

DEFEND BRIGANTINE BEACH, INC AND DOWNBEACH  
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RE NJ Board of Public Utilities  
Docket No. QO24020126  
COMMENTS ON THE NJBPU ENERGY MASTER PLAN

The Defend Brigantine Beach, Inc and Downbeach organization represents thousands of beach goers, renters, homeowners, owners and employees of tourist industry related businesses, artists, photographers, owners and employees of businesses related to real estate, owners and employees of fisheries, water sports enthusiasts, recreational fishermen and women and many others who have a vested interest in the health and well-being of our ocean, coastal ecology and environment and social and economic conditions in our coastal communities. Our representation spans all along the New Jersey Coast but is mostly concentrated in Atlantic County, namely the island of Brigantine and the ocean front communities of Absecon Island as well as bay front communities.

Renowned energy policy expert, Mark P. Mills stated in his research paper on the NJ's Energy Master Plan, that the Plan needs a BIG reality check. This Plan will NEGATIVELY impact New Jersey residents, taxpayers, and business owners. In his report he warns us of the dangers based on misguided assumptions and bad information contained in Master Plan's 7 strategies as follows:

EMP Strategy #1: Reducing Energy Consumption and Emissions in Transportation

**Reality: Total life cycle analyses point to small, possibly non-existent reductions in CO2 emissions associated with mass deployment of EVs.**

EMP Strategy #2: Accelerating Deployment of Renewable Energy and Distributed Energy Resources

**Reality: Greater deployment of wind and solar correlates, everywhere, with INCREASED COST OF ELECTRICITY.**

EMP Strategy #3: Energy Efficiency and Conservation to Reduce Peak Demand

**Reality: In an unrestricted economy, in nearly all applications, increased energy efficiency is associated with an overall net increase in energy demand.**

EMP Strategy #4: Reduce Building Energy Use

**Reality: The future potential for energy savings is now far less and will take more time and cost more than in the past.**

EMP Strategy #5: Decarbonizing and Modernizing New Jersey's Energy System

**Reality: The track record for "decarbonizing" energy systems shows VERY SMALL CHANGES IN OVERALL SOCIETAL CARBON-INTENSITY, and FAR HIGHER CONSUMER COSTS.**

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EMP Strategy #6: Community Energy Planning and Action in Underserved Communities

**Reality: Policymakers should keep in mind a basic tenet for low-income citizens and communities, i.e., HIGH ENERGY COSTS ARE DESTRUCTIVE.**

EMP Strategy #7: Expand the Clean Energy Innovation Economy

**Reality: Many proposed “clean energy” innovation policies are antithetical to other innovation policies and objectives.**

The basis for his conclusions is in the body of this report.

( [https://www.gardenstateinitiative.org/app/uploads/2024/05/GS-1632\\_Energy\\_04.pdf](https://www.gardenstateinitiative.org/app/uploads/2024/05/GS-1632_Energy_04.pdf))

The Defend Brigantine Beach and Downbeach organization is in agreement with Mark P. Mills’ analysis of the Master Plan and we are providing our comments to emphasize the points he has made in the areas that concern us the most.

The NJPBU’s Energy Master Plan runs the risk of saddling New Jersey with both a less reliable electrical grid and rules across the entire economy that impose enormous expense. The awards for offshore wind developers have resulted in exploding costs. Many costs remain undefined and are rising without restriction and New Jersey is unlikely to be able to reach its goals without sacrificing the reliability of electricity service. The NJPBU is on a path that will lead to failure in achieving its mission of insuring energy reliability and maintaining a competitive marketplace.

In December of 2022 the NJPBU ignored the Division of Rate Counsel’s advice to scale back how much new offshore wind capacity is approved because of economic and financial uncertainties. During a stakeholder meeting, Rate Counsel Director Brian Lipman stated that “ratepayers simply cannot afford drastically higher electric bills.” Instead, the NJPBU went ahead with its solicitation, awarded contracts to Attentive Energy LLC and Leading Light Wind LLC, and entitled them to receive payments average more the 15 cents/kwh for 3742 MW of power over 20 years, compared with the 6 cents/kwh wholesale price of power available to state utilities. The residents throughout the state could pay up to \$20 billion extra for power and see their already high bills increase by up to 20% or more. Besides the cost to residents, the rate impacts to commercial and industrial users will be severe, up to 20% and 30% respectively.

