

## 12 Myths vs. Facts

**Much misinformation and half-truths are being communicated regarding the massive windfarm planned for the entire coast off Brigantine. Following is a summary of the recurring ‘myths’ being propagated by Wind Development Companies and advocates, and our corresponding facts. You be the judge...**

MYTH 1	MYTH 2	MYTH 3	MYTH 4
<p>The wind turbines off the coast of Brigantine will be barely and rarely visible.</p> <p><b>The Facts:</b> Unless the physics of straight-line light transmission and simple geometry have changed recently, the several hundred wind turbines planned for our waters will be clearly visible from our beaches SITED ANYWHERE IN THE PROJECT AREA, and ALMOST ALL THE TIME. That is based on geometry and on the Wind Developers own studies that concluded the turbines would have a ‘dominant’ visual impact, meaning you can’t shut them out. These newer turbines are 850 - 1000 feet high, as tall as the Eiffel tower. Any boater can tell you that can still see the 160-foot water towers at 18 miles. These will be installed starting at 9 miles off the coast of Atlantic City, Brigantine and up to the end of LBI 8.7 miles off our coast and will go out to 20 miles. Even at 20 miles a substantial part of the towers and blades will be visible. To suggest otherwise is nonsense. These turbines will look like a ‘wall’ of industrial structures permanently marring the beautiful view from our beaches. In fact, this would be the most visible modern (using the larger 12 megawatt and higher power turbines)- offshore wind project in the entire world.</p>	<p>Visible offshore wind turbines will not hurt shore economies and actually will be a tourist attraction.</p> <p><b>The Facts:</b> Your own instincts will tell you this is nonsense, and that is supported by research conducted by two universities in the US. At the time of the studies, wind turbines were less than half the size of the ones being used off our coast. A study by NC State University found that 54 percent of those who previously rented oceanfront or ocean view properties would not return to those properties if turbines were in view, even if a significant discount was offered in the rental price. Another study by the University of Delaware -- which was actually sponsored by the federal Bureau of Ocean Energy Management (BOEM), the agency that oversees offshore wind development -- shows that for comparable visual impact situations to us, 19 percent less visits to the shore would occur if turbines were visible from our beaches. Another Study by Global Insight, Inc. shows significant losses in shore property values. While the wind project off Block Island is often used as an example to allay concerns about economic impact, that project consists of only five smaller turbines which is nothing compared to the hundreds of large turbines Brigantine will be facing.</p>	<p>Offshore wind will be a boon to the economy and create “thousands” of jobs.</p> <p><b>The Facts:</b> Many of the jobs from offshore wind are taken by workers in Europe where the turbines are manufactured or by overseas workers who will come here to assemble them, and by out-of-state suppliers. Job creation estimates from the New Jersey Board of Public Utilities Strategic plan show 289 to 859 direct and indirect jobs created from Atlantic Shores 1,510-megawatt project. Recently BPU increased that to 2025. But the project also raises electric rates and problems for NJ businesses. Data from a study by Beacon Hill Associates would put those job losses at 3,046 which would offset even BPU’s higher estimate of new jobs. So, the new jobs promised from the project is suspect to begin with and doesn’t paint the full picture. In addition, there will be significant losses in property values, shore tourism revenues and associated local jobs with local businesses</p>	<p>Wind farms in Europe are highly successful and have not impacted tourism or property values.</p> <p><b>The Facts:</b> It is true that the modern wind farms overseas have not negatively impacted tourism or property values. This is because of local concerns they are located much father out from shorelines and cannot be seen from their beaches. In addition, some problems are also cropping up with European offshore wind turbines. For example, new research has shown that turbine performance over the last decade has degraded rapidly over time, at about 4.5 percent per year, especially for the newer and larger wind turbines. This means reduced energy output, higher operating costs and reduced lifetimes. Another study has shown that the likelihood of major outages, lasting at least one month, has increased by at least 10 percent per year</p>

**MYTH 5**

The federal agency, the Bureau of Ocean Energy Management (BOEM) conducts thorough environmental analyses prior to leasing an offshore site.

