



**CAPE MAY COUNTY COMMENTS ON THE DRAFT ENVIRONMENTAL  
IMPACT STATEMENT FOR ATLANTIC SHORES SOUTH OFFSHORE  
WIND PROJECT**

**DOCKET BOEM 2023-0030-0001**

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Dear Ms. Sullivan,

Thank you for the opportunity to submit comments to BOEM on behalf of Cape May County, which will be impacted by the Atlantic Shores South project located immediately offshore of Long Beach Island, New Jersey. The Atlantic Shores South project would include a wind farm array of up to 200 wind turbines across 183,353 acres starting approximately 8.7 miles from shore, up to 10 offshore substations, at least one inshore substation, and interconnecting cables between the turbines and substations. As proposed, the project will have widespread significant impacts on Cape May County's tourism, its commercial fishing industry, its prized ocean views, and environmental impacts that will harm our local ecosystems.

Cape May County officials have worked closely with wind energy developers and their partners since the beginning of the consultation process, only to have their concerns ignored and brushed aside without any meaningful engagement. To make the County's position abundantly clear, we would like the record to show that Cape May County has significant concerns about offshore wind projects off its coast and stands in complete opposition to the Atlantic Shores South offshore wind project as proposed.

Coastal communities within Cape May County rely on healthy ocean ecosystems to function and support seasonal and non-seasonal businesses. We strongly disagree with BOEM's categorization of various impacts as 'minor.' In fact, it appears obvious that the agency is attempting to minimize impacts which in reality, are very severe to Cape May County and its surrounding environment.

Our review of the document indicates that BOEM spent a substantial amount of time and effort focusing on highlighting potential project benefits, without adequate discussion of the significant environmental impacts that EIS's are intended to focus on. The document contains a vast amount of redundant and

repetitive material that adds to its bulk and ignores the importance of key environmental impacts which are buried in hundreds of pages of text. Although BOEM has valued quantity of pages over meaningful and balanced analysis, we provide the comments contained herein to inform BOEM, NOAA, USACE, and all other cooperating agencies of our concerns.

Section 4.1 of the DEIS, *Unavoidable Adverse Impacts to the Proposed Action*, clearly identifies 58 unavoidable impacts that would result from the proposed action. Similar to the comments provided for the Draft Environmental Impact Statement for Ocean Wind 1, Cape May County provides the following statements of concern about threats to its quality of life, economy, and the environment in and around Cape May County as a result of the Atlantic Shores South offshore wind project:

1. Background
2. BOEM's Purpose and Need
3. NEPA and Cumulative Impacts
4. Environmental Impacts
5. Commercial Fishing
6. Jobs and Economy
7. Cost for Ratepayers
8. Visual Impacts to Scenic and Cultural Resources

## BACKGROUND

As a peninsular coastal community, Cape May County is at the forefront of climate change impacts and response. The County is committed to preserving its rich coastal heritage long into the future through various initiatives to make its communities more resilient to climate change and sea level rise. In that regard, Cape May County has a keen interest in supporting energy projects that minimize impacts to the local climate and sensitive ecosystems. At the same time, the County seeks to protect its historic and cultural character, its tourism economy, and its uninterrupted ocean views for generations to come and finds that offshore wind like the Atlantic Shores South project pose significant dangers to the local environment, economy, and local culture.

Cape May County is home to nearly 100,000 full-time residents and welcomes over 8.2 million summertime visitors, generating over \$36 billion in visitor spending.<sup>1</sup> Cape May County is also home to some of the most desirable real estate in America that has been built around prized natural landscapes that provide bountiful seafood stocks and expansive 360-degree views of the Atlantic Ocean and open marshland.<sup>2</sup>

Tourism and commercial fishing are Cape May County's two primary sources of economic revenue, with tourism supporting over 39,430 Cape May County jobs, or roughly 7.2% of the jobs in the entire State of New Jersey and 60.7% of all jobs in May Cape County.<sup>1,3</sup> In addition, the Port of Cape May is the largest commercial fishing port in New Jersey and the second largest along the Eastern Seaboard, ranking in the

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<sup>1</sup> 2021 Economic Impact of Tourism in Cape May County

<https://capemaycountynj.gov/DocumentCenter/View/8234/2021-CMC-Chamber-Economic-Impact-of-Tourism>

<sup>2</sup> Stone Harbor Ranked Among Most Expensive Real Estate Markets in U.S.

<https://philadelphia.cbslocal.com/2013/11/07/stone-harbor-ranked-among-most-expensive-real-estate-markets-in-u-s/>

<sup>3</sup> Cape May County Department of Tourism

top 20 in landings and value in the nation. Both tourism and fishing industries are at significant risk as a result of the Atlantic Shores South offshore wind project.

In addition, the County has major concerns about impacts to the local ecosystem, including fisheries, marine mammals, benthic habitats, and birds, each of which play an integral role in the Jersey Shore economy. Many traditions such as fishing, sailing, bird, whale, and dolphin watching have been practiced for centuries. Exceptional views of the ocean and coastal landscape have driven extensive real estate development, which is a vital source of tax revenue for local communities and the State of New Jersey. The Atlantic Shores South offshore wind project threatens critical environmental, cultural, and scenic resources that have made the Jersey Shore what it is today.

Recently, 10 out of the County's 16 municipalities have called for moratoriums on offshore wind or have passed resolutions against offshore wind, indicating clear opposition to the Ocean Wind 1, Ocean Wind 2, and Atlantic Shores offshore wind projects. The opposition from our communities remains bipartisan and is based on rigorous scientific review of the potential impacts on Cape May County's local ecosystem and economy. Our residents and visitors have far too many unanswered questions about how offshore wind projects will affect them. In addition, recent polls have shown that support for offshore wind projects in the State of New Jersey has cratered, with the lion's share of residents now opposed to offshore wind projects.<sup>4</sup>

For these reasons, Cape May County does not support the Atlantic Shores South project and has a myriad of serious environmental, economic, and social concerns that BOEM wrongly believes can be ameliorated through the use of money as a form of mitigation. The negligent approach of BOEM and the wind industry to throw money at any issue is a clear example of the reckless push to install offshore wind projects at any cost, literally. Our residents and visitors do not support these projects as proposed and Cape May County commissioners have passed a resolution devoting all resources reasonably necessary to fighting these projects.