For the first time ever, NERC has identified energy policy as a risk priority for grid reliability. This risk was added because of mandates regarding decarbonization, decentralization and electrification. NERC is now encouraging legislators and engineers to find new approaches to assess and ensure energy sufficiency for all hours throughout the year. NERC’s Long Term Reliability’s Assessment shows the neighboring MISO grid is at risk of rolling blackouts in the near future due to thermal plant closures. PJM is a major supplier of power to MISO. If MISO has blackouts, PJM states may be asked to share the blackout burden. The shift from reliable dispatchable energy to intermittent weather dependent energy will

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compromise the grid. The reliability issue will add even more costs onto the back of ratepayers as well as possible forced energy curtailment by customers. States, not PJM, have the responsibility to maintain resource adequacy on their electric systems.

At the same time as reducing the reliability of the grid by adding intermittent energy, a double whammy is going to occur because of the growing demand for energy. New Jersey is included in the multi-state Pa/NJ/MD ISO (PJM). The 2024 PJM Load Forecast Report states that the total annual energy use throughout the PJM footprint is expected to increase nearly 40% by 2039, from the current 813,328 GWh to 1,021,955 million GWh. Of that, about 30,000 GWh of additional demand is identified as coming from NJ utility areas. According to the US Department of Energy's Energy Information Agency (EIA), NJ plants of all types produced 65,061 GWh of electricity in 2022, of which 33,394 GWh came from natural gas production. The mandated 11,000 MW of OSW installed capacity could only produce about 39,000 GWh. This means that NJ's separated planned 11,000 of OSW can displace natural gas use in NJ, or cover the additive load demand from data centers and EVs, but not both. It is hard to conceive how the purpose of the NJBPU's orders, to make the NJ grid emission-free – is satisfied by the disclosed levels of OSW wind construction.

The current massive OSW industrialization in this region is too much, too fast. New Jersey has shown that it is ill-prepared to manage, enforce, and control the impacts from the current offshore wind impacts. In fact, even NJDEP knows they are unprepared, publicly describing their process repeatedly as “building the plane as we fly it,” and “learning as we go” when it comes to offshore wind. These are unacceptable statements to ensure protection of New Jersey's natural resources. Further, it is clear that the monitoring and response systems in place are insufficient or not functioning. The current unprecedented wave of whale deaths along the NY/NJ coastline is an example. This occurrence is VERY rare, if ever. It is even more tragic that there are endangered species mortalities and represent the future survival of their species. The response to these deaths from state and federal agencies is lacking.

Meanwhile, there are currently numerous federal harassment authorizations issued by the National Marine Fisheries Service to harm and harass thousands of marine mammals off the NY/NJ coast. These unprecedented whale deaths may be due to the ongoing preconstruction activities for offshore wind development that is disturbing the marine environment with noise.

In response to this wave of whale deaths, Defend Brigantine Beach Inc and Downbeach is demanding:

- 1.) A thorough, transparent investigation of these whale deaths performed by federal agencies with independent, third-party scientist oversight. The public must have access to all reports from the investigation every step of the way.
- 2.) A hard stop to all current in-water activity by the offshore wind industry, until the investigation is complete.

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3.) A hard stop to all new, pending, or planned offshore wind projects.

It is clear from the state and federal response, or lack thereof, to the dead whales that federal and state agencies have not met their legal obligation nor the commitments in incidental harassment authorizations to provide monitoring and protection of whales in the NY/NJ region. Groups charged with responding to stranding have not been given the funds, staff, and means to provide the required necropsy to help determine cause of death. This is unacceptable and portends the future --- the protection of marine life on paper, not in reality. Where is the robust whale monitoring system now? Where is the stranding system response, recovery, and evaluation processes for any injured or dead whales? Without such a system, death of these whales will go unsolved. This is not good governance or what the law requires – especially for endangered species.

In addition to the marine mammal mortality issues during the surveying construction and operation of the offshore wind project, the lack of experience with and rigorous and relevant studies on wind turbine hurricane resilience , radar interference, microclimate changes, bird and bat mortalities, cold pool, deoxygenation, possible damage to freshwater aquifer further demonstrates the lack of preparedness of the state.

The lack of NJPBU's transparency is demonstrated by the overuse of redaction of its analysis of the solicitations, Board Orders and the Rate Counsel's memorandums. The use of individual so called "proprietary" models means lawmakers and citizens have no way to verify that measures actually are, as presented by your agency, the most cost-effective or otherwise the most practical. The NJPBU Energy Master Plan is another failure in which the NJPBU has chosen to hide, obfuscate and obscure the process when it should have been open and deliberative. Again, artificial deadlines have created policies that do not work or squeeze out more cost-effective options. Instead of coming clean with the public by showing a cost benefit analysis for the plan, the NJPBU has segmented the impact of the EMP by giving only glimpses of its costs such as the opaque analysis of individual solicitations of offshore wind instead of preparing cumulative impact of the costs for all projects.

