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NATIONAL RENEWABLE ENERGY LABORATORY

Offshore Wind Supply Chain Overview

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What's in the offshore wind supply chain?

- Major components
  - Blades
  - Nacelles
  - Towers
  - Floating platforms
  - Moorings and anchors
  - Cables
  - Substations
- Ports
- Vessels
- Subcomponents
- Materials
- Workforce

Port investment

Deployment

Supply chain

Project cost

Energy justice

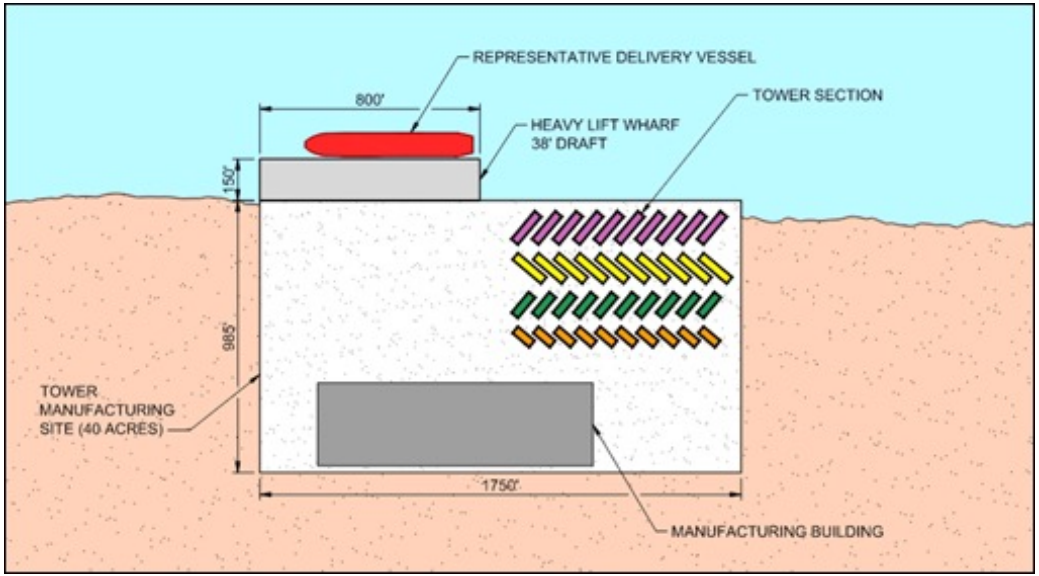
Gaps, challenges, and opportunities for developing offshore wind on the West Coast

Photo courtesy of the Windfloat Atlantic project / Principle Power. Artist: DOCK90

Port Investment

- **Manufacturing & Fabrication Port**
  - Manufactures large components
  - Located on navigable waterway
  - Requirements vary by component type
    - 30–100 acres
    - 20–38 ft berth depth
    - Heavy lift wharf
- **Investment: $50–500 million per site**

