

OFFSHORE WIND IS NOT ALL ITS CRACKED UP TO BE: now they want to bring it to the US; don't let Vineyard Wind be the first (second to Block Island or first Salt Water offshore) U.S. example of a failed experiment

Additional Comment from North American Platform Against Wind Power



March 17, 2019

TO: Paul Foley MVC DRI Coordinator

Public Record DRI 688 Vineyard Wind

Dear Mr. Foley

We again ask you to file this comment, or list of frailties associated with offshore wind, providing examples from Europe and commentary from the U.S.

With thanks,

We add our email note to you here for filing.

At the risk of filling your box with issues, you may find it useful to know that offshore wind in Europe has lost a lot of its glow. Much of the failure doesn't reach US news outlets, and of course the developers are happy enough to sell to the U.S.

We would dearly hate for Vineyard Wind to take the precious coast and be a precursor for even more failures, environmental disasters, which are completely obvious, and costs beyond imagining.

The expressions of monetary and other compensation for those who may possibly benefit from this exercise in conscience "scrubbing", are paltry and insulting to those who receive them, we believe, unknowingly. Given that the developer will scrape billions over years, these are crumbs, and insulting. One could also call this: bribery.

Through the Resiliency and Affordability Fund, Citizens Energy will immediately benefit host communities through an initial contribution of \$500,000, which will be deployed as a revolving loan fund for energy efficiency improvements to multi-family, low-income housing in the host communities. The Fund will deliver significant and on-going benefits to these communities in the form of bill-credits for low-income residents' electricity bills, and back-up power and cost savings for public buildings.

Does anyone truly believe that wind developers care about multi family, low income housing?

Thank you very much for including this file as comments to FILE DRI 688.

Sincerely,

Sherri

Sherri Lange
CEO North American Platform Against Wind Power
www.na-paw.org

OFFSHORE WIND IS:

- Unreliable
- Often poorly designed
- Cabling problems
- Dangerous to workers
- Technology failures
- Collision casualties, as flying creatures deem them to be resting places on long migratory paths
- Damaging to sub surface organisms of all kinds: ongoing not just during construction, when dB can reach 110 or more
- Costing massive subsidies that are never really attached to real production and meaningful electrical output or the complexities of grid balancing
- EXPENSIVE!!! BEYOND IMAGINING \$\$\$\$\$\$
- Requiring gouging expense for maintenance as well.

FIRST EXAMPLE BARD WIND

From 2014: Renewable energy mega flop for German's largest offshore wind park: hasn't delivered any power since March

<http://notrickszone.com/2014/07/31/renewable-energy-mega-flop-germanys-largest-offshore-windpark-hasnt-delivered-any-power-since-march/>

Eighty 5 MW turbines sitting idle

*Experts believe the problem could be in the [HVDC](#) transmission, which could be fault-prone. [Ingenieur.de](#) writes that the **mega-sized wind park Bard 1 consists of 80 units 5-MW turbines.** The immense losses incurred due to the shutdown with each passing aren't difficult to fathom.*

[Ingenieur.de](#) adds that the engineers don't appear to be anywhere close to a long-term solution:

Poorly engineered

Ingenieur.de writes, however, that it is unlikely that the problem has to do with the HVDC technology, as it is successfully being used all over the world. The engineering magazine believes the problems likely stem from the technology that is placed just before the HVDC platform, which “was designed by Bard itself, and not by an experienced company like ABB, Siemens or General Electric.” (One can almost sense the schadenfreude).

Ingenieur.de notes that **Bard is now financially insolvent**, and that in the meantime grid operator TenneT is scrambling to find a solution, hoping the faults will be rectified in August.

Anyone following Germany’s man-on-the-moon-scale offshore windpark project will tell you that it is currently quite a huge mess. So much so that things can only get better.