In regard to Offshore Wind Power Purchase Agreement awards, the NJPBU lacks a balanced method for analyzing the costs and benefits of the wind energy developments. For example, the NJPBU uses a controversial and outdated model filled with a multitude of hypothetical assumptions to calculate the highly questionable future economic damage from climate change to inflate the benefit of the offshore wind project but fails to use any modeling to show economic costs of offshore wind to the environment, jobs and GDP impact from higher electric costs, fishing industry and housing values and tourism resulting from documented disturbing visual impacts by BOEM.

- The NJBPU must use the correct model for the Social Cost of Climate Change in its evaluation of the cost of various sources of energy

The calculation of “Net Cost/ Benefit” includes EPA’s Social Cost of Climate Change calculation which relies on the discredited IPCC RCP8.5 model. This greatly biases SCC estimates. According to the EPA, “damage functions translate changes in temperature and other physical impacts of climate change into monetized estimate of net economic damages.” This is simply a curve that equates temperature changes with expected damages. The damage functions include a subnational-scale, sectoral damage function; a country scale, sectoral damage function; and a meta analysis-based function. These damage functions use the outdated climate projection model, RCP8.5 and not EPA’s emissions scenarios or climate projections. All literature used for the Greenhouse Gas Value Impact Estimator (GIVE) for Rennert et al 2022 employ RCP8.5. More than 75% of the DSCIM SCC results from mortality due to extreme heat driven by RCP8.5. The meta-analysis relies on papers published 2015 and earlier and use RCP 8.5 (or its antecedents) as the basis for calculating the SCC. The New Jersey BPU is using flawed, unrealistic, outdated and erroneous science to support its conclusions. It is the NJ BPU’s responsibility to verify the validity of models used in the net cost/benefit analysis instead of blindly using fictional ones.

The SLR scenario derived from Shared Socioeconomic Pathway (SSP) scenario 2-4.5 (SSP2-4.5), represents the current emissions trajectory according to the Intergovernmental Panel on Climate Change (IPCC). Climate Change 2022: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change (eds Portner, H.-O, et al.) (Cambridge Univ. Press, 2022). If the Social Cost of Climate does not use this trajectory, the calculation is invalid.

In addition, the NJPBU routinely frames its analysis in terms of costs to the state vs. “global” benefits, meaning the financial effects of lower greenhouse gas emissions for the world population. The size of these social benefits can sometimes exceed the gross costs, creating the appearance of net benefits, even though only a tiny portion of the benefits would be realized by New Jersey.

- The New Jersey BPU must include in its cost analysis the loss of jobs because of higher energy costs. Not unlike taxes, higher electricity prices produce negative effects on economic activity since one is paying a higher price for electricity without an increase in the value of that electricity. Prosperity and economic growth are dependent upon access to reliable and competitively priced energy. Consumers will have limited opportunity to avoid these costs. The state’s ratepayers will face higher electricity prices which will increase the cost of living and doing business in the

state. The decrease in labor demand will cause gross wages to fall. Job losses and price increases will reduce real incomes as firms, households and governments are forced to allocate more resources to purchase electricity and less to purchase other items. Investment will fall but will be offset by large investments required to build offshore wind power plants, transmission lines and reconfigurations to the electricity grid. However, these investments are not as productive as the ones based on conventional energy. The renewable mandate works its way through the production methods less efficiently because the investment will not increase productivity in the economy.

- The New Jersey BPU must include in its cost analysis the increased energy cost burden on hospitals, schools, municipal governments and other institutions along with their increased assessments on taxpayers and customers necessary to pay these increased costs.
- The New Jersey PBU must include in its cost analysis the loss of spending, GDP, jobs, and taxes based on scientific studies of the visual impact of offshore wind turbines on tourism and property values and the destruction of fishing grounds used by the clamming and scallop industries as well as other fishing industries. The NJ PBU must repeat surveys and studies based on the actual size and number and location of the wind turbine projects instead of relying on outdated and irrelevant studies. The Agencies responsible for these projects have failed to complete studies using surveys with accurate visualizations of wind turbines of the NJ offshore wind projects. It is the NJPBU's responsibility, on behalf of the citizens of NJ to call out BOEM, DEP and other agencies for relying on outdated and irrelevant studies. Without any revised studies the NJPBU's cost/benefit calculation is useless and will do great harm to the citizens of NJ.