**The Facts:** The BOEM completed a programmatic environmental impact statement (EIS) back in 2007 which only reviewed different sources of energy – offshore wind vs. coal vs. natural gas -- in a generic, not area-specific sense. For a specific lease area sale, they conduct an environmental assessment on environmentally insignificant site survey activities, such as wind speeds and sub-seabed composition surveys. So, to be clear, there has been no environmental assessment of the impact of the installation and operation of wind turbines on visible impact or on the undersea environment off the coast of Brigantine, including fish and marine life, as well as commercial and recreational fishing. BOEM defers an environmental (EIS) Impact statement on their proposed wind project until much later but by then pretty everything important is decided (See Myth/Fact 7). At no point in their process do they conduct an environmental review of alternative wind energy locations with public input, which is the most important decision to make. Nor did they prepare an EIS before the Wind Energy Areas were identified.

**MYTH 6**

The Wind Energy Area (WEAs) and eventual lease areas were rigorously evaluated with significant public input.

**The Facts:** In 2004, NJBPU hired a wind generation project company to complete the first study of wind energy off the coast of NJ. The company concluded that the viable WEA area was located from 3 miles to 20 miles from Seaside Height/ Seaside Park area down to Cape May. The ocean depth maximum was 100 feet which established the maximum 20 mile limit from the shore because of what the turbine technology could tolerate within the next 5 years. The assumption for the wind turbine model was the Vestas V80, 2.0 MW. This recommended (viable) Wind Energy Area was never significantly changed, up to and including the designation of the final lease areas in 2012.

The BOEM's 2007 Programmatic Environmental Impact Study was focused on "areas in which industry has expressed a potential interest and ability to develop or evaluate."

Local Mayors were listed on BOEM's 2011 NJ Task Force Membership List as mandated by the 2009 Energy Renewable Framework. Based on available meeting records, 99% of them were not in attendance at the meetings. No members of the public were invited. Participants were mostly government agencies. The change from the location to 7 from 3 miles off the coast was considered sufficient to protect avian, marine mammal, and fishing habitats, based on 2008-09 NJDEP ecological baseline studies. (OWPEBS). That has been found to be incorrect. (MYTH 8)

**MYTH 7**

The BOEM will do an Environmental Impact Statement (EIS) on the project, so there is ample time to make changes to the project.

**The Facts:** Environmental Impact Statements (EIS's) are supposed to be about choice and alternatives for federal agencies to consider in the hope they will select an option that does less environmental harm. The BOEM will now do a full EIS on the project deceptively providing an opportunity for public comment seemingly to address concerns. However, it has structured its decision-making process to render that EIS almost a meaningless exercise. For this EIS, all the key factors are already decided. The location of the project was decided back in 2010 by a State-led task force of federal and state employees with no general public input and no consideration of visible turbine impact. There will be no alternate locations considered in the EIS despite our requests. The size and number of turbines was determined by a recent BPU decision. The spacing of the turbines is determined by engineering practice. So, while the EIS will allow the public the opportunity to finally comment, there isn't much left to comment about or to change.

**MYTH 8**

Aside from its closeness to shore this is a good site for wind turbines.

**The Facts:** This project location has other fatal flaws as well. The underwater noise from the operation of the new very large turbines, especially the gearbox type selected by the wind developers, will have significant adverse impacts on endangered species. The critically endangered North Atlantic right whale's migratory path extends about a mile within the outer 20-mile project boundary. Endangered fin and humpback whales frequent 1.5 miles into the inner 10-mile boundary. An inner and outer turbine exclusion zone of 4 miles is needed to allow the underwater noise level at the turbine to decrease to the level established by the National Oceanographic and Atmospheric Administration that will not disrupt the whale's behavior. Since the project area goes from 8.7 to 20 miles, with these exclusion zones, there is no place at all for wind turbines that will not jeopardize these species. In addition, the piping plover which nests in Brigantine must cross the project area to get there with the potential for a substantial number of fatalities. Add in the visible impact and you would have a hard time finding a worse site for huge wind turbines.

**MYTH 9**

**Offshore Wind Energy has the highest thermal efficiency of any power source.**

**The Facts:** The thermal efficiency of a power source is defined as the electrical energy produced divided by the total energy released by the fuel consumed.