## BOEM'S PURPOSE AND NEED

The mission of the Bureau of Ocean Energy Management is to manage development of U.S. Outer Continental Shelf energy and mineral resources in an environmentally and economically responsible way.<sup>5</sup> BOEM is not, however, bound by any arrangement made by state or private party, and therefore has the authority to require modifications to the project that may not satisfy Atlantic Shores' contract with the State of New Jersey or the New Jersey Board of Public Utilities (BPU). In the Draft Environmental Impact Statement (DEIS), BOEM states that it rejects alternatives that would result in a project with less nameplate capacity (Section 2.2). BOEM's rejection of alternatives violates its mission, is without merit, and should not be used to justify the dismissal of alternatives which may result in reduced nameplate capacity, relocation of the project area, or any other significant modification of the Proposed Action, especially if the Proposed Action is environmentally or economically unsound or interferes with reasonable uses of the ocean.

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<sup>4</sup> *New Jersey Wants to Halt Development of Off-Shore Wind Farms*

<https://www.fdu.edu/news/new-jersey-wants-to-halt-development-of-off-shore-wind-farms/>

<sup>5</sup> BOEM's Mission Statement

<https://www.boem.gov/about-boem#:~:text=OUR%20MISSION,environmentally%20and%20economically%20responsible%20way>

BOEM has shown repeatedly that it has no intention of heeding any warnings from federal or independent scientists who warn about the environmental threats of offshore wind. For example, regarding the South Coast Wind Project, the National Marine Fisheries Services tried on multiple occasions to engage with BOEM to establish a 20-km buffer outside the Nantucket Shoals area to protect a key feeding ground for the critically endangered North Atlantic Right Whale. Despite NMFS statement that it “remain[s] concerned about [its] ability to reach a “no jeopardy” conclusion in its ESA consultation for [the] project,” BOEM ignored the consultation, claiming that it would make the project economically infeasible. This presents a dangerous situation where BOEM heavily favors the implementation of offshore wind projects over its administrative duty to protect the environment as a lead agency under NEPA. This is not the first time that BOEM has ignored federal scientists’ concern about the environmental impacts of offshore wind.

In a May 13, 2022 letter, Sean Hayes, chief of the protected species branch at NOAA’s Northeast Fisheries Science Center (NEFSC), wrote to BOEM warning about critical impacts to the North Atlantic Right Whale from offshore wind installations, such as increased noise, vessel traffic, habitat modifications, water withdrawals associated with certain substations and resultant impingement/entrainment of zooplankton, changes in fishing effort and related potential increased entanglement risk, and oceanographic changes that may disrupt the distribution, abundance, and availability of typical right whale food (e.g. Dorrell et al 2022). The letter was only made public after Bloomberg News filed a request for information from the agency under the Freedom of Information Act.

Similarly, in the Final Environmental Impact Statement for Ocean Wind 1, BOEM responded to the County’s comments by asserting that it can only consider a range of reasonable alternatives that are ‘economically feasible,’ and continued to state that projects which are unable to meet existing Power-Purchase Agreements (PPA) would be considered economically infeasible. In this instance, BOEM is acting in favor of offshore wind developers and failing in its mission to protect the environment and the taxpayer. In fact, BOEM provided no evidence that it did any economic analysis of the alternatives that Atlantic Shores considered economically infeasible. BOEM has again shown its perverse desire to simply check the box and approve the project as proposed without meaningful negotiation in support of the environment, local economies, or with stakeholders. Therefore, the County requests economic analyses be made available in the FEIS or supplemental DEIS to demonstrate the full range of alternatives considered for the Atlantic Shores South offshore wind project.

In addition, it is highly possible that the projects as proposed are already economically infeasible and developers are attempting to back out of their existing agreements and renegotiate their contracts with states (Commonwealth Wind, Mayflower Wind, Ocean Wind 1, South Coast Wind).<sup>6,7,8</sup> According to the developer of South Coast Wind, “Almost every development is seeing their project economics are underwater.” Yet BOEM, along with President Biden and various state administrations, have championed advancing projects that are not on stable financial footing. With poor economic conditions related to supply chain issues and inflation, and expected diminishing financial returns overtime due to forecasted efficiency declines in output power from wind installations, the County is severely concerned that BOEM is greenlighting projects off its coast that could fail financially. The County demands to see under the hood on developers’ financial models and have complete financial assurance from BOEM, the State of New Jersey, and the developer that well-vetted plans are in place to protect taxpayers from project failures.

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<sup>6</sup>://www.wbur.org/news/2022/11/07/state-refuses-to-renegotiate-offshore-wind-energy-agreements-gives-developers-a-mid-week-deadline

<sup>7</sup> https://www.wbur.org/news/2023/06/05/massachusetts-offshore-wind-contract-canceled

<sup>8</sup> https://www.thefisherman.com/article/orsted-seeks-more-taxpayer-monies-to-finish-ocean-wind-project/#close-modal

BOEM's has boxed itself in so tightly that its current approval process for offshore wind projects ensures that every proposed offshore wind project will share the same fate – agency approval no matter the impacts. This further highlights the fact that the NEPA process as implemented by BOEM favors developers, rather than the public or the environment, and that BOEM has political pressure to adhere to this approach rather than conducting its due diligence in regard to protecting marine ecosystems.

As another example, BOEM is quite literally prescribing the extinction of the North Atlantic Right Whale through the implementation of the Biden Administration's offshore wind program, which will construct thousands of wind turbines directly through this creature's critical migration routes, disrupting feeding, breeding, migration, communication, and navigation. Data from NOAA scientists determined that the North Atlantic Right Whale's Potential Biological Removal (PBR) level is less than 1, meaning even a single death could upset the delicate balance required for a population stock to return to its optimum sustainable population. Yet incidental take requests authorized by NOAA and the National Marine Fisheries Services enable the injury, harassment, or incidental death of several North Atlantic Right Whales, which will almost certainly guarantee the continued decline, or even extinction, of the North Atlantic Right Whale. BOEM finds monetary forms of mitigation as acceptable means of complying with NEPA, rather than the simple process of relocating turbines to responsibly sited areas.