<http://coastalenergyandenvironment.web.unc.edu/2018/07/16/bard-offshore-i-wind-farm-a-case-study/>

More on BARD ONE, Germany

Environmental Impact:

In terms of environmental conditions, the turbines at BARD Offshore I have many of the same effects as any other wind farm. The construction stage of the project lasted for more than 2 years, leading to decent (deleterious) exposure to marine organisms (BARD Offshore 1 Offshore Wind Farm). As opposed to the classic monopile configuration, each turbine now calls for three steel beams to be pile driven into the ocean floor, increasing overall surface area affected. This stage of the offshore wind project would constitute the largest concern in terms of underwater noise as the pilings would have to be embedded into the sea floor. This process was expected to produce more than the ambient noise level of **105 dB anywhere within a 20 km radius**. Based on the environmental impact assessment conducted by Arcadis, the decommissioning phase would present almost identical impacts as the construction phase but at considerably lower intensity.

Once operational, the issue of underwater noise would still exist but to a lesser extent, with variations in marine organism reactions that is not possible to project with accuracy (Environmental Impact Assessment – Offshore North Sea Power Wind Farm, 2011). Collision casualties from bats or sea birds would, similar to any onshore wind farm, be an issue worth exploring, especially given the massive amount of surface area consumed by BARD Offshore I. Even without direct strikes, an offshore wind farm can affect both fish or bird migration patterns and the cumulative impacts between multiple wind farms can expose a synergistic relationship (Vaissiere et al., 2014). Vaissiere et al. inquires about the environmental impact assessment at its core due to the fact that despite impacts on marine organisms, biodiversity offsets haven't yet taken hold. If carbon offsets are able to compensate for the weaknesses of fossil fuel energy generation, then EIAs should exercise the power to mitigate and make up for the shortcomings of offshore wind energy.

<https://www.renewablesnow.com/news/unicredit-seeks-buyer-for-400-mw-german-offshore-wind-park-report-604464/>

FOR SALE!

March 9 (Renewables Now) - A unit of Italian lender UniCredit SpA (BIT:UCG) is putting up for sale 100% of the 400-MW Bard Offshore 1 wind farm in the German portion of the North Sea, two informed sources told Bloomberg.

According to the insiders, JPMorgan Chase & Co is providing advice with regard to the sale process. One of the sources has noted that a transaction could fetch more than EUR 1 billion (USD 1.2bn). It may attract institutional investors, the report adds.

Is this the second flip?

UniCredit Is Said to Plan \$1.2 Billion Sale of German Wind Farm Anna Hirtenstein March 08 2018, 5:51 AM March 12 2018, 7:48 PM (Bloomberg) -- A subsidiary of UniCredit SpA is working on the sale of its Bard Offshore 1 wind farm in Germany's portion of the North Sea, a transaction that may be valued at more than 1 billion euros (\$1.2 billion), people familiar with the deal said.

Read more at: <https://www.bloombergquint.com/business/unicredit-is-said-plan-1-2-billion-sale-of-german-wind-farm#gs.17v36g>

*And it looks like BARD1's problems aren't anything new (from about 1 and 1/2 years ago)... <http://www.breitbart.com/london/2014/09/12/flagship-german-offshore-wind-farm-project-humiliated-by-technical-faults/>
"The difficulty facing engineers is how to get the electricity generated back to shore. So far, every attempt to turn on the turbines has resulted in overloaded and "GENTLY SMOULDERING" offshore converter stations."*

Maybe if they tell us the bad thing in a good way, it won't be as upsetting? ...like "Hi, Dave, I love your new house. The flames against the night sky were spectacular."

PROFOUND COMMENT HERE PLEASE READ

[Mike Haseler \(Scottish Sceptic\)](#) 4. February 2016 at 8:22 PM | [Permalink](#)

When I worked in the wind industry I tried to encourage the company to move into offshore **wind maintenance** – because it was obvious that those involved had no practical idea how to maintain these brutes but also that the offshore environment would cause far more failures even than the massive problems onshore.

The response: we are building a new massive ship – sure that will really be useful!!!

