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Offshore wind: Balancing cost and climate goals

Driving affordability and project timelines for offshore wind in the United States

State governments, utilities and organizations face new challenges in their journey to Net Zero.

Soaring costs for offshore wind projects, a critical part of decarbonization portfolios, are impacting set targets. Combined with growing supply chain issues, offshore wind project timelines are being revisited and their viability questioned. But there are levers that can be pulled to achieve **~15–35% in cost reductions in the Power Purchase Agreement (PPA) price** that will yield more competitive market rates and ensure project viability.

High costs, growing backlogs and supply issues for offshore wind

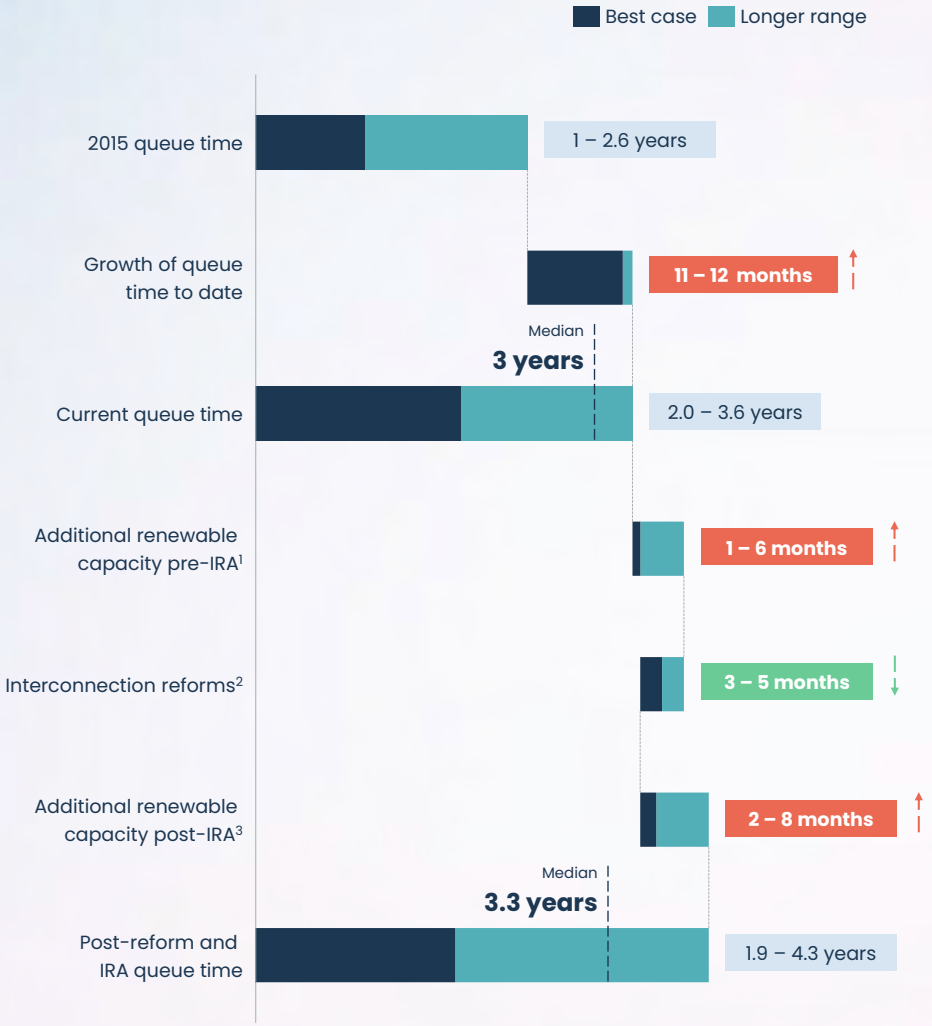
Over the last several years, players in the value chain have been focused on pursuing business and expanding the offshore wind market. But surging costs for key components, financing and uncertainty around capturing key government incentives have begun to render projects untenable for end-users and PPA customers.

Even more pressing, supply backlogs for key components have ballooned since 2020. For example, backlogs for the specialized vessels used in offshore construction have **increased by ~150%,** while cable backlogs (including landfall, export and inter-array cables) have **risen by ~85%.**

Point of interconnection processing time has also been impacted. According to our analysis there is a median of at least three years to successfully navigate the interconnection process, even accounting for recent queue reforms.

Forecasted interconnection processing time, years

Colors represent range



1: Estimated based on % increase in rate of capacity from 2022-2030 compared to 2014-2020
2: Reforms based on PJM and MISO estimates that range from 10%-27% decrease in standard processing time
3: Capacity addition estimates based on analysis from Rystad Energy

Surging prices and changing markets

Original Equipment Manufacturers (OEMs) and Engineering, Procurement, Construction and Installation (EPCIs) have been competing for the past decade to gain market share by lowering prices, taking on contract or cost risks and incurring substantial losses (Fig 1).

This strategy of aggressively pricing projects to win work was viable in a market marked by low interest rates and reasonable commodity prices. However, changing market conditions have led to higher interest rates, inflation, supply chain constraints and fluctuating commodity prices resulting in higher costs and project cancellations.

As demand for offshore wind increases, supply for key project elements is becoming limited. OEMs and EPCIs are increasing prices to make up this shortfall and are passing costs onto developers, PPA customers and end users, leading to surging costs across the value chain for offshore wind projects (Fig 2).

But by working together, everyone, from OEMs and EPCIs providers to utilities and end users, can benefit by bringing costs down and keeping projects on stable timelines.