Moreover, NEPA implementing regulations of CEQ (40 CFR 1502.16(a)(3)) mandate that an Environmental Impact Statement (EIS) should address the connection between short-term environmental uses and potential impacts on long-term productivity. However, in the DEIS, BOEM improperly emphasizes potential benefits over potential impacts. BOEM mischaracterizes offshore wind development throughout the EIS by overstating potential job creation, climate, and habitat benefits, while minimizing environmental, economic, and visual impacts, many of which the DEIS defines as major.

These uses of the EIS document are improper according to CEQ NEPA rules, which require a "full and fair discussion of significant environmental impacts" and only brief discussion of other important matters. Nevertheless, the EIS is excessively burdensome for laypeople to read and understand within a reasonable timeframe because it is filled with inappropriate claims about the benefits of offshore wind. Section 1502.7 of the NEPA rules specifies that an EIS should be limited to 150 pages, except for exceptionally large or complex proposals where a limit of 300 pages applies. In this case, the Combined Operations Plan (COP) and EIS span over 4,000 pages, warranting a 135-day extension for reviewers, which has already been requested by the County and several other communities in New Jersey from BOEM.

BOEM and NOAA's own scientists are aware of the environmental perils of offshore wind projects, yet BOEM continues its cavalier approach in advancing the reckless industrialization of the ocean. BOEM has failed in its mission to manage the development of offshore wind projects in an environmentally and economically sound manner consistent with the requirements under NEPA regulations.

## NEPA AND CUMULATIVE IMPACTS

The DEIS is deficient in that it fails to examine cumulative environmental impacts as required by Federal regulations.<sup>9</sup> This project is just 1 of 48 or more proposed wind farms along the Eastern Seaboard, which collectively introduce various cumulative impacts which must be understood prior to construction. The only

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<sup>9</sup> 32 CFR § 651.16 In addition, Federal courts have recognized the importance of including cumulative impacts under NEPA. For example, *see Kleppe v. Sierra Club*, 427 U.S. 390, 413 (1976)

evidence BOEM provides of its analysis of cumulative impacts is in regard to the viewshed from locations across South Jersey. BOEM does not offer any technical cumulative analysis of environmental impacts from the dozens of other proposed wind projects which will result in several similar actions in the same geographic area.

BOEM has repeatedly refused to adequately address cumulative environmental impacts of the 48 or more proposed windfarms in the Mid-Atlantic, and it instead analyzes the Atlantic Shores South project as if it were a standalone project, and it has treated all other offshore wind projects the same. This is a major flaw of the DEIS and undermines the NEPA process. One clear example is BOEM's response to Cape May County's Ocean Wind 1 comments about negative impacts to commercial fishing. BOEM responds by insisting the wind energy area pertaining to Ocean Wind 1 is just a small part of the available fishing grounds while blatantly ignoring that the agency obviously plans to approve 48 or more offshore wind farms covering millions of acres in the North Atlantic. Simply acknowledging cumulative impacts while not addressing them is a violation of NEPA requirements on cumulative impacts and is a disservice to the taxpayer and the local elected officials, residents, and businesses that will be negatively impacted by offshore wind projects.

NEPA guidelines on cumulative impacts require the agency to consider cumulative impacts if the proposed action "is one of several similar actions in the same geographic area."<sup>10</sup> One of the sole purposes of addressing cumulative impacts is to prevent the piecemeal construction of smaller projects which, once constructed, amount to one larger project. However, this is exactly what BOEM is doing by allowing the construction of dozens of discrete offshore wind projects, which form one interconnected industrial power plant once constructed. This exact issue was raised in the Ocean Wind 1 DEIS and was neither acknowledged nor responded to in the Ocean Wind 1 FEIS. In order to resolve this deficiency, BOEM must reverse course and prepare a Programmatic Environmental Impact Statement (PEIS) for the entire New Jersey and New York Bight area.

BOEM should have conducted a thorough, cumulative Programmatic EIS for proposed projects in the region, including Ocean Wind 1, Ocean Wind 2, Garden State, Skipjack, Bight Wind, Invenergy, Atlantic Shores North, and Atlantic Shores South, in addition to any other projects proposed in the same region, prior to leasing the Wind Energy Area for Atlantic Shores South, or any other project in the New Jersey and New York Bight area. While BOEM conducted a basic Environmental Assessment many years ago, the analysis was far too limited in scope and is not representative of the size and scale of offshore wind projects being built today.

NEPA Implementing Regulations encourage the use of Programmatic Environmental Impact Statements to direct the lead agency (i.e., BOEM) to include "actions that may be connected actions, which means they are closely related and therefore should be discussed in the same impact statement."<sup>11</sup> Under 40 C.F.R. §1508.7, cumulative impacts are defined as the effect on "the environment which results from the incremental impact of the [proposed] action when added to other past, present, and *reasonably foreseeable future actions [emphasis added]*." To ignore cumulative impacts, which result from the "incremental impact of the action when added to other past, present, and reasonably foreseeable future actions" on the environment is a failure to account for immediate and consequential incremental impacts. Cumulative impacts should have been incorporated into BOEM's NEPA process as part of both EA and EIS

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<sup>10</sup> Consideration of Cumulative Impacts in EPA Review of NEPA Documents

<sup>11</sup> Council on Environmental Quality, 40 CFR Parts 1500-1508 (May 20, 2022, §1500.4(k) and §1501.9(e)). In addition, §1502.4 notes that a programmatic EIS is useful to evaluate proposals that are in the same general location, such as a body of water.

documents.<sup>12</sup> Additionally, although many years away, decommissioning is a reasonably foreseeable action, and its impacts should be quantified and discussed in the DEIS.