[GERMANY: Construction has been halted at the 400MW Bard Offshore 1 after the death of an industrial climber](#) while working on the project.

Germany - Bard Offshore 1

Located about 130 kilometres off the German coast in the North Sea, BARD Offshore 1 is the world's remotest offshore wind farm.

The development consists of 80 wind turbines rated at 5 megawatts each, and the total maximum power of 400 megawatts makes it the largest offshore wind plant to supply power to the German grid. **The construction of the farm began in March 2010 and was finished in July 2013, with the official inauguration taking place in August of the same year. Unfortunately, a series of setbacks - including a fire at a transmission station in 2014 - delayed the commissioning of the farm.**

FRED OLSEN RENEWABLES PRODUCED THIS COMPLICATED AND “THREE YEAR FAILED” INSTALLATION AND LATE INAUGURATION, BARD ONE. This is the same developer now partnering with LEEDCo (Icebreaker) offshore project near Cleveland, six turbines with ambitions to plus the U.S. side of Lake Erie with a “Gusher” of wind, a Saudi Arabia, upwards of 1400.

<https://windcarrier.com/blog/case-studies/bard-offshore-i/>

The full scope of work supplied by Fred. Olsen Windcarrier and related companies included:

- Engineering and manufacturing of grillage
- Transport and installation of WTGs
- Marine engineering
- Lift plans
- Lift tools for all turbine components
- Offshore construction management
- Lift supervisors
- WTG technicians
- Offshore HSE representative
- [Crew transfer vessels](#)

Read more: <http://www.youris.com/energy/gallery/gone-with-the-wind-farms--six-of-the-worlds-top-offshore-arrays.kl#ixzz5iMB0rhaX>

SECOND EXAMPLE RIFFGART WIND “PARK” 2016

<http://notrickszone.com/2016/02/04/unreliable-power-major-technical-failures-sideline-another-offshore-wind-park-adding-to-exploding-costs/>

UNRELIABLE POWER MAJOR TECHNICAL FAILURES SIDELINE ANOTHER OFFSHORE WIND PARK ADDING TO EXPLODING COSTS

I've [reported earlier on Germany's BARD 1](#) offshore engineering fiasco, where technical problems continue plaguing the wind park and has yet to deliver power on shore to reach markets. Even today the situation there remains unclear.

*Moreover, just [days I ago I reported](#) how an expert institute confirmed that offshore wind park installations are highly vulnerable to the harsh sea conditions and plagued by **stratospheric maintenance costs**.*

*Well there is another major wind park that is now struggling with major technical problems and thus will not be able to deliver power until at least (optimistically) April. **The giant offshore Riffgat wind park hasn't delivered power since November of last year, so reports** [NDR German public broadcasting here](#). Hat-tip Gerti at FaceBook*



North German NDR public broadcasting reports on the shut down of the Riffgat offshore wind park, located in the North Sea. Image source: www.riffgat.de/riffgat/windpark/

Failed underwater power transmission cable

According to NDR, the power supply has been interrupted due to a **failed underwater power transmission cable** that serves to deliver the power onshore. That means a loss of 7 million euros per month in revenue, which the consumers will have to pay because Germany's feed-in act required power companies to pay for the electricity produced by wind parks even if it is never delivered. If that sounds strange, it is so because the market-hostile law is the sort of thing one would find only in old communist regimes.

The NDR clip reports that the reason for the failed cable is unclear, and could be caused by an error during installation or during the production itself. The cable fault itself is 22 kilometers from the wind park, just east of Borkum Island. Normally repairing the cable would be a routine matter, but there's one big problem: **the seabed is riddled by old WWII munitions, which first need to be removed before repair works can start.**

The [Riffgat website here says](#) the wind park consists of 30 units 3.6 megawatt-class wind turbines located some 15 kilometer away from the North Sea island of Borkum near the Netherlands. Each wind turbine has a 120 meter rotor diameter and the hub height is 90 meters. The turbines are firmly anchored by 70-meter steel bases rammed 40 meters into the seabed.