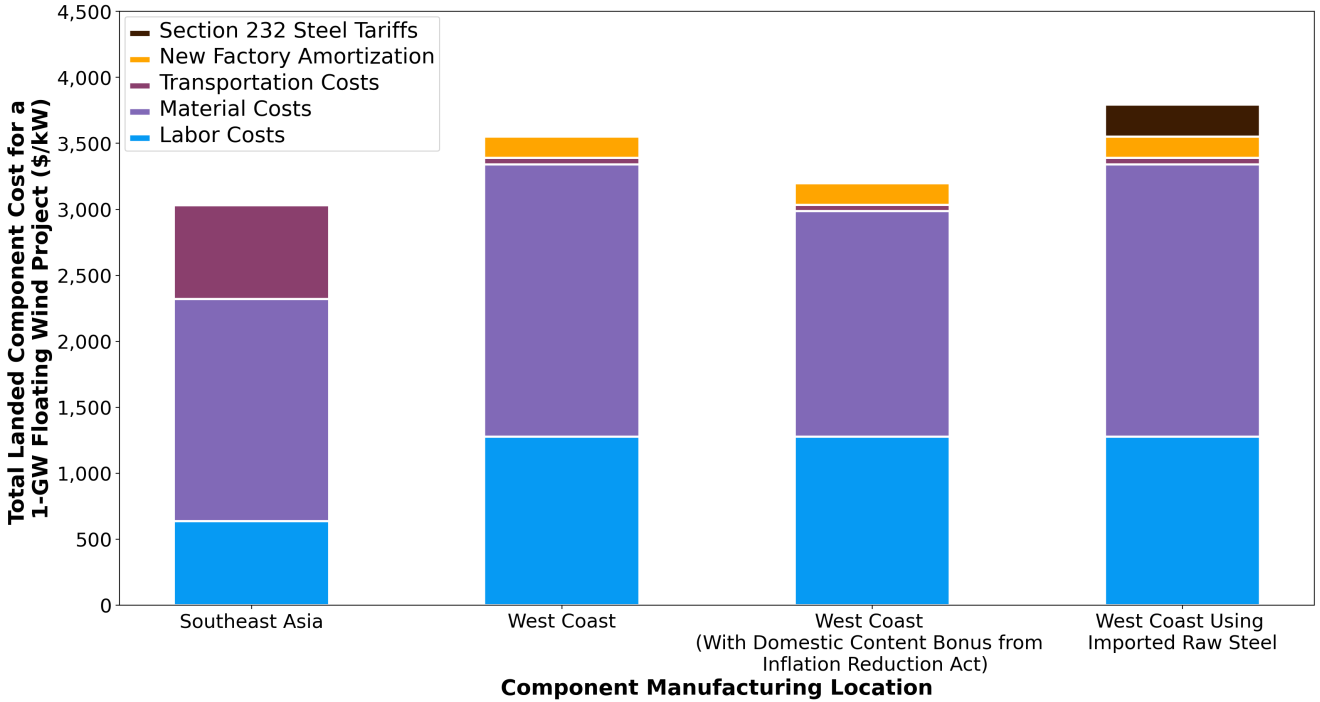
Representative Tower Manufacturing Site



Schematic courtesy of Moffat and Nichol

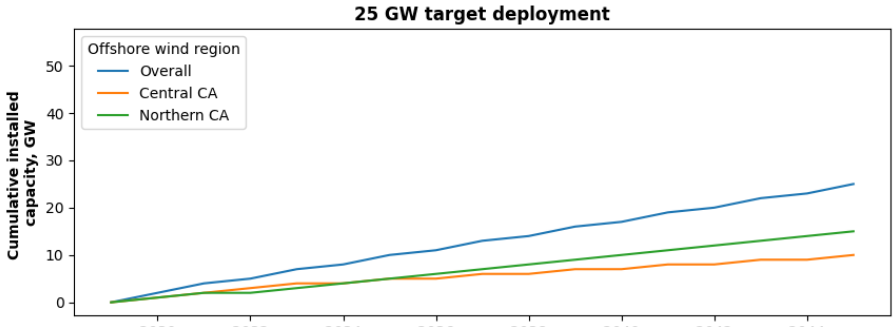
Project cost

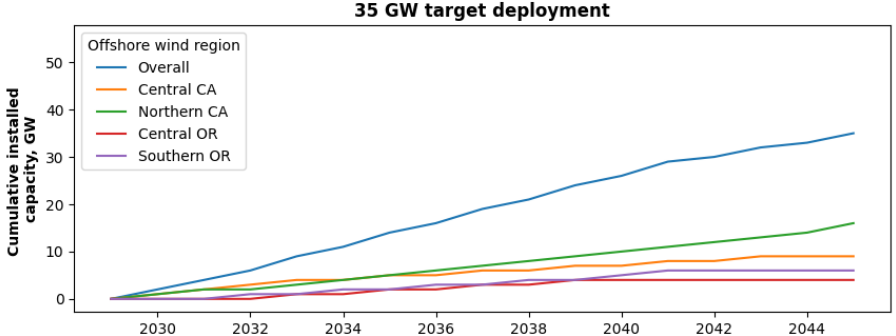
A West Coast supply chain could be cost competitive with imports because of reduced transportation costs and Inflation Reduction Act incentives