In 2012, BOEM issued a Finding of No Significant Impact (FONSI) relating to the Wind Energy Areas (WEA) it studied in the mid-Atlantic.<sup>13</sup> If BOEM is relying on a 2012 document to serve as a catch-all for all related environmental impacts within WEA's, BOEM's approach is severely flawed. Turbines proposed more than a decade ago were half the size of the proposed developments today, with vastly different technologies and quantities of wind turbines within proposed arrays. These changes are so significant that it would be irresponsible of BOEM to rely on the FONSI conclusion of a document which summarized impacts of a significantly outdated plan. BOEM's continued environmental negligence will likely find a home in court, nevertheless, had BOEM been more thorough prior to determining Wind Energy Area's in the Atlantic, it would have allowed many of the issues raised in the County's comments to be addressed and perhaps resolved a decade ago.

Furthermore, the Administration has modified NEPA regulations to ensure that every federal agency considers the direct, indirect, and cumulative impacts of a proposed action.<sup>14</sup> Therefore, the County requests that BOEM conduct a cumulative Programmatic Environmental Impact Statement (PEIS) of all lease areas along the coast of New Jersey or, in the alternative, amend its DEIS to ensure that cumulative impacts are fully evaluated. BOEM's failure to do so would be an arbitrary exercise of its administrative authority.

Finally, CEQ's NEPA-implementation regulations (40 CFR 1502.16(a)(3)) require that an EIS address the relationship between short-term use of the environment and the potential impacts of such use on the maintenance and enhancement of long-term productivity. In the Atlantic Shores DEIS, however, BOEM improperly promotes potential benefits to overshadow the potential impacts, namely:

1. Overstating the promise of clean and safe development of domestic energy sources and clean energy job creation.
2. Overstating the promise of renewable energy to help ensure geopolitical security, reduce GHG emissions to combat climate change, and provide electricity that is affordable, reliable, safe, secure, and clean.
3. Asserting that delivery of electric power via offshore wind to the New Jersey electrical grid will have any meaningful contribution to reducing climate change.
4. Citing increased habitat for certain fish species while ignoring other catastrophic impacts to the marine environment and marine mammals.

These uses of the EIS document are inappropriate. According to CEQ NEPA rules, an EIS should provide "full and fair discussion of significant environmental impacts" and provide only brief discussion of other significant issues.<sup>15</sup> The EIS is also far too cumbersome for a lay person to read and comprehend in a relatively short period of time. Section 1502.7 of the NEPA rules require that an EIS be limited to 150 pages

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<sup>12</sup> Considering Cumulative Effects Under the National Environmental Policy Act [https://digital.library.unt.edu/ark:/67531/metadc31126/m2/1/high\\_res\\_d/CumulativeEffects.pdf](https://digital.library.unt.edu/ark:/67531/metadc31126/m2/1/high_res_d/CumulativeEffects.pdf) See also <https://www.epa.gov/sites/default/files/2014-08/documents/cumulative.pdf> for adoption of CEQ's guidance in the U.S. Environmental Protection Administration's NEPA analyses.

<sup>13</sup> Commercial Wind Lease Issuance and Site Assessment Activities on the Atlantic Outer Continental Shelf (OCS) Offshore New Jersey, Delaware, Maryland, and Virginia. Notice of the Availability (NOA) of an Environmental Assessment (EA) and a Finding of No Significant Impact. [Docket No. BOEM-2011-0088]

<sup>14</sup> 87 FR 23453; also see *CEQ Restores Three Key Community Safeguards during Federal Environmental Reviews*; White House Press Release, April 19, 2022

<sup>15</sup> <https://www.ecfr.gov/current/title-40/chapter-V/subchapter-A/part-1502/section-1502.1>. § 1502.1 Purpose of environmental impact statement.

or less except for proposals of unusual scope or complexity. Even under exceptions, an EIS should be limited to 300 pages.<sup>16</sup> The COP and EIS together total over 4,000 pages and therefore reviewers should be provided with a 135-day extension, which the County and various other communities in NJ have already requested from BOEM.

## ENVIRONMENTAL IMPACTS

The County has environmental concerns relating to the placement of the turbines, sound produced during construction, operation, and decommissioning that will persist over 35 or more years, and associated impacts to birds, benthic habitats, fisheries, and marine mammals. Despite the rapid and widespread implementation of offshore wind in Europe, considerable unknowns exist about the impacts to marine environments from offshore wind industrialization. While many of these unknowns are acknowledged in the DEIS, BOEM's plan to require post-construction monitoring without establishing baseline conditions to compare against further demonstrates BOEM's lack of scientific integrity. This careless approach will undoubtedly be accompanied by severe environmental damage that Cape May County will bear the brunt of.

Waters off of Cape May County are some of the most biologically productive in the world, and even leading research universities located along the Jersey Shore agree that offshore wind could have severe impacts to the Cold Pool, which could irreversibly disrupt critical ecosystem functions. Cape May County is not a testing ground for renewable energy projects and will protect its local ecosystem and economy at any cost from offshore wind projects. The environment is the strongest driver of Cape May County's local economies, and therefore the County must ensure it does not fail.

### Marine Mammal Fatalities

Communities within Cape May County, as well as communities across New Jersey, New York, and New England, continue to face historic rates of marine mammal strandings and fatalities along their shorelines, which could be connected to marine acoustic surveying for offshore wind. Since December 2022, more than 43 whales have been found stranded on beaches or floating in waters in the North Atlantic.<sup>17</sup> Waters off Cape May County have only had one new variable introduced over the last year – the ongoing seismic surveying related to offshore wind development. There have been several vessels operating at once off our coasts, creating widespread noise that marine mammals must evade to protect their hearing.