The Riffgat wind park also has a transformer station that feeds the power to the seabed transmission cable, which in turn delivers the converted power on shore. The Riffgat wind park is operated by Oldenburg-based power company EWE.

The NDR clip reports that EWE is not really too concerned about the technical problem and that it is not receiving 7 million euros worth of power each month. This is so because grid and transmission cable operator Tenet is required to pay EWE the money whether the power gets delivered or not. And where is Tenet going to get that kind of money? You guessed it! The costs, like everything else with the German Energiewende, **just get passed on to the lowly consumers.**

<https://thehill.com/blogs/congress-blog/energy-environment/297456-the-problem-with-off-shore-wind-energy>

The problem with off-shore wind energy

BY DAN ERVIN — 09/23/16 02:35 PM EDT ¹³

THE VIEWS EXPRESSED BY CONTRIBUTORS ARE THEIR OWN AND NOT THE VIEW OF THE HILL

How will America meet the growing demand for clean energy to supply households and businesses and do it at a price people can afford?

Not with offshore wind power, a source that isn't even remotely economically viable. Although the level of offshore wind power is less volatile than land-based systems, **its output is very volatile.** This volatility is a result of the inconstancy of the wind speed. As a result, offshore wind needs to be cheaper than power from natural gas plants and nuclear-generated electricity to be economically viable. Instead, it is almost certain to be more expensive and less reliable. If not for the \$23 per megawatt-hour federal Production Tax Credit for wind power and state mandates requiring the use of renewable energy, plans for offshore wind turbines would come to a halt.

Offshore wind power sounds great until one gets into the economic and reliability details. **There is a mistaken belief held by some politicians that unlimited supplies of clean energy will be produced from offshore wind turbines in the Atlantic, Great Lakes and the Pacific Northwest, so that serious planning for secure supplies of energy, like molten salt reactors, need not be undertaken. Yet the ability to generate large amounts of power from offshore wind is more promise than reality, and any presumed savings – on the scale promised by wind power's more zealous advocates – are more ideology than reality.**

According to a Department of Energy study of the potential for offshore wind energy, there is more than 320,000 square miles of water off U.S. coasts that could support approximately 2,000 gigawatts of capacity. That's considerably more than the 1,100 gigawatts of electricity-generating capacity currently

available in the U.S. However, the average capacity factor for off-shore wind is approximately 40 percent. This will impact the reliability of this potential source and limit its potential.

Offshore wind is potentially an enormous supply of energy, except for the fact that no one has come up with a practical and affordable way to capture it. At present, there is zero electricity being produced from offshore wind in the United States. In December, this country's first offshore-wind power is expected to flow into the electric grid from five wind turbines off the coast of Block Island near Rhode Island. The turbines are slated to begin operating by the end of this year, but that's the extent of offshore wind power in the U.S. Each of the giant turbines – at a height of 589 feet, they tower over even large vessels and can be seen from shore – is estimated to produce 125,000 megawatt-hours of electricity annually, which is enough to power 17,000 homes.

Deepwater Wind, developer of the Block Island turbines, estimates that the cost to build them was \$300 million. Massachusetts, New York and other Northeastern states are watching to see how it all turns out. New York recently adopted a mandate requiring the state to get 50% of its electricity from renewables by 2030. Carbon mitigation was the driving force behind the mandate. But obtaining renewable energy from subsidized wind power is at best a counterproductive policy that's led to the premature closing of several nuclear plants in California, Vermont, Massachusetts and Wisconsin – and has raised carbon emissions in the process. And it's going to keep happening unless there are energy policy changes.

Clearly, only the fossil-fuel industry benefits if we shut down one reliable zero-carbon source of power and try to replace it with an unreliable emission-free source. The result is increased reliance on auxiliary power from natural gas and coal plants because renewables can't meet all or even most of our electricity needs. Currently solar and wind combined supply only 7% of the nation's electricity and it is less in Maryland. In July, approximately 3.3 percent of Maryland's electricity came from solar and wind power while 38.9 percent came from nuclear. Nuclear power is the largest source of carbon-free electricity supplying about 60% of the carbon-free electricity in the U.S.