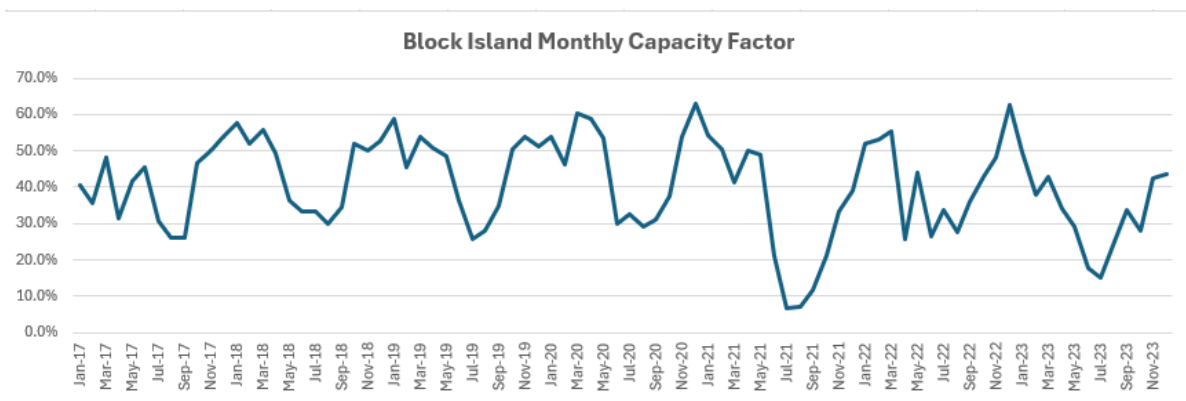
If the NJPBU and other agencies along with the Offshore Wind developers are so sure that there will be no negative impact on fishing, tourism or real estate, then these claims should be guaranteed in the solicitation along with appropriate penalties if harm to the tourism, fishing and real estate values occurs. The offshore wind developers should have no problem with this language as they believe, according to their COP and EIS documents, this is a risk-free proposition. If this is not done there will be a risk of a number of class action lawsuits in the future.

- The New Jersey PBU must include in the cost analysis, the cost of disruption and noise related to the onshore cabling construction through residential and commercial neighborhoods for offshore wind projects.
- The New Jersey PBU must include in its cost analysis, the amount of taxes used to fund offshore wind projects and related industry in NJ such as the Paulsboro wind

assembly plant and the Wind Port in Salem County. How much are the jobs/GDP costing the taxpayers of New Jersey?

- The NJ PBU must include in their cost analysis the amount and cost of grid balancing, idling fossil fuel back up plants or battery backup needed for intermittent wind energy.

According to EIA.gov, Block Island Wind Development performance shows extremely variable capacity factors throughout its years of operation. The annual capacity factors range from 46% in 2020 to 32% in 2021. And, the capacity factor is decreasing as the project ages. Of course, these factors are an average over an entire year and do not tell the whole story. When looking at the capacity factors on a monthly basis, they range from 7% to 63% with a mean of 40%. Increased intermittency would be even greater if the output was tracked on a weekly or daily basis. The variation in the output is significant. This unreliability is further complicated in that the output relies on the availability (but not too much) of wind and not the demand for energy by customers. The output unreliability will grow as weather becomes more unpredictable and severe and as more weather dependent energy gets added to the grid. Other phenomena such as wind wakes and dunkelflautes (German word describing weak wind and minimal sunshine for extended periods – also referred to as anticyclonic gloom ) will have an even greater influence over reducing the capacity factor and intermittency of the ridiculously massive offshore energy developments along the NJ/NY coast containing an estimated total of 1816 wind turbines.



There are costs related to the integration of wind power into the regional electricity grid. Since wind power is relatively unpredictable, other units must be available to provide power at very short notice (“regulation”, over a period of 10 minutes to several hours (“load following”), and over a period of several days, (“load commitment”). This imposes fuel and operating costs on other operators to create

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reliability to accommodate wind power. The grid will first take electricity from offshore wind projects before turning to generating facilities that are further up the “bid stack”. In moving up the bid stack, the grid operators, who run the regional grid, continue to add producers until demand is satisfied. The bid price of the last producer brought online will then be the price paid to all producers by all purchasers. It follows that electricity from the wind development will displace the “marginal” producers. In the case of the New Jersey projects, there is another consideration: peak electricity demand in the region is in the summers, yet this is the time when the wind blows least. This limits the amount of capacity that could be removed from the system when wind comes on stream. Therefore, the amount of fossil fuel saved by offshore wind could be as low as 26% of its rated capacity. This adds significant costs to the cost of energy by having to pay for dual systems.

Based on NJBPU studies and Board Orders, battery backup is in NJ’s future needed to meet clean energy Executive Orders. The addition of battery backup is even more costly, and the technology may not even exist to provide the amount of backup necessary to keep the grid reliable. Whatever the cost, the NJPBU must include it in its Cost/Benefit analysis.