The activities being performed by marine acoustic surveyors are known to have behavioral impacts on marine mammals, and while federal government scientists claim no connection exists between recent fatalities and acoustic surveying, the same scientists have no conclusive evidence that rules out the connection between acoustic surveying and marine mammal fatalities. In fact, according to Gardline, an established marine surveyor, these activities use equipment that operates with volumes and frequencies directly within the communicative frequencies of a variety of whales and other low-frequency cetaceans,

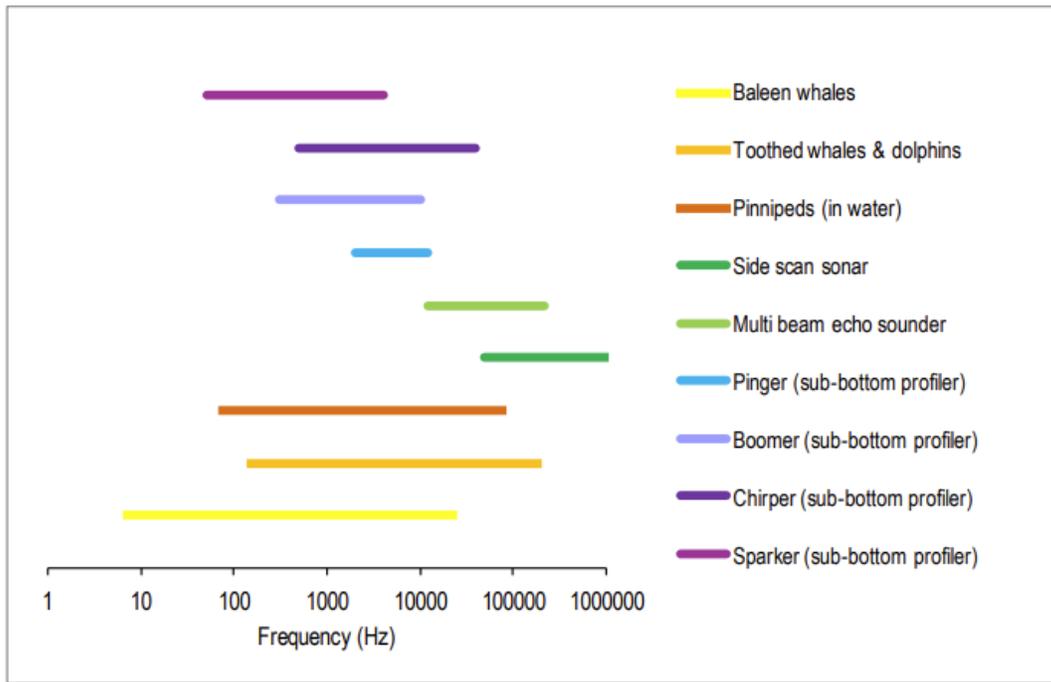
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<sup>16</sup> <https://www.ecfr.gov/current/title-40/chapter-V/subchapter-A/part-1502/section-1502.7>. § 1502.7 Page limits.

<sup>17</sup> Dead whale strandings likely to increase in N.J. and more research is needed, expert says <https://www.nj.com/news/2023/05/dead-whale-strandings-likely-to-increase-in-nj-and-more-research-is-needed-expert-says.html>. Note that at least 4 whales have washed ashore in Massachusetts and New York since this article was written, with several other floating dead whales confirmed by fishermen.

such as Humpback Whales and North Atlantic Right Whales, which use New Jersey waters for feeding, breeding, and migration (see Figure 1.1, below). In addition, according to Incidental Harassment Authorizations issued by NOAA, the decibel volumes of such equipment can exceed the thresholds for temporary and even permanent hearing loss, depending on proximity to the sound source.<sup>18,19</sup> Continuous widespread noise can result in acoustic masking of whales' communication and navigation, causing behavioral disturbances that may limit foraging, migration, and mating, or result in other behavioral or stress-related collisions with large vessels.

Residents who have lived along the Jersey Shore for generations have never experienced such an alarming number of marine mammal fatalities and have expressed extraordinary concerns that offshore wind surveys are possibly to blame. Those concerns have quickly been brushed aside by BOEM and other federal agencies without due consideration for the concerns that experts in the marine surveying industry have expressed. The County echoes the concerns of its residents and the County, as well as more than 51 communities across New Jersey, Maryland, and Delaware have called for moratoriums on offshore wind surveying until federal, state, and independent scientists have conclusively determined that offshore wind surveys are not a contributing factor in recent marine mammal fatalities.



**Figure 1.1:** Auditory frequencies used by marine mammals and the main frequency range of analogue equipment (Based on Gotz et al., 2009 & Southall et al., 2007)

<sup>18</sup> Protected Species Surveyor Report, Alpine Ocean Seismic Survey Inc. <https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/App-B-Shearwater-PSO-Report.pdf>

<sup>19</sup> Atlantic Shores Request for an Incidental Harassment Authorization to Allow the Non-Lethal Take of Marine Mammals Incidental to Site Characterization Surveys of the Atlantic Shores Lease Area (OCS-A 0499) [https://media.fisheries.noaa.gov/2022-01/AtlanticShoresHRG\\_2022\\_App\\_OPR1.pdf](https://media.fisheries.noaa.gov/2022-01/AtlanticShoresHRG_2022_App_OPR1.pdf)

If marine surveying is harmless to marine mammals (as BOEM and NOAA claim), why has the National Marine Fisheries issued so many Incidental Harassment Authorizations (IHA) to wind developers and why are the numbers of disturbed animals so high? The total number of authorizations has been summarized in Tables 1 and 2, below. Additional concerns about noise are expressed in detail later on in the Noise section.

Table 1: Takes by Species, compiled from NOAA IHA data.

