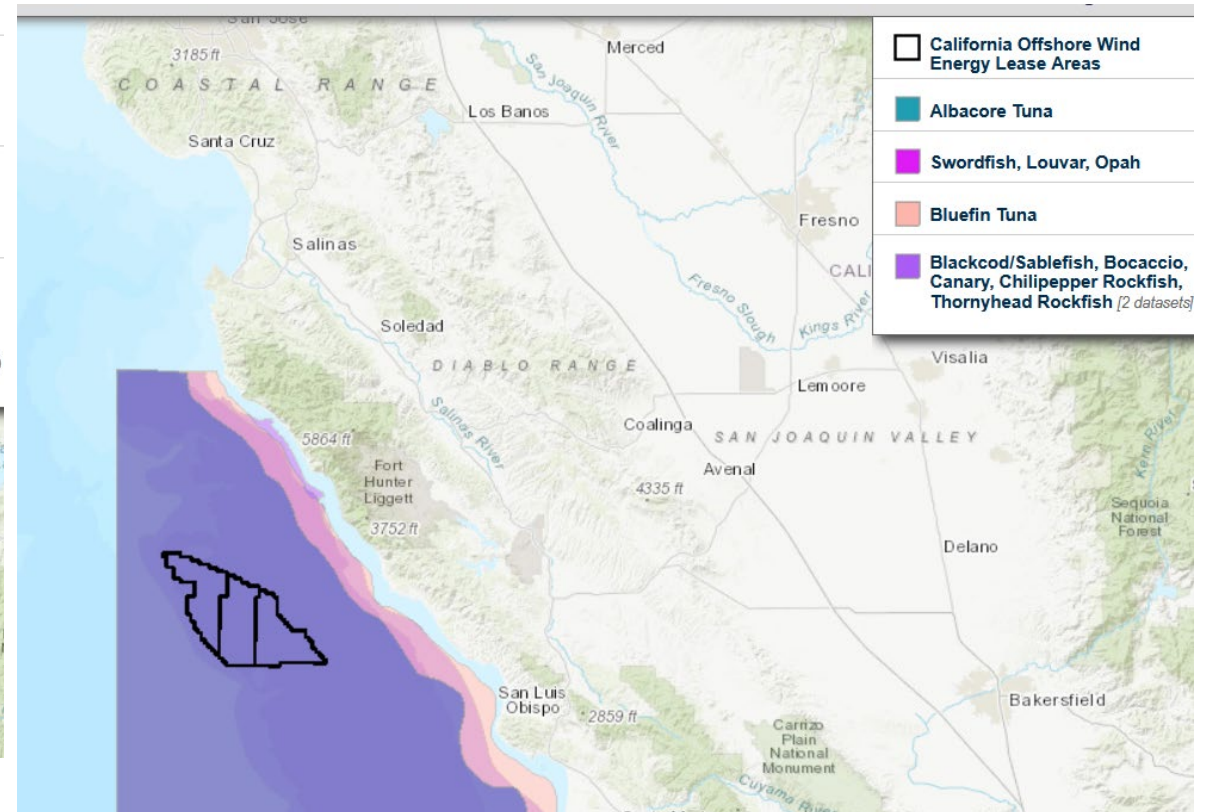


CA OSW Data basin



Data Provided By:

The underlying data was collected by the Humboldt Fishermen's Marketing Association, Salmon Trollers Marketing Association and Crescent City Commercial Fishermen's Association. The spatial dataset was developed by GHD in partnership with the three fishing associations after initial digitization by Marion Brady Design. Dr. Carrie Pomeroy served as the scientific advisor to the project, led by the fishing associations



Data Provided By:

The underlying data were collected by the Morro Bay Commercial Fishermen's Organization (MBCFO) in collaboration with Dr. Carrie Pomeroy and Brianna Haugen at UCSC, with additional assistance from Steve Scheiblaue (Marine Alliances Consulting). The spatial dataset was developed by GHD in partnership with MBCFO, Pomeroy and Haugen.