In addition, if the NJBPU includes “global” benefits of the social cost of carbon it must also include the “global” costs of the batteries needed to back up intermittent offshore wind energy. According to the December 2022 report, *Driving Force: Automotive Supply Chains and Forced Labor in the Uyghur Region*, by the Helena Kennedy Centr for International Justice,

“China processes most of the world’s iron into steel, bauxite into aluminum, and lithium and cobalt into battery-grade materials. A large and growing share of that very environmentally damaging and energy-intensive work is undertaken in the repressive environment of the Xinjiang Uyghur Autonomous Region (or XUAR or Uyghur Region)...The PRC government has dedicated significant resources to moving the highly polluting and energy-intensive processing of ....raw materials into the Uyghur Regions, requesting and sometimes requiring public and private companies incorporate state-sponsored forced-labor programs into their “social responsibility commitments.”

In Siddharth Kara’s book, “Cobalt Red” (Macmillam Publishers, 2023), which describes the ongoing exploitation of workers and the natural environment in the Democratic Republic of the Congo, she states,

“the DRC is the source of most of the world’s supply of mineral cobalt, which is used to manufacture lithium-ion batteries. She describes the extreme human and environmental costs of the euphemistically named ‘artisanal mining’ occurring in the DRC. Entire regions of the nations, including forests and water sources, have been ravaged and polluted to provide much of the world’s cobalt supply. “



- The NJ PBU must include in its cost analysis, the cost of necessary grid integration and upgrades, and other costs related to the offshore wind projects that otherwise would not be needed.

- The NJ PBU must include in its cost analysis the economic impact to the tourism and fishing industries along the New Jersey coast as a result of environmental and ecological hazards. The agencies involved in the permitting process ignore the negative impact the projects will have on the coastal tourism and fishing economies even though in 2018, Governor Murphy stated the exact concerns about the threat of offshore drilling would pose to the New Jersey economy, which is dependent on tourism and fishing. According to Governor Murphy, New Jersey cannot afford to expose its treasured coastal communities to the threats” posed by the proposed drilling.” He also stated, “The people of New Jersey have made their concerns about offshore drilling clear – they do not want oil rigs off shore and our pristine beaches and

Petrochemicals and Other Toxic Chemicals		Total for wind projects off the NJ/NY Coast
Each Wind Turbine Generator (WTG) can use up to:		
400	Gals of Diesel Fuel	726,400
350	Gals of Hydraulic Fluid	635,600
150	Gals of Grease	272,400
1,081	Gals of Gear & Bearing Lubricant	1,963,096
1,800	Gals of Synthetic Ester Oil	3,268,800
4,100	Gals of Water/Ethylene Glycol	7,445,600
243	lbs of Sulfur Hexaflouride	441,288
Each Small Offshore Substation can use up to :		
7,500	Gals of Diesel Fuel	750,000
37,000	Gals of Mineral Oil	3,700,000
250	Gals of Sulfuric Acid (batteries)	25,000
1,030	Gals of Water/Ethylene Glycol	103,000
3,500	Gals of AFFF Firefighting Aid	350,000
198	lbs of Refrigerent	19,800
5	Gals of Lubricant	500
3,307	Lbs of Sulfur Hexaflouride	330,700
Each Large Offshore Substation can use up to :		
20,000	Gals of Diesel Fuel	2,000,000
185,000	Gals of Mineral Oil	18,500,000
400	Gals of Sulfuric Acid (batteries)	40,000
3,050	Gals of Water/Ethylene Glycol	305,000
5,000	Gals of AFFF Firefighting Aid	500,000
794	lbs of Refrigerent	79,400
15	Gals of Lubricant	1,500
9,480	Lbs of Sulfur Hexaflouride	948,000
Each Onshore Substation can use up to :		
1,500	Gals of Diesel Fuel	15,000
272,500	Gals of Mineral Oil	2,725,000
400	Gals of Sulfuric Acid (batteries)	4,000
1,275	Gals of Water/Ethylene Glycol	12,750
794	lbs of Refrigerent	7,940
10	Gals of Lubricant	100
11,023	Lbs of Sulfur Hexaflouride	110,230
Assume 1816 wind turbines, 100 Large Offshore Substations, 100 Small Offshore Wind Substations and 10 Onshore Substations		

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waters at risk from oil spills.” [Murphy, other N.J. politicians make last pitch against Trump oil drilling proposal - nj.com](#) Meanwhile the offshore wind turbines and substations will hold the following petrochemicals and other chemicals including the most toxic polluter, sulfur hexafluoride. (Source Atlantic Shores Offshore Wind COP Table 7.0-1 List of Potential Chemical Products used for WTGs, September 2021; totals calculated for NJ coast and NY Bight Area)

Total for All Project Structures	
Gals of Gear & Bearing Lubricant	1,963,096
Gals of AFFF Firefighting Aid	850,000
Gals of Diesel Fuel	3,491,400
Gals of Grease	272,400
Gals of Hydraulic Fluid	635,600
Gals of Lubricant	2,100
Gals of Mineral Oil	24,925,000
Gals of Sulfuric Acid (batteries)	69,000
Gals of Synthetic Ester Oil	3,268,800
Gals of Water/Ethylene Glycol	7,866,350
<b>Total Gallons</b>	<b>43,343,746</b>
lbs of Refrigerent	107,140
lbs of Sulfur Hexaflouride	1,830,218
<b>Total Pounts (9,686 Tons)</b>	<b>1,937,358</b>