MARINE MAMMAL SPECIES	TOTAL STOCK SIZE OF SPECIES	TOTAL OF ALL INCIDENTAL TAKES	TOTAL % OF STOCK SIZE
<b>WHALES – Mysticetes (Baleen)</b>			
Fin Whale, Endangered	6,802	2,477	36%
North Atlantic Right Whale, Endangered	338	710	210%
Seal Whale, Endangered	6,292	341	5%
Blue Whale, Endangered	412	29	7%
Sperm Whale, Endangered	4,349	426	10%
<b>TOTAL Endangered Whales</b>	<b>18,193</b>	<b>3,983</b>	<b>22%</b>
<b>OTHER WHALES</b>			
Humpback Whale	1,396	1,981	142%
Minke Whale	21,968	4,787	22%
Dwarf Sperm Whale	4,548	8	0%
Pygmy Sperm Whale	7,750	10	0%
Cuvier's Beaked Whale	Unknown	14	-%
Bainville's Beaked Whale	5,500	8	0%
Gervais' Beaked Whale	Unknown	8	-%
Sowerby's Beaked Whale	Unknown	8	-%
True's Beaked Whale	Unknown	6	-%
Northern Bottlenose Whale	Unknown	12	-%
Mesoplodont Whale	Unknown	18	-%
<b>TOTAL WHALES</b>	<b>77,548</b>	<b>10,843</b>	<b>14%</b>
<b>DOLPHINS – Odontocetes</b>			
Atlantic Spotted Dolphin	39,921	31,105	78%
Atlantic White-Sided Dolphin	93,233	15,974	17%
Bottlenose, Offshore Dolphin	62,851	29,415	47%
Bottlenose, Coastal Dolphin	6,639	10,468	158%
Bottlenose, Offshore & Coastal Dolphin	69,490	50,186	72%
Clymene Dolphin	4,237	344	8%
Short-Beaked Common Dolphin	172,974	207,759	120%
Pygmy Killer Whale	Unknown	10	-%
Killer Whale	Unknown	10	-%
False Killer Whale	1,791	33	2%
Fraser's Dolphin	Unknown	384	-%
Melon-Headed or Little Killer Whale	Unknown	228	-%
Pantropical Spotted Dolphin	6,593	260	4%
Long-finned Pilot Whales	39,215	2,816	7%
Short-finned Pilot Whales	1,981	1,916	97%
Risso's Dolphin	35,215	1,604	5%
Rough-Toothed Dolphin	4,853	248	5%
Striped Dolphin	67,036	128	0%
White Beaked Dolphin	536,016	150	0%
<b>TOTAL DOLPHINS</b>	<b>1,142,045</b>	<b>353,038</b>	<b>31%</b>
<b>PORPOISES</b>			
Harbor Porpoise	95,543	21,491	22%
<b>SEALS – Pinnipeds</b>			
Gray Seal	27,300	31,163	114%
Harbor Seal	61,336	52,460	86%
Harp Seal	Unknown	10,983	-%
Hooded Seal	593,500	3	0%
<b>TOTAL SEALS</b>	<b>682,136</b>	<b>94,609</b>	<b>14%</b>
<b>TOTAL COUNT OF ALL SPECIES</b>	<b>1,997,272</b>	<b>479,961</b>	<b>24%</b>
<b>TOTAL ENDANGERED SPECIES</b>	<b>18,193</b>	<b>3,983</b>	<b>22%</b>

Table 2: Data compiled by Clean Ocean Action from all Incidental Harassment Authorizations issued by NOAA (June 2023)

Take Category	NY/NJ Bight	Atlantic Coast
Level A Proposed Takes	1,238	1,306
Level B Proposed Takes	437,811	524,760
Level A Authorized Takes	122	122
Level B Authorized Takes	96,362	115,611
Level B Expired Takes	153,528	173,104
<b>Totals</b>	<b>689,061</b>	<b>814,903</b>

## LOCATION

There are several key environmental concerns with the proposed location of the Atlantic Shores South project. Like the Ocean Wind 1 project, the wind turbine array for Atlantic Shores South is proposed directly within one of the most densely trafficked areas of the migration route of the critically endangered North Atlantic Right Whale (NAWR) and also directly through migration routes for endangered migratory birds.

NOAA has concluded as recently as 2022 that the PBR level (Potential Biological Removal), the highest number of NARW that can be removed from the stock—not including natural deaths—while allowing that stock to reach or maintain its optimum sustainable population, is less than 1 (0.7).<sup>20</sup> Yet, BOEM and NOAA have continued to issue an alarming number of Incidental Harassment Authorizations for this species in connection with acoustic seafloor surveys as well as construction and operations of wind farms with known consequences to the whales population. Undoubtedly, prolonged harassment and disturbances upset the typical behavior patterns of whales and can severely impact energetic foraging and mating, resulting in grave consequences for the species as described by Sean Hayes, Chief of Protected Species at NOAA’s Northeast Fisheries Science Center (NEFSC), in a May 13, 2022, letter. The letter warned about critical impacts to the North Atlantic Right Whale from offshore wind installations, such as increased noise, vessel traffic, habitat modifications, water withdrawals associated with certain substations and resultant impingement/entrainment of zooplankton, changes in fishing effort and related potential increased entanglement risk, and oceanographic changes that may disrupt the distribution, abundance, and availability of typical right whale food (e.g. Dorrell et al 2022).

At the time of writing, there are estimated to be less than 340 NAWR’s remaining, with less than 90 females of reproductive age.<sup>21</sup> There is currently an ongoing Unusual Mortality Event for the NAWR as a result of

<sup>20</sup> North Atlantic Right Whale (*Eubalaena glacialis*) 5-Year Review: Summary and Evaluation (NOAA) [https://media.fisheries.noaa.gov/2022-12/Sign2\\_NARW20225YearReview\\_508-GARFO.pdf](https://media.fisheries.noaa.gov/2022-12/Sign2_NARW20225YearReview_508-GARFO.pdf)

<sup>21</sup> North Atlantic Whale Consortium, 2021 Report Card [https://www.narwc.org/uploads/1/1/6/6/116623219/2021report\\_cardfinal.pdf](https://www.narwc.org/uploads/1/1/6/6/116623219/2021report_cardfinal.pdf)

vessel strikes and entanglements according to the National Marine Fisheries Service.<sup>22</sup> In addition, there are dozens of other marine mammals that use these corridors to migrate and feed, such as humpback, fin, sei, sperm and minke whales, bottlenose dolphins, common dolphins, harbor porpoises and seals.