Yet state renewable portfolio standards require utilities to bring renewable capacity into their grids no matter how much it depresses markets. In fact, during times of overproduction, nuclear plants have to pay to send power to the grid.

Mind you, there wouldn't be a problem if utilities could retire fossil-fuel plants, but those plants are needed to provide back-up power on days when the wind isn't blowing and the sun isn't shining. Which is why state mandates for renewable power are nonsensical.

Something else: natural gas plants have a lifetime of 30 to 40 years. With license renewal, nuclear plants like Calvert Cliffs operate for 60 years, and some reactors might be able to supply power for 80 years or more. By contrast, wind turbines have a lifetime of 15 to 20 years.

If offshore wind turbines are built up and down the Atlantic seaboard from Rhode Island to South Carolina, in about 20 years from now they'll need to be replaced. But one large new nuclear plant could supply all of that emission-free energy from a single site. And it won't need a subsidy or government mandates.

Dan Ervin Ph.D. is Professor of Finance at Salisbury University's Perdue School of Business.

COST OF OFFSHORE WIND

Offshore Wind Energy:

A Very, Very Expensive Electricity Source Offshore Wind Is Very, Very Expensive • According to the Energy Information Administration (EIA), offshore wind is 2.6 times more expensive as onshore wind power and is 3.4 times more expensive than power produced by a natural gas combined cycle plant. • On a kilowatt hour basis, offshore wind power is estimated to cost 22.15 cents per kilowatt hour, while onshore wind is estimated to cost 8.66 cents per kilowatt hour, and natural gas combined cycle is estimated to cost 6.56 per kilowatt hour. • Overnight capital costs (excludes financing charges) are 2.8 times higher for offshore wind than onshore wind power. According to EIA, an offshore wind farm is estimated to cost \$6,230 per kilowatt, while those costs for an onshore wind farm are estimated to be \$2,213 per kilowatt.

Quoting Jon Boone, Wind Energy Expert

“Vineyard’s owners—Spanish Iberdola and Danish Orsted—use Vineyard LLC as a front to acquire the requisite licenses, placate an assortment of energy regulators and local/state politicians, and feed PR nonsense to the media.”

We respectfully request:

- a) A study of how much per kWh each Vineyard turbine will cost, over the life of the turbines; compared with how much electricity is produced, mitigated by how much electricity is USED to maintain these turbines, and added to the cost of the grid “ramping” up and down, as well as incorporating the costs of maintenance
- b) A complete study of underwater life, over two years, and possible/probable impacts
- c) A complete three-year study of [avian interest in and demise at offshore](#) structures, and impacts, using historical from Europe, and by consulting with avian experts who are not tied to industry interests
- d) A complete independent analysis of how many subsidy dollars, U.S. dollars, will end up overseas
- e) A more thorough understanding, complete, of how this proposal meets public need
- f) A full understanding of decommissioning, and who will pay? Will the developer exhume the various toxic parts, and send back to place of origin? (This is variously required, or at least in the regulations)

Please note:

<https://www.thetimes.co.uk/article/birds-of-prey-drawn-to-offshore-wind-farms-8tq0dwzj8>

(Excerpt)

Birds of prey such as harriers, falcons and sparrow hawks face a serious risk of crashing into offshore wind turbines as they migrate over water, scientists have found.

Unlike seabirds, which tend to avoid marine wind farms, the raptors appear to be attracted to the structures by a sort of “island effect”. This may be because they are reluctant to cross the open seas and look for help with navigating, according to a study. The sweep of the turbine blades, which can reach as high as 220m (722ft) at sea, also tends to overlap with the altitudes at which most raptors fly over water.



The white-tailed eagle and other birds are attracted by an “island effect”

CHARLOTTE GRAHAM/GUZELIAN