Another cost to our local environment is the shedding of toxic microplastics from wind turbine blades into our ocean water. [https://docs.wind-watch.org/Leading-Edge-erosion-and-pollution-from-wind-turbine-blades\\_5\\_july\\_English.pdf](https://docs.wind-watch.org/Leading-Edge-erosion-and-pollution-from-wind-turbine-blades_5_july_English.pdf) A turbine with 120M diameter will shed 62 kgs of microplastics per years in the form of epoxy resin which contains bisphenol A (BPA) The World Health Organization states that drinking water should have a maximum of .1 micrograms of BPA per liter to be safe. One kg of BPA is sufficient to render 10 billion liters of water unsafe to drink. A total of 1816 wind turbines will result in 112,592 kgs of BPA which will pollute 113 trillion liters per year (30 trillion gallons per year) of unsafe for drinking water which will also be unsafe for marine life and sources of food from the ocean.

Another possible environmental and ecological cost is the operation of the offshore substations. The following is from a National Resources Defense Council (NRDC) issue brief, April 2014, “Power plant Cooling and Associated impacts”; “As water is being drawn into a cooling system, full-grown fish and other aquatic life are smashed and trapped

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against screens at the opening of an intake structure. This is referred to as impingement. In addition, early-life-stage fish, eggs, and larvae are often sucked into the cooling system, where they are harmed by heat, pressure, mechanical stress, and/or chemicals used to clean the cooling system before being dumped back into a water body. This is referred to as entrainment.”

According to Jim Lovgren of Fishery Nations,

“There can be no scientific debate about the massive aquatic mortality caused by ‘Once-through’ cooling systems that draw upon estuarine or ocean water for cooling purposes. That is why new power plants are now prohibited from using them. Apparently, nobody gave the folks at BOEM the memo. In an official BOEM document written by Pamela Middleton and Bethany Barnhart called, ‘Supporting National Environmental Policy Act Documentation for Offshore Wind Energy Development related to High Voltage Direct Current Cooling Systems’ the authors contend that the only feasible cooling system for a HVDC Substation is a once through, or open system. The kind that is not allowed for new power plant construction, because of its devastating effects on aquatic life. This embarrassing official BOEM document concerning the effects of offshore wind substations admits it knows nothing about how many substations are planned, how big, and where they will be. NEPA concerns such as environmental and economic costs to other industries are totally ignored within the enormous expanse of information contained within the 4 ½ pages of actual text. Up until the Green new deal a NEPA supporting document would be hundreds, and even thousands of pages long, detailing all aspects of a proposed project.

From page #1 of the BOEM NEPA document; ‘Converting high voltage electricity from AC to DC for long range bulk transmission from offshore wind farms reduces losses of power experienced on AC transmission lines and becomes cost effective within 37 to 60 miles from shore [BVGassociates, 2019;ICF, 2018]. When electricity is generated offshore, it is converted from AC to DC for transmission from the offshore windfarm, then converted back to AC onshore for distribution to consumers. The offshore conversion from AC to DC is accomplished through an HVDC system located in the wind farm. The HVDC system converts AC to DC, creating a byproduct of heat in the process. For the system to operate continually, the portion of the conversion equipment that emits heat, called the ‘thyristor,’ must be cooled.’ Keep in mind that this conversion process means that AC is converted to DC in an offshore substation, then DC is transmitted under the seabed to shore where it is converted back to an AC land-based substation. Which generates more heat into the atmosphere, and no mention is made of what cooling system will be used for the onshore substations, or where they will be located.”

How are they secured to the bottom? How many gallons of sea water would be circulated through a once through system per hour? How many degrees hotter