A study published in July 2022 reported that Humpback whales have a mean occupancy time of 37.6 days around New Jersey and the New York Bight area and that 31.3% of whales returned to the area from one year to the next.<sup>23</sup> Turbines located in this wind farm area, combined with turbines from the 13 other active lease areas proposed by BOEM, create a nearly continuous physical obstruction extending for over 168 miles across the State of New Jersey that will inhibit the feeding, breeding, and migration of the NAWR and other marine mammals, and create widespread underwater noise impacts resulting from the operation of turbines. Considering the significant number of Humpback fatalities that occurred this winter, it is likely that these figures are rising.

The Atlantic Shores Construction and Operation Plan states that construction would involve 550 to 2,050 vessel trips annually for operation and maintenance, and up to 22 vessels operating simultaneously during construction. These numbers are far lower than the proposed numbers for the Ocean Wind 1 wind farm, which is half the proposed size of Atlantic Shores. The County requests an explanation for this difference. In addition, these vessels are only for the construction of Atlantic Shores South, not including the simultaneous construction of several other offshore wind farms nearby. The significant increase in transiting vessels will undoubtedly result in a major increase in the likelihood of vessel strikes for marine mammals, which is acknowledged several times in the DEIS. Vessel strikes are one of the leading causes of marine mammal mortality, specifically for NAWRs.<sup>24</sup>

The locations of the turbines also create major challenges for birds, bats, and other avian species, and inhibit the activities of commercial fishermen, recreational fishermen, and boaters. These issues are discussed later in these comments.

## NOISE

Cape May County is concerned about the impacts on marine mammals from noise during construction, operation, and decommissioning that will persist over 35 or more years. Of particular importance is the North Atlantic Right Whale (NAWR), whose primary communicative frequencies are 7Hz-35Hz according to the National Marine Fisheries Service (NMFS).<sup>25</sup> Data shows that the cumulative increase of such a large number of turbines, combined with other wind farms, could have significant impacts on the NAWR population by creating abundant operational noise that could disrupt feeding, breeding, and migration of the species, as well as the ability to communicate and navigate with other whales.

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<sup>22</sup> Active and Closed Unusual Mortality Events

<https://www.fisheries.noaa.gov/national/marine-life-distress/active-and-closed-unusual-mortality-events>

<sup>23</sup> Brown, D., Robbins, (2022). Site fidelity, population identity and demographic characteristics of humpback whales in the New York Bight apex. *Journal of the Marine Biological Association of the United Kingdom*, 1-9. doi:10.1017/S0025315422000388

<sup>11</sup> NOAA proposes new vessel speed regulations to protect North Atlantic right whales

<http://www.noaa.gov/news-release/noaa-proposes-new-vessel-speed-regulations-to-protect-north-atlantic-right-whales>

<sup>25</sup> Taking Marine Mammals Incidental to Ocean Wind Marine Site Characterization Surveys, New Jersey

<https://www.federalregister.gov/documents/2022/03/16/2022-05477/takes-of-marine-mammals-incident-to-specified-activities-taking-marine-mammals-incident-to-ocean>

BOEM acknowledges it does not fully understand the effects of size, foundation type, and drive type on the amount of sound produced during turbine operation. Therefore, BOEM's analysis of operational noise impacts is inadequate and cannot be relied on as fact (See Appendix J.4.4.3, Overview of Acoustic Modeling Report, Ocean Wind 1 FEIS). Various studies have shown that compounding effects of multiple turbines within an array produce sound levels above the disturbance-level threshold for marine mammals.

For example, a study commissioned by the Scottish Government found that monopile wind turbines are "audible above the background noise at least 20 km from the wind farm in all wind conditions," and that "species with hearing specialized to low frequency, such as minke whales, may in certain circumstances detect the wind farm at least 18 km away and are the species most likely to be affected by noise from operational wind turbines."<sup>26</sup> Minke whales are categorized by NMFS as having the same hearing frequency band as NAWRs and live primarily in waters less than 100m deep along the outer continental shelf.

Another study published by the Journal of the Acoustical Society of America found that "at distances of several kilometers, the noise [from a single turbine] becomes indistinguishable from that of a single point source with a source level larger than that of any individual turbine."<sup>27</sup> This study found that the cumulative source level of the 81-turbine wind farm was 175 dB re 1  $\mu$ Pa, which nears the threshold for permanent hearing loss for the NAWR of 183 dB re 1  $\mu$ Pa, as determined by the Navy.<sup>28</sup> It must be noted that the turbine operational noise study investigated 81 1-MW turbines, rather than 200 12-MW turbines proposed by Atlantic Shores South, , which are far larger and have twelve-times the capacity of the turbines modeled in the study. Noise levels above 120 dB re 1  $\mu$ Pa are categorized as disturbance-level for North Atlantic Right Whales and can result in behavioral changes and abandonment of habitats when exposed to noise levels exceeding 120 dB re 1  $\mu$ Pa. The failure of BOEM to capture the cumulative noise impacts of Atlantic Shores South and the other wind farm areas along New Jersey and the Eastern Seaboard is a violation of NEPA guidelines on cumulative impact and severely threatens marine mammals who use the waters off Cape May County for breeding, feeding, migration, and other purposes.

BOEM's analysis included a study of the Block Island Wind Farm, which relies on data produced by 6-MW turbines which are half of the height and produce half the output capacity of the 12-MW turbines proposed by Atlantic Shores. These two wind farms are so vastly different that they are not comparable to the Atlantic Shores turbines. BOEM then concludes that that output level of the turbines is not detectable to fish and completely neglects to continue the discussion regarding the impact the low-frequency cetaceans, which, unlike fish, will actually be impacted by low frequency sound produced by offshore wind farms.

