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Onshore support facilities for offshore wind farms can be a major development opportunity - by Michael Richard

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Michael Richard
Weston Sampson

This past March, the U.S. Departments of Interior, Energy, Commerce, and Transportation collectively announced new leasing, funding, and development goals to accelerate the deployment of offshore wind energy facilities and the jobs that accompany such projects. The goal is to deploy 30 gigawatts (30,000 megawatts) of offshore wind by 2030.1 By comparison, the U.S. currently only has 30 MW of installed offshore wind energy, represented solely by the Block Island wind farm off the coast of Rhode Island.2 Additionally, the Departments of Energy and Interior found that the U.S. could install a total of 86 GW of offshore wind projects by 2050.3

The New England region has the potential of contributing a substantial capacity to this goal. Experts analyzing offshore wind potential estimate that New England has enough offshore wind to generate more than five times its projected electricity needs by 2050.4 The coast of New England is highly desirable because of high wind speeds coupled with shallower ocean depths in closer proximity to shore due to the continental shelf, making development of offshore wind farms a logical choice. New England also has a densely populated coast with high energy demand, making the region even more appealing to offshore wind energy.

With all of this offshore wind potential, significant capital investment will be necessary to support it, a large majority of which will need to be in onshore facilities. This includes turbine and equipment manufacturing, the construction industry, and the transportation industry (including ports). These investments will continue with the operations and maintenance (O&M) of wind farms, which will also require facilities to store and stage parts and equipment. In March of this year, the U.S. Department of Transportation's (DOT) Maritime Administration announced $230 million in development grants to support projects that strengthen and modernize port infrastructure and can support shore-side wind energy projects.

Projects eligible to receive these grants include support facilities such as storage and laydown areas where supporting components can be assembled, foundations constructed, and materials loaded on to boats and moved offshore to the wind farms. Until a stable backlog of orders can be demonstrated, the manufacturing of major offshore wind components will be completed predominately in Europe, where offshore wind development is more advanced, and shipped across the Atlantic. This tipping point where manufacturing will swing to the U.S. is expected to materialize around 2025, at which point manufacturers will be seeking real estate for development of shoreside plants in the U.S.

Beyond the ports, manufacturing plants, and the construction and staging areas, additional onshore supporting development will include office space and testing laboratories for engineering, innovation, and research and development, along with power grid interconnections, landing substations, and monitoring stations.

Given the potential for offshore wind development in the Northeast and the aggressive goals of the federal government, offshore wind in New England is in full swing and prepared for a boom. There

are several examples that demonstrate this commitment.

In Connecticut, a major developer and regional utility have committed $35 million at the New London State Pier, matching a financial commitment from the state to develop a heavy-lift-capable port and deepwater staging facility. This is on top of other improvements already invested by the state into the facility

In Rhode Island, $40 million has been invested by a developer and a major utility into ProvPort and Quonset Point to support construction, fabrication, and operations.

In Massachusetts, developers have committed to $32.5 million in a lease agreement at the New Bedford Marine Commerce Terminal, a heavy-lift, deepwater facility previously built with $113 million in public funds.

Also in Massachusetts, private investors at Brayton Point, a former coal-fired electric plant in Somerset, are promising a “world-class logistics port, manufacturing hub, and support center” for the industry. In addition, a major transmission developer plans cable landfall services at the site with a $650 million, 1,200 MW, high-voltage direct-current converter and 400 MW of on-site battery storage.

In the next few years, the development of onshore support facilities for the offshore wind industry is destined to be a major component of many coastal communities, much of which will be on Brownfields or other underutilized commercial and industrial properties. Combining the offshore wind industry with the Brownfields redevelopment industry represents a potentially significant boon to these communities and warrants careful planning and investment.

Michael Richard, PE, is discipline leader of the facilities group at Weston Sampson, Reading, Mass.

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2. Bob Woods, CNBC, Dec 13, 2019, “US has only one offshore wind energy farm, but a $70 billion market is on the way” https://www.cnbc.com/2019/12/13/us-has-only-one-offshore-wind-farm-but-thats-about-to-change.html

3. American Public Power Association, Sept. 15, 2016, “86 GW offshore wind are possible in US by 2050, say DOE and DOI.” https://www.publicpower.org/periodical/article/86-gw-offshore-wind-are-possible-us-2050-say-doe-and-doi

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needs by 2050.” https://bangordailynews.com/2021/03/18/business/offshore-wind-could-meet-all-maines-electricity-needs-by-2050/