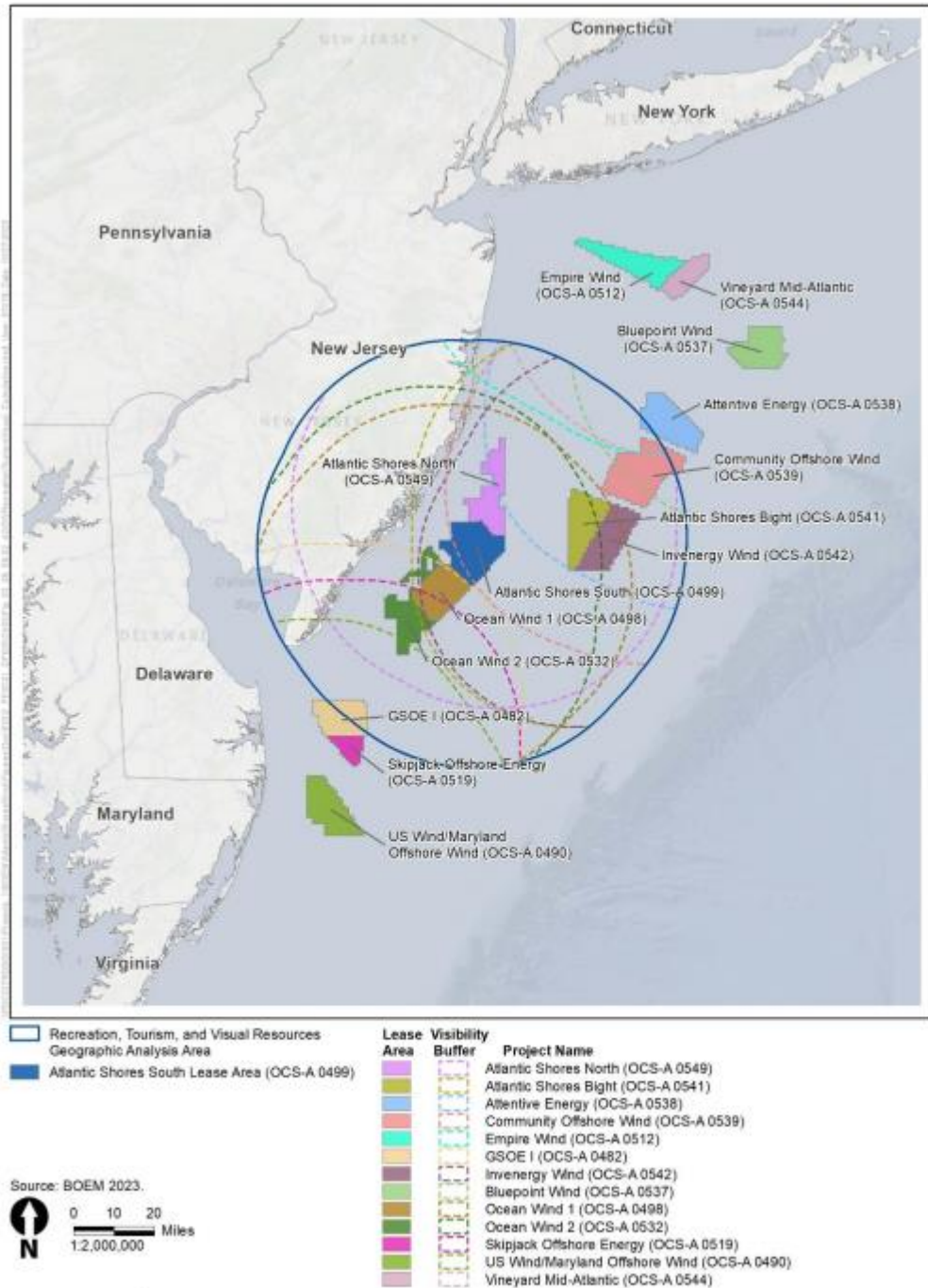
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would that dumped water be than it was before being used? What species of fish will be impinged and what is the economic effect on the fishing industry? None of these basic NEPA information requirements are included. Instead, we get this in regard to impingement and entrainment; “Most filtration systems backflush filters to allow for continuous use, so the collected filtrates will eventually return to the ecosystem; however, larval species will be lost and will not grow to maturity.” {Woke-speak for they will be killed}. “The number of larval fish and invertebrates lost in the process is difficult to measure. Losses of larval food sources for other species is notable, in addition to the larval species that do not survive to maturity. It is unclear how many marine species do not mature to reproduce and provide fish and shellfish for human and animal consumption.

A new study from Harvard concluded that warming continental temperatures could ensue from widespread wind energy, primarily through enhancement of low-level atmospheric mixing and interruption of radiative nighttime cooling. This net localized effect was quantified in 10 other studies. In regard to the “warm” water discharged from an offshore substation, the BOEM document has this to say, “Temperatures of the discharge water have not been documented for the proposed wind farms on the OCS to date. The warmer outflow from HVDC is generally accepted as a minimal effect that will be absorbed and transition to ambient temperatures over time.” “Given the single point outlet within the large mass of surrounding ocean, effects from the warm water are likely to be extremely minimal. Similar conclusions have been made for any chemicals added to prevent growth within the seawater system.” Those chemicals include sodium hypochlorite, used to kill any tiny marine life that might dare to attempt to grow within the system, at least it is noted that sodium hypochlorite would be used in the 10-200 parts per million, but it doesn’t say per million of what, assumed to be ocean water. So, the water will be heated substantially but to an unknown degree, while at the same time an anti-lifeicide chemical will be introduced to the marine environment, but don’t worry the ocean can absorb it all. Just like the good old days.”