Fishing Activity in CA leases, BOEM PEIS

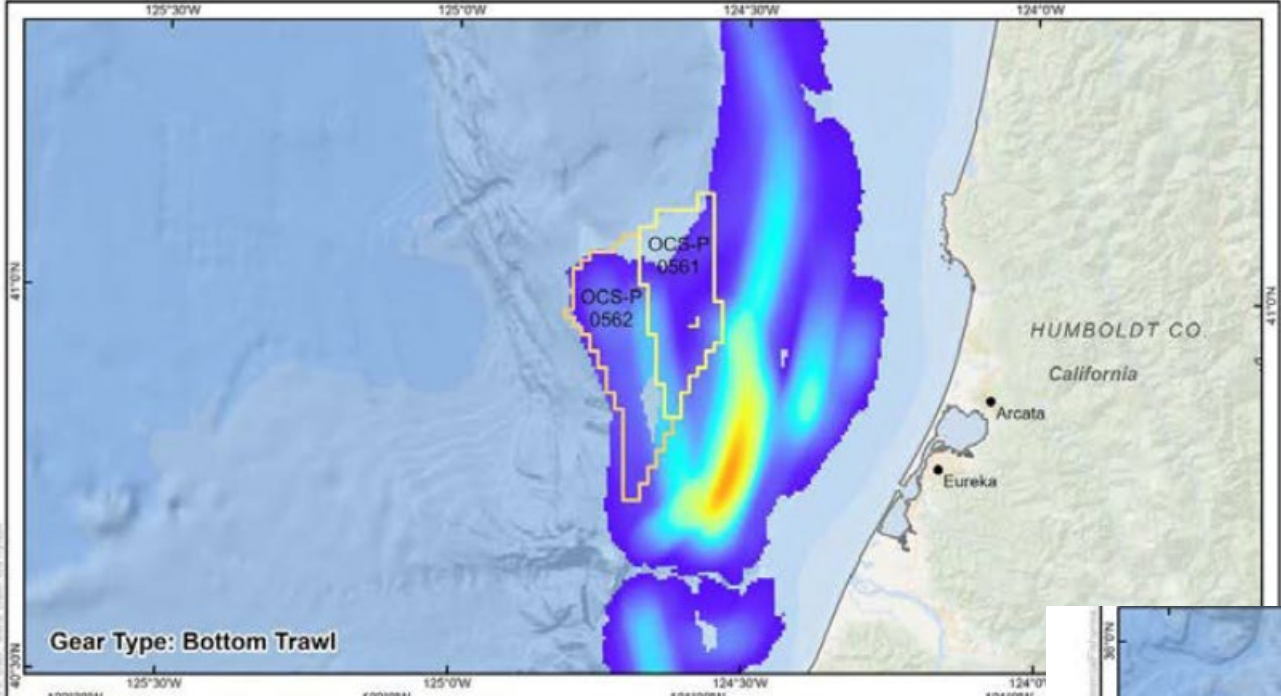
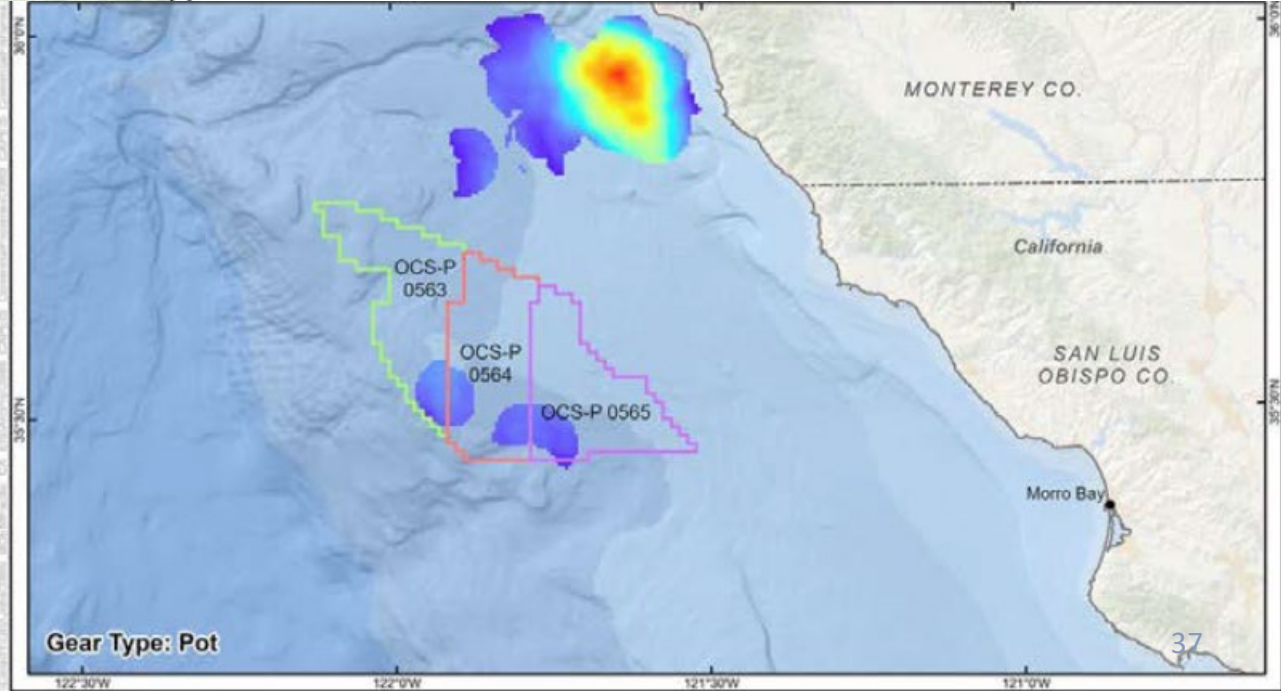
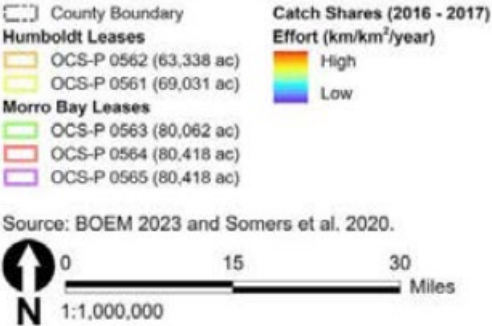


