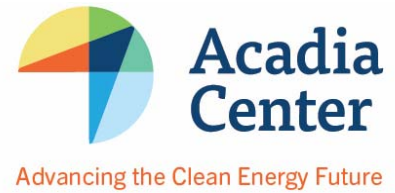


The Offshore Wind Opportunity in Connecticut

Policy Action Needed to Ensure In-State Jobs and Economic Growth



September 20, 2017

An Emerging Regional Market

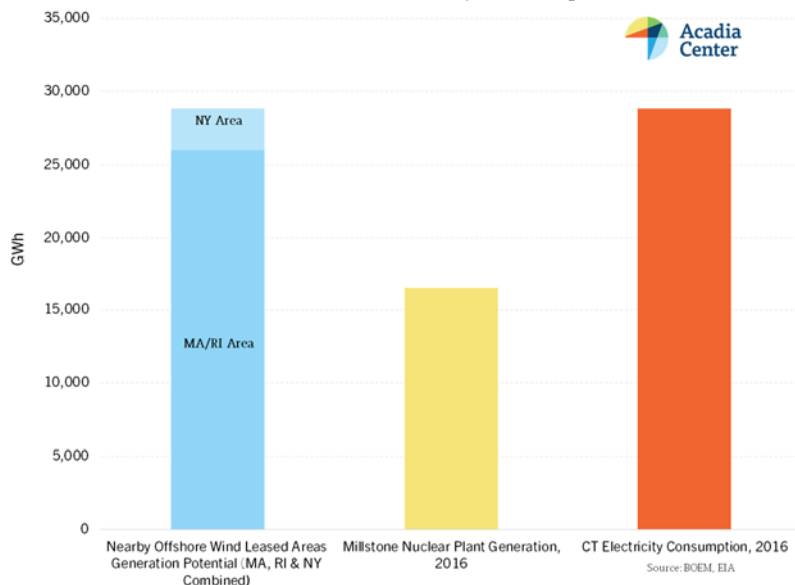
A key component to achieving a decarbonized energy future, offshore wind is now a reality in the Northeast. The Block Island Wind Farm off the coast of Rhode Island is operational, Massachusetts is actively reviewing offshore wind project bids, and New York, Maryland, and New Jersey are all developing their own ambitious programs. In Connecticut, offshore wind offers the state an opportunity to grow its clean energy economy, particularly along the shoreline. With three deep-water ports and a skilled manufacturing sector, Connecticut is well-suited to move forward on offshore wind—all that is needed now is policy action.

So far Connecticut has lagged behind its neighboring states in developing a long-term energy strategy that embraces offshore wind. To rectify this, Connecticut officials should take a comprehensive approach to adopting new offshore wind policies that also leverages the state’s strong manufacturing base. If Connecticut makes major commitments to offshore wind, its ports could also become offshore industry hubs, attracting a large share of industry jobs and economic development.¹

Vast Potential for Power Generation

As described in Acadia Center’s [recent analysis](#), Northeast states need to reduce greenhouse gas (“GHG”) emissions 80% by 2050 to meet long-term climate goals, requiring significant increases in all clean energy sources. To achieve necessary GHG emissions reductions, Northeast states should seize the opportunity offered by offshore wind with dedicated procurements of at least 6,400 megawatts by 2030, or 9% of regional clean energy generation. This scale of development can be achieved in offshore parcels in federal waters already leased for development.²

Comparison of Offshore Wind Potential in Nearby Leased Areas, Millstone Nuclear Power Plant Generation, and Connecticut Electricity Consumption



As carbon-free power, offshore wind has incredible potential in Connecticut. Good wind speeds, shallow water and close proximity to population centers make it a promising grid-scale renewable resource. The offshore areas currently available for leasing have a generation potential roughly equal to the amount of electricity consumed annually by Connecticut—almost 29,000 gigawatt hours in 2016—significantly more than the generation capacity of the state’s nuclear power plant.