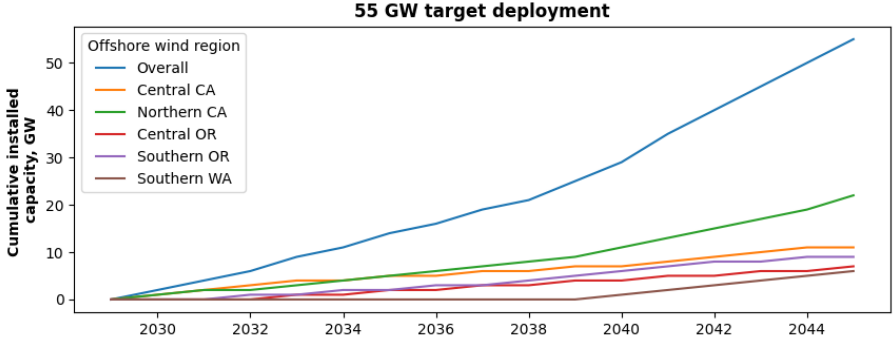


Deployment

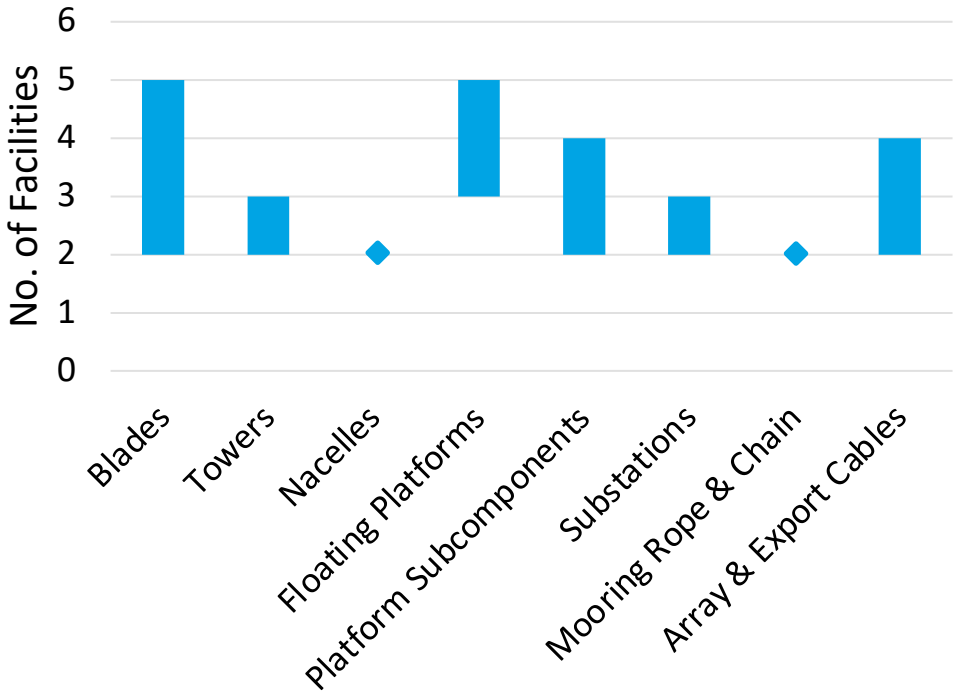
- 25 GW by 2045
  - Deployment to meet California policy target
- 35 GW by 2045
  - Deployment meets or surpasses goals in California and Oregon
- 55 GW by 2045
  - Additional deployment in California, Oregon, and Washington beyond current targets