Figure 3.4.1-2. Federally managed bottom trawl (upper panel) and pot fishing (lower panel) activity relative to the Humboldt and Morro Bay WEAs



California Lease Requirements



California Lease Requirements for Communications, Engagement, and Reporting

- Three required communications plans:
 - Native American Tribes Communications Plan (Lease Addendum C, 3.1.2)
 - Agency Communications Plan (3.1.3)
 - Fisheries Communications Plan (6.2)
- Engagement (3.1.1): The Lessee will make reasonable efforts to engage with Tribes and parties that may be potentially affected by the Lessee's project activities on the OCS, including, but not limited to:
 - Coastal communities
 - Commercial and recreational fishing industries and stakeholders
 - Educational and research institutions
 - Environmental and public interest non-governmental organizations
 - Federal, state, and local agencies
 - Tribes
 - Mariners and the maritime industry
 - Ocean users
 - Submarine cable operators
 - Underserved communities, as defined in Section 2 of Executive Order 13985
- Coordinated Engagement (3.1.4): To the maximum extent practicable, the Lessee must coordinate engagement activities with other regional lessees...to decrease the communication and consultation burden
- Progress Report (3.1): Every 6 months, describe overall progress, document engagement



AB 525 Plan – Fisheries

- Documented concerns from fisherman associated with construction and operations of wind farms and cables and effects on:
 - Access to fishing areas due to hazards, safety concerns, shipping traffic
 - Potential prohibition of some kinds of fishing within lease areas; resulting pressure in other areas
 - Overall economic impacts
- Also documented concerns related to port development, site surveys, environmental effects potentially impacting fish and fishing
- Recommendations
 - Use best data, conduct science, in consultation with 7C workgroup and tribal fisheries
 - Continue to support the California Offshore Wind Fisheries Working Group in developing a statewide strategy
 - Develop a strategy to avoid, minimize, and mitigate impacts to ongoing fisheries surveys that inform fisheries management.