Innovation and Procurements Reduce Costs

As with many nascent industries, early project cost levels for offshore wind are likely to decline as the market grows and the technology continues to evolve; this has been the experience of large-scale developers in Europe, where costs have been driven down significantly.³ Costs can be reduced further through dedicated offshore wind purchases. Experts anticipate a 30% reduction in the levelized cost of offshore wind energy by 2030, with costs falling by 41% by 2050 for fixed-bottom projects.⁴ Next generation technology—such as larger turbines and optimized rotors—is a significant driver in these projected drops. Research finds that increased turbine height alone could result in an 18% reduction in cost from 2014 to 2030.

Recommended Actions for Connecticut

During Connecticut’s 2017 legislative session, offshore wind was added as an eligible technology for discretionary procurement solicitations by the state’s energy agency.⁵ The state continues to lack a requirement to procure offshore wind, unlike other states, or a long-term strategy for the resource in reducing carbon emissions. To catch up and capture its share of this new economic opportunity, Connecticut needs to develop a sound policy framework for offshore wind. By taking advantage of lessons learned from neighboring states, Connecticut can develop a robust offshore wind strategy that leverages its skilled labor pool and deep-water ports in a new emerging market.

Connecticut decisionmakers should consider the following actions to strengthen the state’s future in offshore wind:

- Ensure the final Comprehensive Energy Strategy includes fair and factual consideration of offshore wind in the state’s long-term energy strategy.
- Amend the state’s Renewable Portfolio Standard to mandate offshore wind procurement goals. Without a mandate, there is no assurance that projects tied to Connecticut’s economy will be built. Establish long-term targets that increase over time to support sustained wind market growth.
- Adopt timelines for solicitations, contracts, and construction that align with state energy goals and emissions reduction targets.
- Collaborate with the CT Port Authority and CT Department of Economic and Community Development in developing a state-wide strategy to make Connecticut attractive to offshore wind market opportunities and supply chain activities.
- Initiate a cross-cutting dialogue with CT labor representatives to identify legislative opportunities to grow the state’s offshore wind industry by incorporating manufacturing and labor provisions in procurement criteria.
- Initiate engagement with stakeholders in fishing, marine commerce, tourism, and other sectors potentially impacted by offshore wind development.

For more information:

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¹ See U.S. Department of Energy and U.S. Department of the Interior, *National Offshore Wind Strategy*, <https://www.boem.gov/National-Offshore-Wind-Strategy/>; Beiter, Philipp et al., *An Assessment of the Economic Potential of Offshore Wind in the United States from 2015 to 2030*, National Renewable Energy Laboratory, March 2017, <https://www.nrel.gov/docs/fy17osti/67675.pdf/>; and Keyser, S. Tegen et al., *Offshore Wind Jobs and Economic Development Impacts in the United States: Four Regional Scenarios*, National Renewable Energy Laboratory, February 2015, <https://energy.gov/sites/prod/files/2015/02/f19/offshore-wind-jobs-economic-development-impacts-united-states.pdf>.

² See Acadia Center, *EnergyVision 2030*, <http://2030.acadiacenter.org/wp-content/uploads/2017/05/Acadia-Center-EnergyVision-2030-Electric-Generation.pdf>. The National Renewable Energy Laboratory estimates the total technical potential of New England and New York, including these areas, to be 426 gigawatts. See National Renewable Energy Laboratory, *2016 Offshore Wind Energy Resource Assessment for the United States*, September 2016, <https://www.nrel.gov/docs/fy16osti/66599.pdf>.

³ See BVG Associates, *Future renewable energy costs: offshore wind*, 2014, <http://www.innoenergy.com/wp-content/uploads/2014/09/KIC-IE-OffshoreWind-anticipated-innovations-impact.pdf> and Andresen, Tino, "Offshore Wind Farms Offer Subsidy-Free Power for First Time," Bloomberg, April 14, 2017, <https://www.bloomberg.com/news/articles/2017-04-13/germany-gets-bids-for-first-subsidy-free-offshore-wind-farms>.

⁴ See Lawrence Berkley National Laboratory, "Cost Reductions for Offshore Wind: Signs of Progress, Expectations for More," October 2016, <https://emp.lbl.gov/sites/default/files/offshore-wind-fact-sheet.pdf>.

⁵ See Connecticut Public Act 17-144, Section 10.