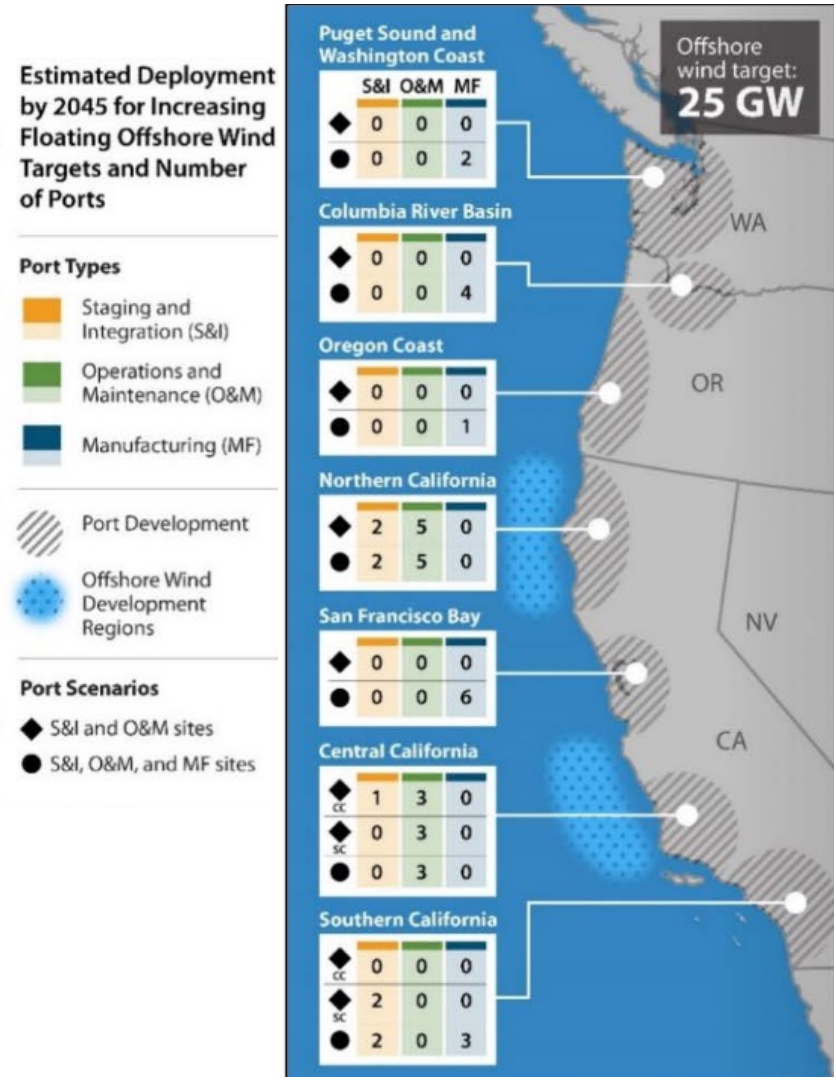




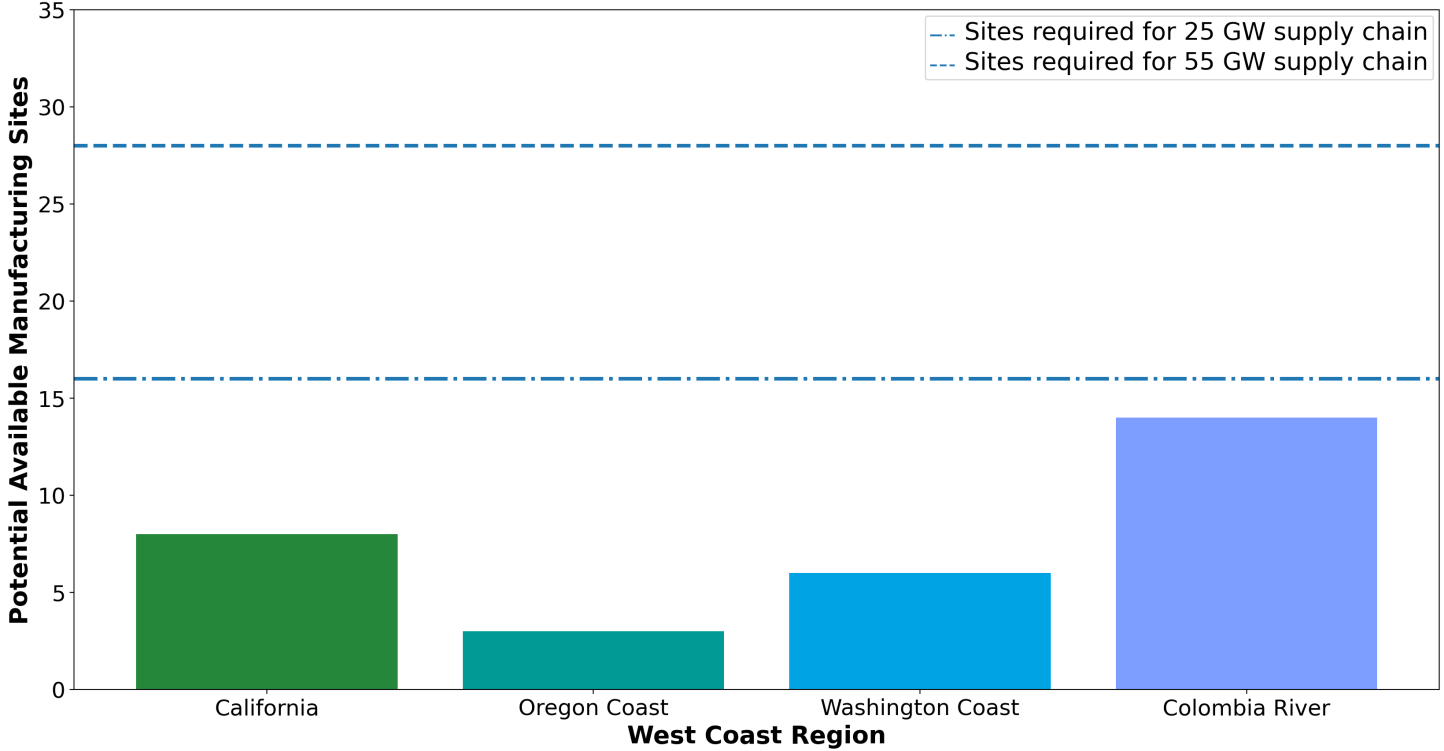


Demand for Major Component Manufacturing to Deploy 25–55 GW on the West Coast



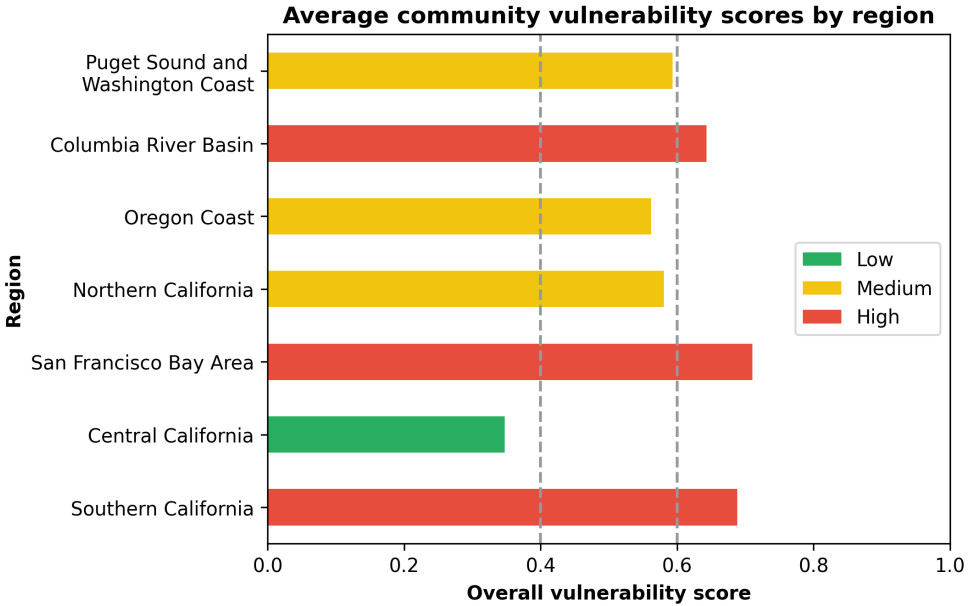


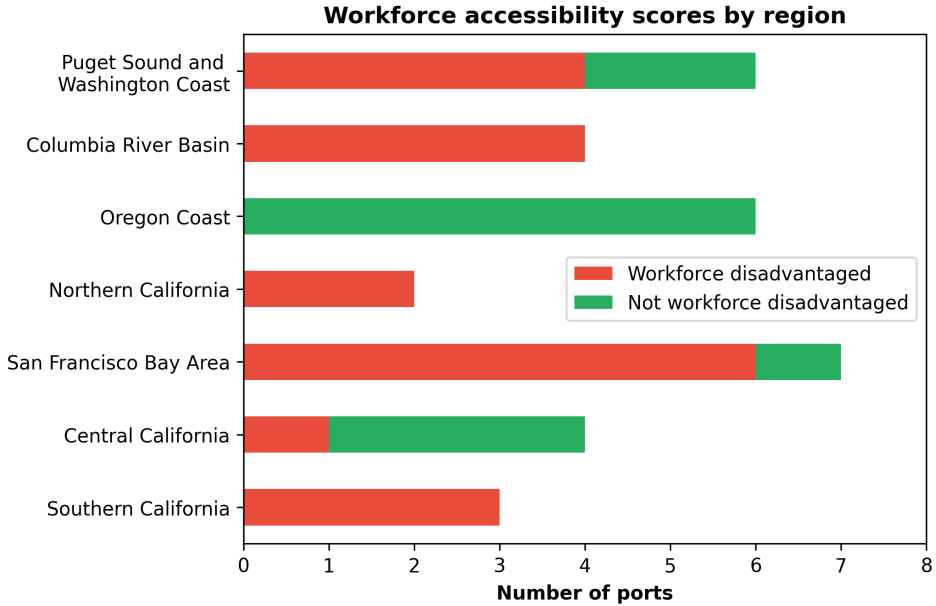
West Coast States would likely need to collaborate to develop enough manufacturing sites to support a local supply chain because no state has enough existing capacity



Energy Justice

Communities have different types of vulnerabilities that may impact how much they are affected (positively or negatively) by new manufacturing and job opportunities





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Thank you

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