

RECHARGE

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'Floating wind could take the US more than halfway to Biden's 2050 offshore goal'

Simply Blue's Stephanie McLellan Photo: Simply Blue



Faced with the urgency of rapidly cutting emissions, offshore wind, particularly floating, could prove key to the US energy transition. Auctions ahead off California and planned leasing in other deepwater areas are an 'essential first step', writes Stephanie McClellan

By **Stephanie McClellan**

As politicians, industry groups and lobbyists hunker down at the **COP26** global climate summit in Glasgow, Scotland, two key realities are clear. First, the urgency to dramatically accelerate the transition to renewables to reduce the growing risks and ravages of extreme weather due to rising emissions and global warming. Second, offshore wind power, including new technology enabling floating plants, is positioned to play an outsized role helping the US and many other regions in the world to meet their pressing climate and clean-energy goals.

For the US, these facts underpinned Secretary of Interior Deb Haaland's recent announcement of the Biden administration's **plans to identify new offshore wind lease areas in federal waters along nearly the entire US coastline**. Her announcement carried implications that ran deep — literally — in the waters off California and Oregon off the west coast, and farther offshore from the east coast where the ocean depth drops down to be beyond the reach of fixed-bottom offshore wind turbines.

'Go big and go deep': TotalEnergies locks-in oars with Simply Blue for US floating wind [Read more](#)



These planned new offshore wind leasing areas highlight not only that offshore wind has arrived as a future mainstream power source for the US, but also that there is in the government a clear-eyed understanding that to bring offshore wind power's full clean-energy and climate capabilities to market, and realise its job and economic benefits, we must go big *and* go deep.

Indeed, for America, and much of the world, the next frontier for offshore wind energy is floating. The US Department of Energy (DOE) reports that globally, the pipeline of floating offshore wind projects more than **tripled** in 2020 and now exceeds 25GW to be installed by 2026, with costs decreasing rapidly. In the US, to go by National Renewable Energy Laboratory (NREL) numbers, the size of the prize is plain as almost **60%** of viable offshore wind resources can only be tapped using floating foundations.

The case is clear and compelling: It's time to bring floating wind to US coastlines, and it's important to get gear meshing now.

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Only a few hours from where world leaders are meeting at COP26, the world's largest floating wind farm to date was recently brought to full power. The **50MW Kincardine** floating wind farm off Aberdeen, has been built around five 9.5MW turbines mated to semisubmersible platforms that anchored to the sea floor 60-80 meters below, too deep for fixed-bottom platforms.

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Up the coast off Peterhead, the **30MW Hywind Scotland** wind farm, commissioned in 2017, boasts record-setting capacity factors. Industrial-scale floating wind technology is also operational off Portugal, Japan and France.

Moreover, data from DOE, NREL and other analysts shows floating wind technology is now on the same downward cost trajectory as fixed-bottom offshore wind in Europe over the last decade: cost reductions driven by economies of scale, learning, standardisation and supply chain maturation. For floating wind, the trendlines show that the levelized cost of energy is expected to decline to \$50/MWh by 2050. By 2030, floating wind projects will **approach** the same costs as fixed-bottom wind, just in time for their expected

deployments in deeper waters.

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Most importantly, floating wind will be critical for enabling US states to meet their ambitious climate and clean-energy targets — on both east and west coasts.

In the US Pacific, where a very narrow continental shelf means floating will be fundamental to development of the offshore wind resource if states are to reach their 100% clean-energy goals by 2045 in **California** and Washington, and by 2040 in **Oregon**.

In the US Atlantic, much of the Biden administration's 'national goal' of 30GW by 2030 is expected to be achieved in shallower waters, where fixed foundations will be pile-driven into the ocean floor. However, the east coast states' offshore wind goals will continue to rise to meet newly estimated clean-electricity needs driven by recent deep decarbonisation commitments. The truth is that shallow east coast waters are a limited resource, given the marine spatial planning accommodation necessary for other ocean users, including the fisheries and shipping sectors, in this region.

US 'well-positioned' to be a leader in global floating wind boom: BOEM chief

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Ultimately, state leaders and offshore wind companies will go where the winds blow strongest and clean gigawatts can be generated. Floating wind has the flexibility to access deepwater sites that offer the advantages of stronger and steadier winds, higher capacity factors, and projects that will be largely out of view from shorelines.

Altogether, we estimate that in the deep waters off the US coasts, industry could develop as much as 35GW of high-capacity floating wind power by 2040, and almost double that, 60GW, by 2050. This would take the US more than halfway down the path to **110 GW from offshore wind by 2050**, which is the Biden Administration's longer-term aim for the nation.

As COP26 brings into clear focus, we must quickly pave the way for large-scale climate solutions. Secretary Haaland and her team at Interior are demonstrating they know that for America's heavily populated coastal states, this means going big and going deep. Advancing the leasing process for floating wind in waters deeper than 60 meters, on both the west and east coasts, is an essential first step.

Stephanie McClellan is North America chief of strategy & policy for Irish developer Simply Blue. She previously founded the think-tank the Special Initiative on Offshore Wind

