https://www.rechargenews.com/wind/floating-winds-model-t-moment-is-the-key-to-commercial-success-of-the-sector/2-1-1320915

RECHARGE

September 27, 2022

'Floating wind's Model T moment is the key to commercial success of the sector'

Hexicon US & Canada country manager Adrienne Downey Photo: Hexicon

To create an industry beyond the launch of the Floating Wind Shot, the US needs to strip out externalities and pursue a mass-market approach to drive down sector costs, writes Adrienne Downey

By **Adrienne Downey**

The Biden-Harris administration has demonstrated a keen understanding of the importance of targets in aligning purpose. From the March 2021 announcement of their **30GW of offshore wind by 2030** and up to 110GW by 2050, the Biden-Harris Administration has galvanised an industry and a nation, resulting in record setting auctions, massive supply chain investment, and a ramped-up leasing and project review schedule.

And now, the just-launched **Floating Wind Shot** brings another 15GW of floating wind power by 2035 into the nation's sights. This massive goal is backed up by a suite of research and development (R&D) funding to drive a staggering 70% drop in the price of floating wind to sub-$45/MWh by 2035.

While the gap is vast, advances in innovation and R&D are already bringing us closer, and Hexicon's innovative twin-turbine floater was able to reach a strike price of $119/MWh in UK's first dedicated award for floating wind in June of this year – well below the $200/MWh LCOE [levellised cost of energy] estimated by National Renewable Energy Laboratory.

Technology, particularly in turbine size, has advanced so quickly, however, that ever-larger turbines now risk exceeding supply chain capabilities and misses the point of a "holistic view" of standardisation and innovation across the entire floater design let alone the undue infrastructure burdens that offshore wind bears over other generation types.

Regarding standardisation, the floating sector can look to onshore wind for lessons on cost reduction. Costs for onshore wind have declined 67% since 2009, not on ever-larger turbines, but through the standardisation of onshore equipment that allowed for higher volumes, mass-produced components, and steady production runs.

It is not necessary to have a bespoke foundation for every wind turbine, and standardisation will lead us to floating wind's 'Model T' moment, the key to success for the commercialisation of sector.

Not a moment too soon, either. The US will need to be installing 3GW every year from 2030 to 2035 – assuming an almost decade-long permitting process, between 100 and 200 floaters annually – a staggering endeavour. Clearly, mass production is vital to driving down costs for this powerful resource.

Rationalising costs

But that alone won't be enough, and we should also acknowledge that the Floating Wind Shot is a stretch goal that will need to be bolstered by a range of efforts and realignment of "costs" to achieve the ambitious 70% reduction.

First, project development costs must be separated from transmission costs. Unlike other power producing sectors, renewables included, offshore wind generators are on the hook for much of the cost for the necessary transmission upgrades for the project to deliver its power.

Because of this unique burden, easily one third of the resource cost for offshore wind is borne by the project, raising the LCOE and skewing pricing in a way that makes 'apples to apples' comparisons between projects difficult – and certainly not in a way amenable to the 30-second sound bite.

Decoupling and rationalising these investments separately from individual project costs would drive enormous advantages to ratepayers and facilitate integration and delivery of successive waves of offshore wind projects.

Port infrastructure and vessel costs are also extraordinary burdens for offshore wind projects not borne by other generation technologies. Port infrastructure upgrades and costs continue to exceed what is rational for any single project to bear, rather than being amortised over multiple generations of offshore wind projects and other uses.

Planned transmission and port infrastructure development has been shown across multiple studies to dramatically lower overall costs, and investment has certainly started, but more needs to happen to meet targets

Another is that the conventions of project financing are out of sync with the offshore wind industry's infrastructure needs.

Port upgrades take time and need significant early investment to meet individual project timelines and state and national targets. But project finance feels more comfortable lending to proven projects with a track record of success.

This leads to smaller, more expedient, project-specific port investment instead of upgrades designed to meet the needs of the entire industry for decades to come.

What floating wind – and offshore wind generally – needs is to embrace the long-view of offshore wind infrastructure development: suitability, economies of scale and "future-proofing" of major upgrades, and the longevity of taxpayer (if not ratepayer) benefits, including thousands of durable, family-sustaining American jobs.

By rationalising the external port infrastructure and transmission burdens that inappropriately encumber offshore wind pricing over other generation types, we strip out easily at least half of an offshore wind project's so-called "cost" – fixed or floating. That alone could plunge floating's LCOE to sub $70/MWh, already potentially competitive with current fixed bottom markets.

Add to that improved project timeline stability and mass production, and the goal of $45/MWh by 2035 comes into focus.

Adrienne Downey is Swedish floating wind technology developer Hexicon's country manager for the US & Canada