

## CliSciPol

### Climate Science and Policy for Nonscientists

One picture is worth a thousand words.

#### VINEYARD WIND SUSPENDED

The Bureau of Safety and Environmental Enforcement (BSEE) is the US government agency principally responsible for regulating offshore wind projects. BSEE has now ordered Vineyard Wind to suspend all power production and construction operations pending the outcome of an investigation that may take months.

The Vineyard Wind 1 Project planned to install 62 GE Vernova Haliade-X 13-megawatt turbines, which have blades 351 feet long. It is the first US large-scale offshore wind farm to begin initial electrical production with 5 of its turbines operating as of February. At present about one-third of the 62 planned turbines are in the water. The project was approved in 2021 by the Biden-Harris administration.

The project was funded with \$1.2 billion generated via a tax-equity package with J.P.Morgan Chase, Bank of America, and Wells Fargo. The government subsidy plan allows the wind developer to assign rights to special tax credits to investing institutions like banks, which provide upfront cash to the developer in exchange for the future value of tax credits. Thus the big banks fund the project without serious risk.

On July 13 while reportedly undergoing testing, most of one blade on one of the turbines broke off. The stub that appears in the image is reportedly 65 feet long. In the image the rest of the blade can be seen dangling. If the stub was 65 feet, then the dangling portion was  $351 - 65 = 286$  feet long. On July 18 this dangling piece broke off and fell into the ocean.





At some point this dangling large piece of blade broke up into numerous small pieces that washed up on Nantucket beaches. The debris included some large and dangerously sharp pieces, so Nantucket officials concluded that some of their beaches needed to be closed temporarily while clean-up proceeded.

The manufacturer, GE Vernova, describes the breaking as “highly unusual and rare.” But, according to Reuters, at least one other GE Vernova offshore wind turbine has come apart this year at the Dogger Bank A project off the British East coast. Additionally several onshore turbines in Germany and Sweden have broken in recent years.

The design of offshore wind turbines has been advancing rapidly, most particularly with increasing size to produce increasing efficiency. But the result is that there is no actual data showing the reasonable expected lifetime or the reasonable expected operating costs of the present design of wind turbine that is being installed in projects such as Vineyard Winds.

There has never been a successful demonstration project of a Net Zero electric grid.

There is no rush, because there is no scientific basis for the Net Zero by 2050 goal, and there is no support for Net Zero by 2050 in the Paris Agreement, which only provides in Article 4, Section 1, that the parties will strive “to achieve a balance between anthropogenic emissions by sources and removals by sinks of greenhouse gases in the *second half of this century*, on the basis of equity, and in the context of sustainable development and efforts to eradicate poverty.” (Italics added). The reference to “eradicating poverty” is cited by China and India as an excuse for their massive increases in the use of coal.

It is folly to rush the shut-down of fossil-powered power plants in reliance on offshore wind that has never demonstrated that it can provide reliable power at reasonable cost.