7C Fisheries Workgroup

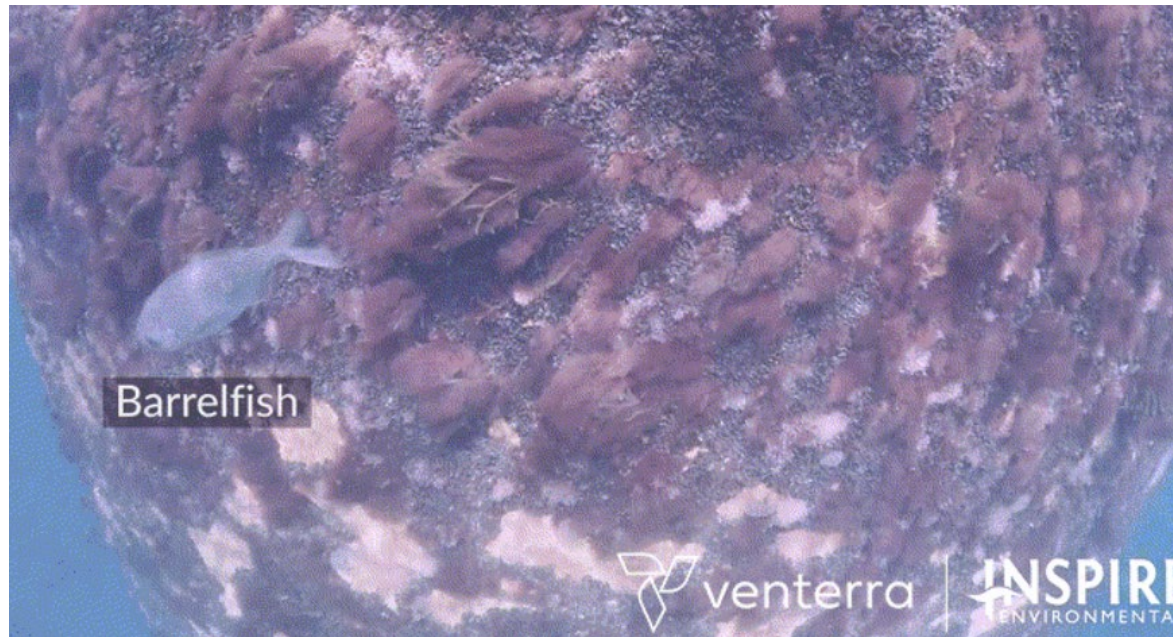
- Established through the Coastal Commission Consistency Concurrence (CZMA) on the BOEM Environmental Assessment and codified by SB 286 (2023)
- Charged with developing a statewide strategy to avoid, minimize and mitigate impacts to fishing and fisheries. Strategy designed to provide guidance.
- Includes commercial fishing representatives and offshore wind developer representatives, facilitated by the CCC. Will also involve tribal fisheries representatives.
- Products will include:
 - protocols for communication;
 - best practices for site assessment surveys and data collection;
 - a methodology for comprehensive socioeconomic analysis of direct and indirect impacts to fishing;
 - a framework for compensatory mitigation for unavoidable impacts
 - and a fishing agreement template

Source: coastal.ca.gov/upcoming-projects/offshore-wind/

CALIFORNIA COASTAL COMMISSION	
455 MARKET STREET, SUITE 300 SAN FRANCISCO, CA 94105 VOICE (415) 904-5200 FAX (415) 904-5400 TDD (415) 597-5885	
	