The cumulative impact of the visual pollution, defined as the visible deterioration and negative aesthetic quality of the natural landscapes around people, for the offshore wind is far reaching, both literally and figuratively.

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**Figure 3.6.9-2. Scenic and Visual Resources geographic analysis area and cumulative impacts analysis area**

In Atlantic County alone, the visual impact of seeing 700-800 wind turbines during the day and at night has the potential to be devastating to the local economy as follows:

### Impact on Atlantic County Economy

- Rental Demand Loss: 50% of prior renters would not rent again with turbines visible regardless of rent discount. Including Atlantic City, Atlantic County annual rental income loss could be \$17.2 M (10%) to \$68.9 M (30%). Excluding Atlantic City, Atlantic County annual revenue loss could be \$4.5M (10%) - \$17.9M (40%). Lost rental income NPV over 20 years could be \$65M - \$250M.<sup>V1, V2</sup>
- Tourism Revenue, Job Losses, and Tax Losses: <sup>V3, V4, V5, V6</sup> 16.5% - 24% would not visit Atlantic County beach town, which could be a loss of:
  - o 8,700-12,700 jobs or 175,000 -255,000 job years over the project life
  - o \$1.3 – \$1.9B in annual revenue or NPV of \$17.4 B - \$25.5 B over the project life
  - o \$142 - \$206 million government tax loss revenue over the project life
- Wind Turbines will not be a Significant Tourist Attraction based on survey participants not willing to pay more for rental property with a view of wind turbines.  
<sup>V1</sup>
- Large Energy Cost Increase for residents, businesses, and especially fragile seasonal tourism businesses. Based on the most recent analysis for 11GW of offshore wind energy in New Jersey, electricity rates are expected to increase by over 55% for residents, 70% for commercial and over 80% for industrial users by 2047. Based on the most recent solicitation for 3742 MW of power over 20 years, rates are projected to increase by 20%-30%.<sup>V8</sup>
- Recreational Fishing Revenue= \$19M/ YR to the NJ economy. How will this be impacted during years of construction and operation?<sup>V7</sup>
- Other Tourist Industry Impacts: The future of the Annual Farley Marina Jimmy Johnson Fishing Tournament, Annual Atlantic City Air Show, and other Beach Concerts, and other Beach Centric Entertainment Events, Bars and Restaurants is uncertain. The airshow alone brings 100,000 tourists to Atlantic City and \$50 million to the economy.<sup>V9</sup>
- Casino Contraction: Bricks and mortar operating losses for casinos may cause further consolidation in AC. Losses in Casino revenue and profits could reduce local and state taxes/fees including but not limited to the annual \$200 million PILOT tax payments and \$700+ million annual Gaming Specific taxes and fees. The Casino PILOT program ends in 2026.<sup>V10</sup>

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- Residential Property Value Loss: Based on the impact of an industrialized ocean view from beach homes in A.C, Brigantine, Long Port, Margate and Ventnor, total property values could be reduced by \$2.2 billion, and the County, municipalities, and school districts could lose \$36 million in annual taxes. <sup>V11</sup>

Complete study along with footnotes to above economic impact statements can be found here: [WHITE-PAPER-ATLANTIC-COUNTY-ECONOMIC-IMPACT-OFFSHORE-WIND-PROJECTS-4.15.24.pdf \(defendbrigantinebeach.org\)](#)

In conclusion, Defend Brigantine Beach INC and Downbeach organization supports environmentally responsible and reasonable energy projects. However, the current scale, scope, magnitude and pace of the massive wind energy industrial development off the NJ coast is reckless. The fact is that dilute, intermittent, seascape intensive industry wind turbines are bad economics and bad ecology. Based on the lack of need, lack of scientific baseline data, adverse environmental impacts, and economic costs, Defend Brigantine Beach, INC and Downbeach strongly urges the New Jersey Board of Public Utilities to revise the Energy Master Plan by removing the proposed costly offshore wind projects that will devastate our ocean ecology, ruin tourism and fishing industries, harm marine mammals and ecosystems. These projects will have NO impact on the flooding, severe weather events and rising ocean along the New Jersey coastline. Nowhere in any agreements or documents do the Offshore Wind developers guarantee that their projects will improve the negative impacts of climate change to the New Jersey coastline. After wasting billions of dollars in useless unreliable energy, and energy backup systems, New Jersey will be forced to pay billions of dollars in resiliency projects for the coastal areas. This plan will bankrupt the residents and businesses of New Jersey.

Respectfully submitted,

Defend Brigantine Beach INC and Downbeach

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