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A Giant Wind Farm Is Taking Root Off Massachusetts

Turbine blades at the New Bedford Marine Commerce Terminal built for offshore wind projects. Construction has started for the first giant wind farm off the United States coastline. Bob O'Connor for The New York Times



The offshore energy project will have turbines taller than any building in Boston, but they will be barely visible from Martha's Vineyard.

By Stanley Reed and Ivan Penn

Stanley Reed, who covers energy from London, traveled by boat to the site of the Vineyard Wind farm to report this article. Ivan Penn, who writes on renewable energy, reported from Los Angeles.

On a chilly June day, with the Massachusetts island of Martha's Vineyard just over the distant horizon, a low-riding, green-hulled vessel finished hammering a steel column nearly 100 feet into the bottom of the Atlantic Ocean.

This was the beginning of construction of the first giant wind farm off the United States coast, a project with the scale to make a large contribution to the Northeast power grid.

For some of those looking on from a nearby boat, the driving in of the first piling marked a milestone they had labored to reach for two decades. The \$4 billion project, known as Vineyard Wind, is expected to start generating electricity by year's end.

"This has been really hard," said Rachel Pachter, the chief development officer of Vineyard Offshore, the American arm of Copenhagen Infrastructure Partners, a Danish renewable energy developer that is a co-owner of the wind farm. To bring a big energy project to this point near population centers requires clearing countless regulatory hurdles and heading off potential opposition and litigation.

"You don't see large infrastructure projects built in New England anymore," she said, "and certainly not in places where they are highly visible."

Ms. Pachter has seen the difficulties firsthand. Starting in 2002 as an intern just out of college, she worked for more than a decade on a project off Massachusetts called Cape Wind; it **ultimately failed**, in part because of intense opposition over the years by people like Senator Edward M. Kennedy, who died in 2009, and the billionaire **William Koch**. Vineyard Wind, too, has pockets of vociferous opposition. Some people in the fishing industry say turbines will make their job nearly impossible.

Ms. Pachter, though, has helped orchestrate a campaign of community outreach, job creation and funding that has finally led to a point where, in industry parlance, steel is going into the water.

Turbine components at the New Bedford Marine Commerce Terminal await transport offshore. Photographs and Video by Bob O'Connor

In the coming months, 62 turbines, each up to 850 feet high (taller than any building in Boston) with blades about 350 feet long, will be planted on a sweep of seabed 15 miles off Martha's Vineyard, the island where former Presidents Barack Obama and Bill Clinton have vacationed.

Cables carrying electricity created by spinning rotors will land on a beach in Barnstable on Cape Cod and then head to consumers in the state. Vineyard Wind says its machines will crank out enough power to light up 400,000 homes.



Wind farms are usually built surprisingly quickly once construction starts. Klaus Moeller, the chief executive of Vineyard Wind, who is Danish, said he expected that Vineyard Wind — "touch wood" — would be completed next summer.

The situation looked quite different in 2019 when the Trump administration scrambled Vineyard Wind's plans with a halt to further study that lasted two years, putting the proposal in jeopardy. But the Biden administration wants to make offshore wind a big part of the effort to rapidly build up renewable energy and related jobs, and it [gave Vineyard Wind a go-ahead](#) in 2021.

A turbine blade more than 300 feet long. The \$4 billion Vineyard Wind project is expected to start generating electricity by year's end.
Bob O'Connor for The New York Times

Constructing and installing the giant machines at sea is a fairly novel proposition in the United States. There are only a couple of other smaller offshore wind farms in the country. Another, about one-fifth Vineyard Wind's size, is expected to come online this year off Long Island.



[Europe has thousands of offshore](#) turbines, and so much of the expertise and equipment used in Vineyard Wind's construction, including the specialized vessels used to hammer the turbine towers into the seabed, is from across the Atlantic.

Turbine blades made in Canada arriving by ship in New Bedford.
Bob O'Connor for The New York Times

Wind developers also say they are hindered by a century-old law, the Jones Act, [which bans the use of American ports](#) to launch foreign construction vessels. To comply, Vineyard Wind plans to land turbine components [at a port in New Bedford, Mass.](#), and then ship assembled machines to the site on U.S.-flagged barges — a process that adds cost.