Th8a	
CD Filed:	1/24/2022
60 th Day:	3/25/2022
Extended to:	4/08/2022
Staff:	HW-SF
Staff Report:	03/17/22
Hearing Date:	04/07/22
Vote:	9-0
ADOPTED FINDINGS	
Consistency Determination No.:	CD-0001-22
Applicant:	Bureau of Ocean Energy Management

East Coast Experience

- East Coast projects have developed and implemented comprehensive benthic and fisheries monitoring plans to evaluate ecosystem impacts.
- Initial results are very positive as evidenced by the South Fork/Inspire Environmental reports



Sealife in shallow water on monopile, South Fork Wind

Source: [Storymaps for South Fork Wind](#)



Sealife on deepwater monopile, South Fork Wind

Source: [Storymaps for South Fork Wind](#)

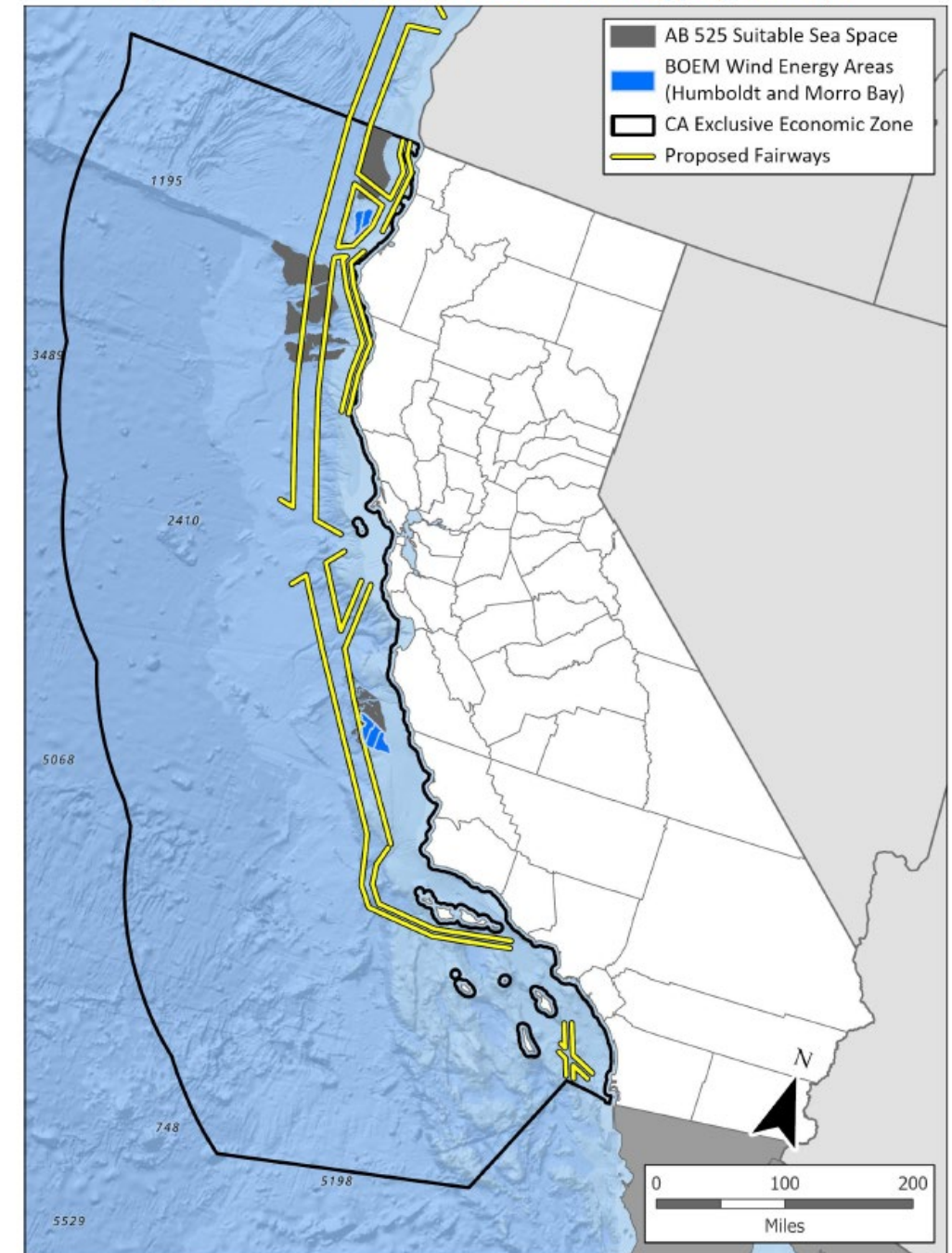
Shipping & Maritime Considerations



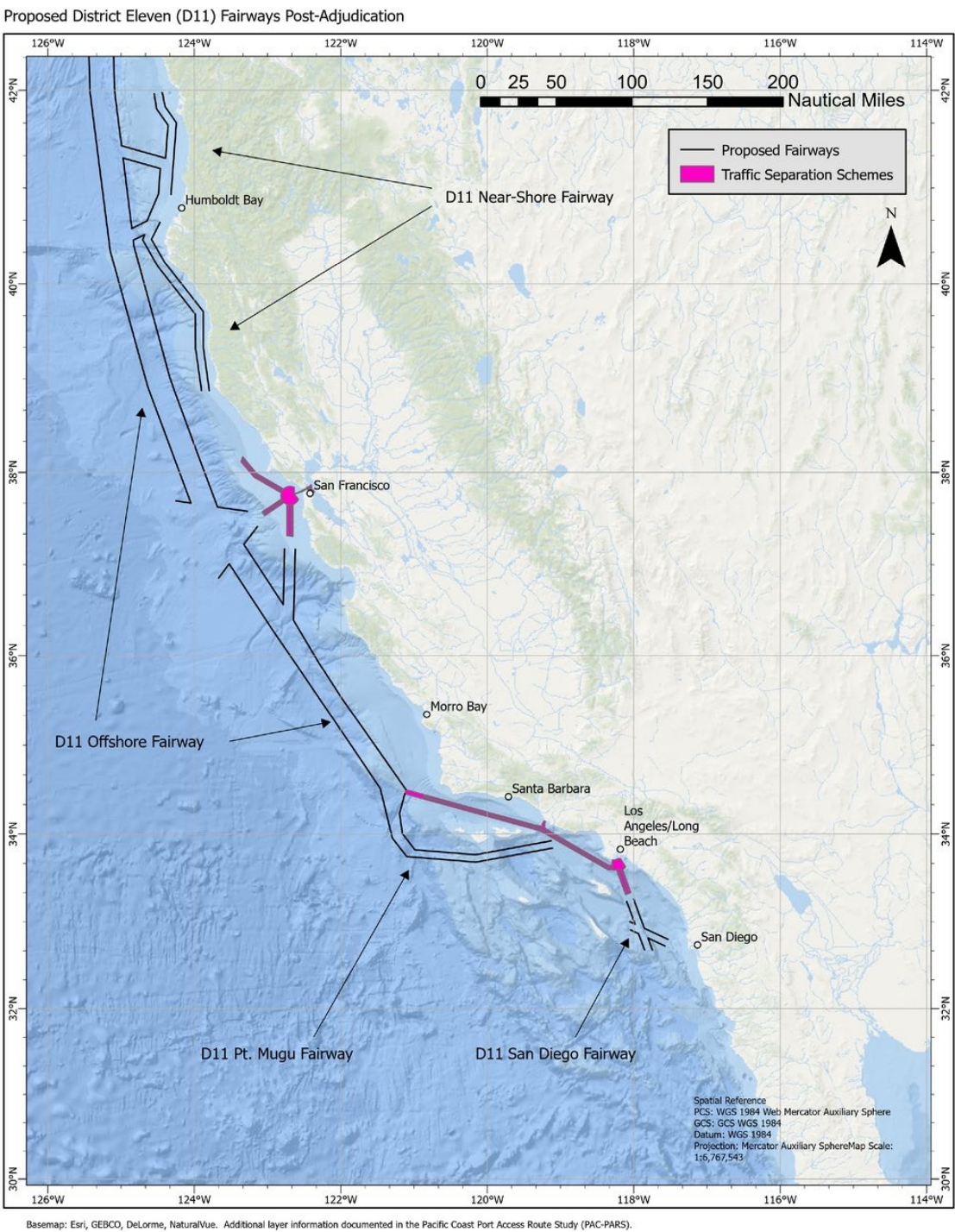
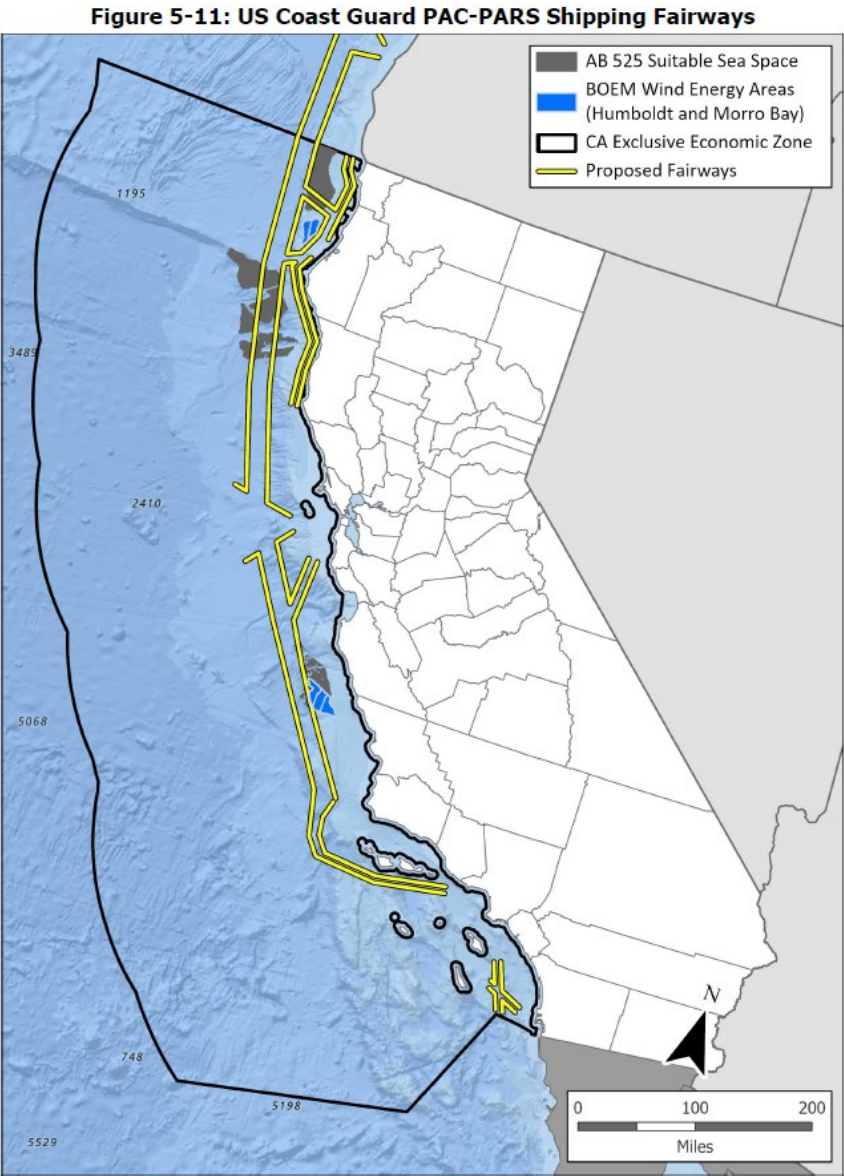
USCG PAC-PARS Shipping Lanes avoid OSW lease areas in CA

