



Pathways to Commercial Lifftoff Offshore Wind



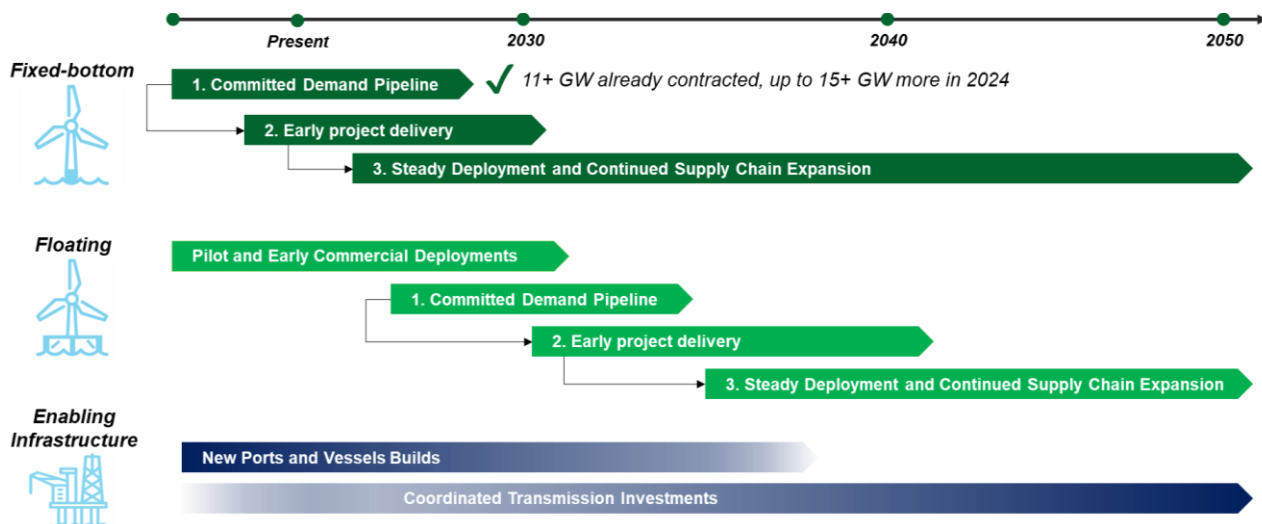
Read the Lifftoff report

The U.S. offshore wind market is at an inflection point. Despite facing macroeconomic challenges, the sector is adapting, and improved risk mitigation is being built into industry planning.

U.S. offshore wind is now poised for Lifftoff, beginning with the 10-15 gigawatts (GWs) of projects with a path to final investment decision in the next few years. These projects will lay the foundation for consistent long-term deployment, decarbonization, and economic benefit across the country.

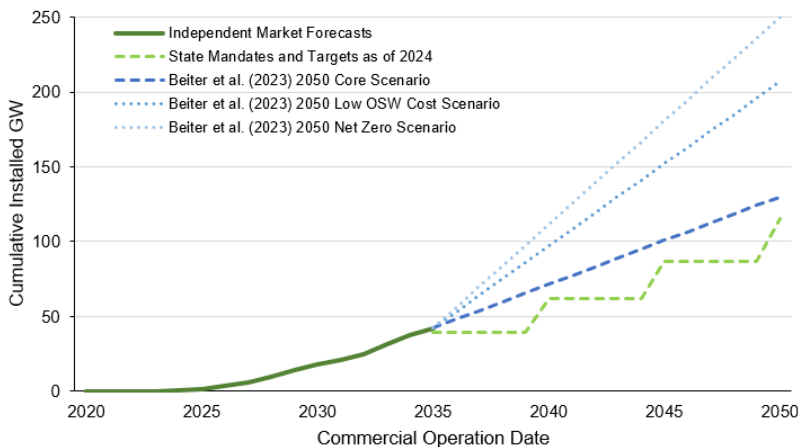
- Offshore wind can deliver tens of GWs of clean power to East Coast load in the near term, with **~250 MW** operational, **5 GW** under construction, and **over 10 GW total** approved for construction as of April 2024.
- Recent cost challenges were driven by rising commodities prices and interest rates, supply chain constraints, and schedule delays. Global cost headwinds have stabilized and new offtake solicitations de-risk development going forward.

Pathway to Lifftoff



U.S. offshore wind will achieve “lifftoff” when the sector is actively contributing to decarbonization targets, with a sustained project pipeline and regular deployment.