Industry executives and analysts say building this first giant U.S. wind farm should help clear the way for similar schemes. "If they can pull off this one, it will open doors," said Dan Reicher, an assistant energy secretary in the Clinton administration and an adviser on a California proposal.

In fact, a series of wind farms are planned that could add up to around 75 times the capacity of Vineyard Wind, according to Wood Mackenzie, a consulting firm. About 80 percent of this acreage is off the East Coast.

Wind turbine tower columns on the pier at New Bedford, Mass.
Bob O'Connor for The New York Times

To Christian Skakkebaek, a founder of Copenhagen Infrastructure Partners, the East Coast "in many ways looks like the North Sea, with a shallow seabed, sandy bottom and high wind speeds."

Vineyard Wind executives like Ms. Pachter are shifting their attention to other wind projects, including another tract near Vineyard Wind, a second off New York and a third on the West Coast, off Humboldt County in Northern California.



The company acquired the acreage for Vineyard Wind in 2016 from Blackstone, the asset management giant. Mr. Skakkebaek said his company had decided to bring in a partner from the United States and had turned to Avangrid, an American subsidiary of Iberdrola, a large Spanish utility.

Building the first giant wind farm in the United States could clear the way for more projects, industry executives and analysts said. Bob O'Connor for The New York Times

While Vineyard Wind has critics, the opposition has been less intense than the kind that fought Cape Wind. One reason is visibility. The project is farther from land, in the Atlantic, while Cape Wind was nestled between Cape Cod, Martha's Vineyard and another island, Nantucket. When constructed, the tops of the turbines will barely be visible from the islands, the company says.



People in Massachusetts also say that from an early stage, the developers took seriously their concerns, like protecting endangered whales. “They have taken those things to heart, and they have mitigated what they could mitigate and come up with a pretty responsible project,” said Andrew Gottlieb, the director of the Association to Preserve Cape Cod, an environmental advocacy group.

A specialized ship installing the first foundations for the Vineyard Wind offshore turbines. Bob O'Connor for The New York Times

Some islands and towns along the Massachusetts coast see economic gains from Vineyard Wind. The town of Barnstable, which opposed Cape Wind, sought to be the landing site for the cables from Vineyard Wind. The benefits: \$16 million in payments and cooperation in constructing a new sewer system, saving taxpayers millions, Mark Ells, the town manager, said.

The company also says a maintenance center for the turbines, being built on Martha’s Vineyard, will create 90 full-time jobs — a significant number for a vacation destination that mainly offers residents summertime jobs.

“It is a really big deal for the island to get 90 year-round, full-time jobs,” said Dylan Fernandes, who represents the island in the Massachusetts legislature.

On the other hand, many of the manufacturing jobs that offshore wind could produce in the United States have yet to materialize. **While the turbines will be supplied** by General Electric, the cabinlike structures called nacelles, which house the gearing and electronics, will be made in France. The first blades are coming from a factory in Canada. G.E. has said it will build two factories in New York if it receives sufficient orders.

A maintenance center for the turbines, being built on Martha’s Vineyard, will create 90 full-time jobs, the company said. Bob O'Connor for The New York Times

Among opponents of offshore wind, fishing groups stand out. People in the industry say that turbines impede their ability to catch fish, and that Washington has insufficiently consulted them when awarding leases. They fear a coastline studded with wind farms.

“Vineyard Wind is the first of many projects that are threatening to make commercial fishing on the East Coast of the United States extinct,” said Meghan Lapp, the fisheries liaison for Seafreeze Shoreside, a fishing company based in Point Judith, R.I.

Ms. Lapp said the wind farm site was a prime summer location for the squids that form much of her company’s business. She said that boats that netted the squids wouldn’t be able to safely fish between the turbines and that the huge structures would interfere with their radar, jeopardizing safety.

Vineyard Wind has tried to mollify the fishing industry by chartering boats to patrol the construction zone and providing around \$40 million for potential lost catches. But Seafreeze and others have filed a lawsuit seeking the suspension of the Vineyard Wind lease, arguing that in the race to secure renewable energy, the federal government ignored its own environmental rules.

Once fully constructed, Vineyard Wind is expected to provide enough power for 400,000 homes. Photographs and Video by Bob O'Connor

At the moment, though, offshore wind and the vast amounts of clean energy it promises seem to have a shot at taking off.

“Just building a project will change so much,” Ms. Pachter said.

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