- USCG has the authority to ensure safe navigation via the Ports and Waterways Safety Act, conducting many Port Access Route studies on the East and West coasts
- USCG PAC PARS Federal Register Notice states a “primary purpose” of PARS is “to the extent practicable, to reconcile the need for safe access routes with other reasonable water uses such as construction and operation of renewable energy facilities and other uses of the Pacific Ocean”
- Each OSW project produces a Navigation Safety Risk Assessment on risk to mariners and how to minimize and mitigate those risks
- USCG D1 (New England) and D5 (Virginia) have done tabletop safety exercises with developers
- Several projects have also done on-the-water safety exercises with USCG

Figure 5-11: US Coast Guard PAC-PARS Shipping Fairways



Final USCG PAC-PARS Shipping Lanes →



Safety Considerations



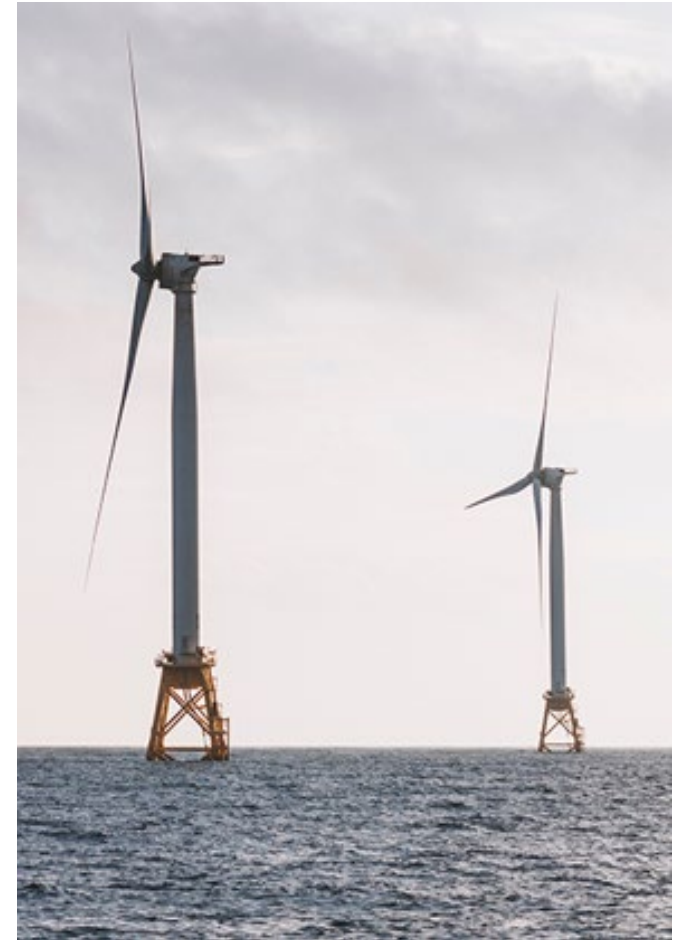
Regulatory Process

- Through the leasing process, lessees develop a Safety Management System (SMS) for regulatory approval that outlines a **proactive approach for managing safety** and controlling safety risks throughout the entire project lifecycle for all parties. They address:
 - Personnel safety and training
 - Emergency response procedures
 - Maritime operations
 - Inspections and reporting



Industry-Developed Safety Standards

- SMS utilize consensus-based standards developed by industry via groups like ACP and the American Petroleum Institute (API). They consider best practices from East Coast and international projects and provide guidance on:
 - Turbine and floating structure design
 - Certifying new technology
 - Competency and training standards for offshore workers
 - Emergency response procedures
 - Marine and vessel operations
- Commonly referenced safety standards and guidelines include ANSI/ACP OCRP-1-2022, IEC 61400, ISO 45001, API RP 75, and ANSI Z10.



Other references



Recommended Reading

- [GAO OSW comprehensive report](#)
- [BOEM Draft PEIS on OSW](#)
- BOEM Environmental Assessment for [Humboldt](#) and [Morro Bay](#)
- [California Energy Commission AB 525 Strategic plan](#)
- [OPC, CMSF Monitoring Guidelines Development](#)
- [CA Databasin mapping tool](#)