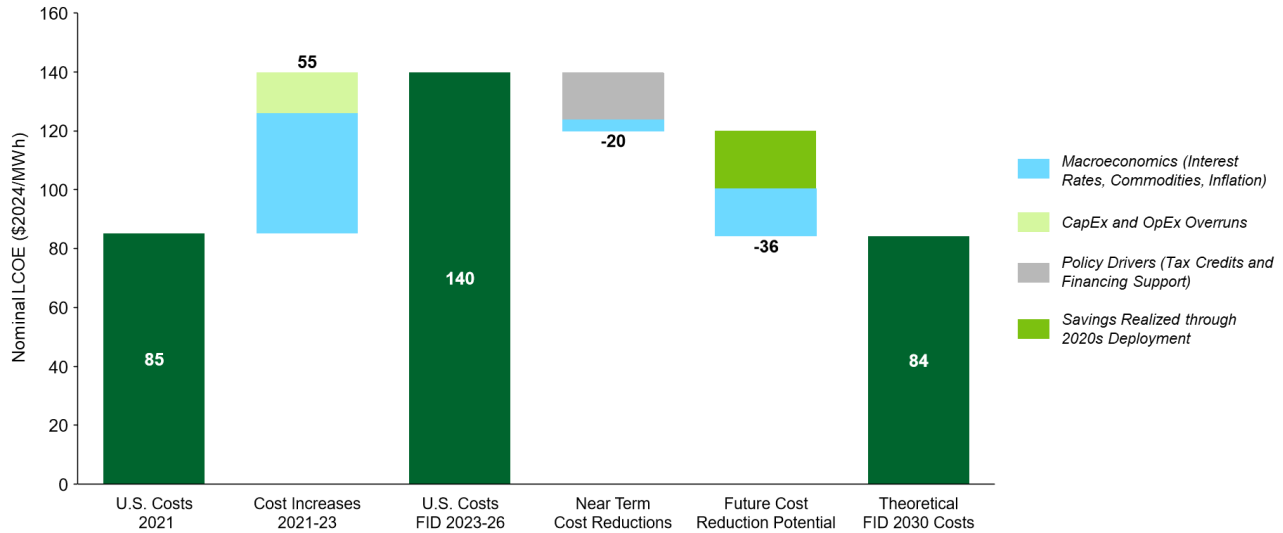
There is a clear path to scale, with ~50 GW-worth of U.S. seabed already leased to developers (more planned), and early project deployment advancing rapidly. Delivering **over 100 GW by 2050** would require the industry to maintain a steady pace of **4-5 GW deployed per year**.



➤ Offshore wind power has a compelling and distinctive value proposition that **complements other clean resources**, with high capacity factors and strong winter production.

➤ Offshore wind prices reflect not only the cost to generate clean power, but also transmission costs to coastal load centers and the revitalization of maritime infrastructure and manufacturing.

Historical cost increases for a representative 2020s project, and cost reduction levers for future projects (FID 2030+)



While costs increased over the past few years, there is a path to cost reductions moving forward. LCOEs below \$100/MWh (\$2024) are possible for fixed-bottom projects by FID 2030. Costs are dependent on macroeconomics, state and federal offshore wind policy, offtake design, and the number of early movers that begin construction in the next few years. The figure above provides a framework to understand near-term cost reduction opportunities—given inherent uncertainties, it should not be interpreted as a forecast.

Challenges & Solutions Underway

The sector faces four major challenges it must overcome to achieve liftoff. Many solutions are already underway, following leadership from state energy agencies, and learnings across the industry.

Challenges	Solutions Underway
1. Recent offtake cancellations , driven by macroeconomic conditions, create timing uncertainty and funding gaps for sector buildout.	<ul style="list-style-type: none"> Competitive re-bids for 2020s projects that secured offtake pre-2023 Revised projects that are deliverable under current market conditions, and that reaffirm commitments to fund long-term enabling infrastructure needs (vessels, ports, etc.)
2. Current market structures expose the sector to exogenous risks and require early mover projects to carry the costs and execution complexity of long-term industry buildout needs.	<ul style="list-style-type: none"> Improved sequencing of offtake with permitting & project FID Offtake refinements to incorporate risk mitigation & prioritize project deliverability Targeted investments in enabling infrastructure, especially during the pre-FID funding gap
3. Industry lacks market visibility to plan long-term investment cases, especially for supply chain needs.	<ul style="list-style-type: none"> Procurement schedules providing demand visibility & consistency Collaboration on regional supply chain & transmission buildout Industry consensus on tech specs & standards for supply chain
4. Transmission risks development bottlenecks and grid inefficiencies via onshore interconnection, offshore project design, and wider network buildout.	<ul style="list-style-type: none"> Coordinated POI identification and solicitations for onshore upgrades across multiple OSW projects OSW project sizes and standards tailored to low-cost offshore transmission and efficient interconnection Mobilization of interregional transmission planning