

Our Ocean Backyard
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The Answer is Blowing in the Wind

The news on wind energy continues to be positive, in fact very positive, which is encouraging at a time when we can easily be overwhelmed with negative news. Wind energy is no longer just an interesting novelty and a hope for the future, it's happening now.

On March 29, almost month ago, the output of electricity from wind turbines in the lower 48 states made it the 2nd largest source of electricity, ahead of coal and nuclear, and only behind natural gas. Daily wind-powered electricity production had surpassed both coal-fired and nuclear electricity separately on other days earlier this year but hadn't exceeded both on a single day before.

While there are thousands of wind turbines (actually over 57,000) generating power through the windy Great Plains states – in order, the states with the largest installed capacity are Texas, Iowa, Oklahoma, Kansas, Illinois, California, Colorado, Minnesota, North Dakota, Oregon and Washington - offshore wind projects have taken longer to get underway for a variety of reasons. To date there is just a single operating offshore wind farm in U.S. waters with five installed turbines off the coast of Rhode Island providing enough electricity for about 17,000 homes on Block Island.

Wind energy is changing rapidly under this administration with a second project, the South Fork Wind Array off New York, now under construction. This 12-turbine wind farm will lie about 35 miles off the coast of Long Island and will be large enough to power about 70,000 homes when fully operational.

Deb Haaland, the Secretary of Interior, states that we are just getting started with offshore wind development. She credited the offshore wind boom to states like New York, which has the nation's most ambitious target in the country: nine gigawatts by 2035, enough to supply 30 percent of New York's entire electricity needs, a state with nearly 20 million people. Governor Kathy Hochul (D), who recently proposed \$500 million in state spending to support offshore wind development in New York, said that "South Fork is just the beginning. We believe in this. This is our future. And we are very bold and ambitious here".

Last year, the combined investments from energy companies, states and the federal government exceeded \$2 billion in accelerating wind development. These funds went towards port improvement, workforce development, partnerships and even 3D printed wind blades. Of the \$6.7 billion invested in U.S. offshore wind development to date, \$2.2 billion or 33 percent was invested last year alone.

As a growing list of offshore projects starts into the permitting and construction phases, many states are increasingly betting on offshore wind to be a key source of renewable power – and an economic driver that will create thousands of manufacturing and maritime jobs. The Biden administration has established a goal of reaching 30 gigawatts of offshore wind capacity by 2030, just eight years from now, enough to power over ten million homes. Eight east coast states have

individually set goals or mandates that total 39 gigawatts of capacity by 2040, enough to power over 13 million homes.

California ranks 6th in the nation in electricity produced by wind turbines, all generated on land, but offshore wind is moving forward in two regions, off Humboldt Bay in northern California and off Morro Bay along the central coast. The Humboldt Wind Energy Area, about 21 miles west of Eureka, passed a critical hurdle several weeks ago when the California Coastal Commission voted unanimously to allow further exploration of a proposed wind energy project. This approval allows the federal Bureau of Offshore Energy Management (BOEM) to initiate talks with interested energy companies and begin the site assessment activities (biological, geotechnical and geophysical surveys) that would lead to a construction and operations plan that then triggers a federal environmental review process.

The Morro Bay site is ahead of the Humboldt area with BOEM having released its draft environmental impact assessment of the Morro Bay Wind Energy Area on April 7, beginning a 30-day public review and comment period. The plan and project if approved and constructed would deliver up to 3 GW of offshore wind energy, which could power over three million homes. The draft environmental assessment looks into all potential impacts from issuing offshore wind energy leases.

Dr. Kate Huckelbridge, senior deputy director at the Coastal Commission, stated that “We are in the midst of a climate crisis...To contain the crisis, California has set very ambitious goals to convert the state’s electric grid to run fully on renewable energy... It is critical that we understand what trade-offs are and that we proceed with all necessary caution to ensure that offshore wind facilities are designed and operated in a manner that is protective of our invaluable coastal and ocean resources”.

As with any offshore or coastal project, the primary areas of concern that will be evaluated include commercial and recreational fishing, marine resources and water quality, coastal hazards, scenic resources, recreation, tribal and cultural resources, environmental justice, and air quality. While each coastal and offshore area is unique, there have now been enough offshore wind turbines constructed and operated, particularly off the coasts of northern Europe where 12 different countries have installed 5,785 turbines on 122 wind farms, to provide considerable information on potential environmental issues and impacts. We aren’t starting from square one, and we will never run out of wind energy.