Fig 1: Fluctuations in inflation, cost component costs and commodity prices

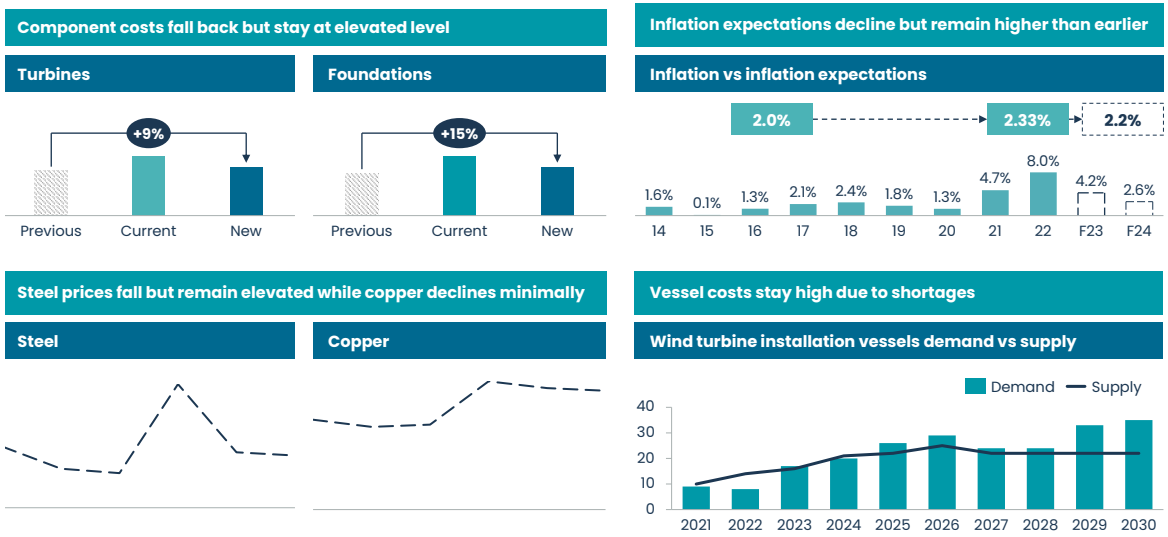
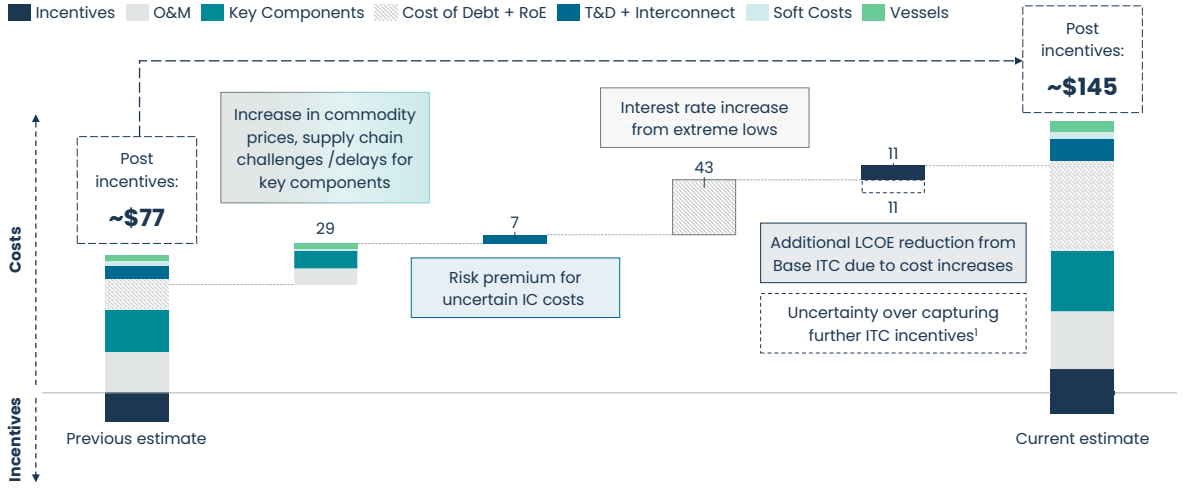


Fig 2: Developer's LCOE breakdown for previous (2019–2020) and current (Sep-2023), $/MWh



Achieving ~15-35% in cost reductions

Despite dramatic cost increases, utilities and governments can engage certain levers to reduce costs

Utility-driven

- Ensure lead times of critical components are secured to reduce schedule delays
- Improve cost transparency, promote de-risking / risk sharing of price volatility with suppliers
- Reduce uncertainty in point of interconnection costs
- Allow for longer PPA lengths

Government-driven

- Support efforts to expedite project permitting
- Advocate for broader funding options (i.e. at federal and/or state level) to lower financing costs
- Engage federal govt. on project ability to access Energy Community and Domestic Content IRA Incentives

Utilities can work to refine the procurement process, giving developers greater flexibility and certainty while providing the utility with greater transparency and risk mitigation on cost and schedule. Whereas from a governmental standpoint, the main support levers for offshore wind projects would be focused on permitting, funding and incentives.

If engaged, these savings levers can lead to **~15-35% cost reductions,** helping everyone in the value chain move forward with projects and reduce timelines.

Collaboration as the solution

By coming together and pulling the available levers, everyone in the offshore wind value chain can benefit and accelerate the journey to Net Zero. OEMs, EPCIs, developers and end users can work together to de-risk projects and achieve healthier margins, more affordable prices, stronger return on equity and better guarantee for project viability.

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Reach out to our experts to discuss your Offshore Wind projects

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