The capacity factor is a term used by energy professionals to examine the reliability of various power plants. A plant that runs on maximum power all the time has a capacity factor of 100%. 2021 US capacity factors were: Nuclear power 93%, natural gas is 63% and coal is 49%. Due to their energy intermittency based on inconsistent weather conditions – sun and wind, solar and offshore wind have capacity factors of 50% and 24%.

In reality, the capacity factor for offshore wind may be much less. According to WindEurope, the general wind capacity was 236 GW, but the HIGHEST wind energy output for the 2021 year was only 103 GW in the UK/EU.

As blades are weathered by saltwater conditions, the capacity factor of the wind turbines is greatly reduced. Studies are revealing that the blade destruction is much faster than predicted. The 2017 Geological Survey concluded that the average power density – meaning the rate of energy generation divided by the encompassing area of the wind plan – was up to 100 times lower than estimated by the US DOE and the IPCC. They noted that previous studies ignored turbine-atmosphere interaction which occurs once wind farms are more than 5-10 kilometer deep. NJ Wind energy areas far exceed this depth.

**MYTH 10**

**Offshore Wind Energy is completely green with no negative impacts to the environment.**

**The Facts:** According to the Atlantic Shores Construction and Operation’s Plan, each wind turbine and large offshore substation will have 29,000 gallons and 225,000 of potential chemical products, respectively.

Steel and concrete production and mining copper and rare-earth metals all contribute to the CO2 footprint.

The football field-length blades that require replacement during the lifetime of the turbine can not be recycled. Leading edge erosion of the blades results in a substantial release of fiberglass and epoxy particles that will contaminate the marine food web. These microplastics contain the harmful bisphenol A (BPA) and the “forever” PFAS chemicals. The marine food web accumulates and magnifies these toxic substances. Moreover, heavy metals from the corrosion protection on the turbines will leach into the water, further compromising the health of marine life.

The wind turbines will have a quantifiable effect of wave height and current strength, biodiversity, and the ecology of the marine environment. The destruction of plankton, the trees of the ocean, will also worsen the carbon dioxide cost.

Years of pile-driving, increased shipping activity and the disruption of the fragile sea bed will cause damage – potentially irreparable- to the environment.

**MYTH 11**

**Government Agencies allow plenty of opportunity for public input into their decisions.**

**The Facts:** The May 2023 release of the Atlantic Shores South Offshore Wind Project Draft Environmental Impact Statement is a typical example of a government agency’s public input process. There was no advertisement of its release to the communities that it impacts. How does the public know to go on the government agency’s website? The report is 2,282 pages long and includes 122 pages of cited references. At 10 pages/reference, that’s another 1,220 pages to read. Cited studies need to be found in various scientific journals or other sources and may require a fee to read. The average citizen is not familiar with the highly technical information in the report. No seminars are offered to help the public understand the report. Public comments are due on the Mary 15 report by July 3<sup>rd</sup>—44 days to read 3,500 pages and prepare comments. The reading alone averages 80 pages/day if a person spends 7 days a week on this task. In addition, one must prepare a written statement which could take weeks. This is typical of public comment and input opportunities throughout the permitting process making it mostly impossible for public input to occur.

**MYTH 12**

**Offshore Wind Energy is cost effective, and our electric bills will be lower.**

**The Fact:** The rate calculation is spelled out (except for numerous redactions) in the NJBPU OREC solicitation #1 and #2 power purchase agreements. According to an analysis completed by SaveLBI.org for Solicitation #2 — the rates will burden ratepayers with above market power prices, amounting to a subsidy of \$2.6 Billion in PV terms. Atlantic Shores will realize a 24% IRR on its investment, well in excess of that which is reasonable for its level of risk in the project.

The inherent intermittency of offshore wind must be compensated for by relying more on natural gas-fired generators that can be brought online quickly. Grid support costs will not be paid by offshore wind developers. Instead, they will be socialized across all electricity consumers through electric transmission rates that are charged by grid operators that coordinate the bulk power system.

Offshore wind developers are oil companies who changed their names to energy companies are investing in these projects because of the 30% federal tax credit potentially costing tax payers \$1.2 trillion according to a Goldman Sachs analysis.