For these reasons, BOEM's study of operational noise, particularly cumulative impacts, is wholly inadequate. In fact, BOEM's discussion of cumulative in the DEIS is limited to no more than one sentence stating, "Operational noise impacts, however, would be cumulative." BOEM offers no technical or modeling analysis of the cumulative impact of 48 or more windfarms and provides no discussion either, which is a violation of 40 CFR 1502.16(a)(2).<sup>29</sup> BOEM's only analysis was to report the existence of data

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<sup>26</sup> Modelling of Noise Effects of Operational Offshore Wind Turbines including noise transmission through various foundation types <https://www.gov.scot/publications/scottish-marine-freshwater-science-volume-4-number-5-modelling-noise/>

<sup>27</sup> How loud is the underwater noise from operating offshore wind turbines? <https://doi.org/10.1121/10.0002453>

<sup>28</sup> Finneran, J. J. 2016. Auditory weighting functions and TTS/PTS exposure functions for marine mammals exposed to underwater noise. Pp. 38–110 in National Marine Fisheries Service, *Technical Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing: Underwater Acoustic Thresholds for Onset of Permanent and Temporary Threshold Shifts*. U.S. Department of Commerce, NOAA. NOAA Technical Memorandum. NMFS-OPR-55.

<sup>29</sup> § 1502.16 Environmental consequences. The discussion shall include: (2) Any adverse environmental effects that cannot be avoided should the proposal be implemented.

for turbines that are half the size (6 MW) of the proposed wind turbines (10-14 MW), which are not comparable.

In a 2022 study commissioned by BOEM, researchers determined that unmitigated impacts from driving monopiles resulted in disturbance-level impacts to marine mammals across a 10.43-mile radius. For context, with underwater volumes of 160 dB re  $\mu\text{Pa}^2$  or greater, unmitigated pile driving would theoretically be audible to humans swimming underwater in Ocean City. For fish, the radius increases to 22.8 miles. Tables 9 and 10 below are excerpts from the report.<sup>30</sup>

**Table 9. Ranges (m) to regulatory threshold levels for marine mammals (NOAA Fisheries 2018, Southall et al. 2019) during two hours of unmitigated pile driving of an 11-m monopile in April.**

Marine Mammal Hearing Group	Range to Injury Thresholds (m)		NMFS Behavioral Threshold (160 dB re $1\mu\text{Pa}^2$ , flat)
	SEL (dB re $1\mu\text{Pa}^2\text{-s}$ , 24hr)	Peak SPL (dB re $1\mu\text{Pa}^2$ , flat)	
Low-frequency (LF) cetaceans	10,700	100	16,800
Mid-frequency (MF) cetaceans	< 50	< 50	
High-frequency (HF) cetaceans	350	700	
Phocid pinnipeds underwater	800	100	

**Table 10. Ranges (m) to behavioral threshold levels for fishes and sea turtles (GARFO 2019) during unmitigated pile driving of an 11-m monopile in April.**

Group	Behavioral Threshold ( $L_{rms}$ dB re $1\mu\text{Pa}^2$ , flat)
Fishes (< 2g)	36,700
Fishes (> 2g)	
Sea Turtles	3,500

Cape May County disapproves of this process and is concerned about the impacts to marine mammals, fish, and sea turtles in connection with pile driving, especially after two humpback whales washed ashore near Martha’s Vineyard immediately after pile driving began for Vineyard Wind.<sup>31</sup>

<sup>30</sup> Underwater Acoustic Assessment of Pile Driving during Construction at the Maryland Offshore Wind Project, Underwater Acoustic Assessment Report (May 2022). Marine Acoustics Inc. <https://www.boem.gov/sites/default/files/documents/renewable-energy/App%20II-H1%20Underwater%20Acoustic%20Assessment%20%28May%202022%29.pdf>

<sup>31</sup> Whale carcasses on Martha’s Vineyard fuel speculation about wind turbines. <https://newbedfordlight.org/whale-carcasses-on-marthas-vineyard-fuel-speculation-about-wind-turbines/>

## BENTHIC HABITATS AND RESOURCES

Scallops, ocean quahogs, surf clams, and other shellfish are critical ocean resources for commercial fishing in Cape May County. In addition, small surface burrowing fauna, small tube-building fauna, and clam beds provide important ecosystem functions such as water filtration and nutrient recycling. Increased turbidity and physical damage from anchoring, dredging, currents, cable laying, pile driving, and other human activities will result in significant changes to the benthic habitats that could smother existing species and potentially result in the relocation or complete loss of thriving benthic habitats. The County is concerned that impacts from construction, operation, and decommissioning activities could result in permanent ecological changes to the seafloor and benthic habitats that could alter nutrient cycles and disrupt feeding patterns for fish and other species that rely on benthic creatures that exist at the bottom of the food chain.

The impact of electromagnetic fields (EMFs) on marine organisms is a subject of growing concern and scientific investigation. EMFs originate from underwater power cables transmitting energy from offshore wind turbines to offshore substations before connecting to the energy grid on land. These fields can interfere with the natural behaviors and sensory mechanisms of marine organisms, such as migration, navigation, foraging, and communication. Studies have shown that EMFs can disrupt the behavior of fish, affecting their ability to detect predators or locate prey. Marine invertebrates, including crustaceans and mollusks, have also demonstrated altered responses to EMFs, which can impact their feeding, reproduction, and overall survival. Additionally, sensitive species like certain marine mammals and sea turtles might experience physiological and behavioral changes due to EMF exposure. Further research is necessary to fully understand the extent of these effects.

BOEM states in the DEIS that impacts from electromagnetic frequencies (EMFs) are not well studied. However, studies cited in the following subsection, *Electromagnetic Fields (EMF) Generated from Cables*, conclude that EMF has measurable impacts on the development of benthic creatures. Such species are highly sensitive to noise, vibration, and EMF. There are currently no existing studies that investigate the *simultaneous* impacts from noise, vibration, and EMF on benthic species.

Furthermore, BOEM states in the DEIS that impacts from electromagnetic frequencies (EMFs) are not well studied. However, studies cited below conclude that EMF has measurable impacts on the development of benthic creatures. Such species are highly sensitive to noise, vibration, and EMF. There are currently no existing studies that investigate the *simultaneous* impacts from noise, vibration, and EMF on benthic species.

The developer states that transmission cables may be left in place following decommissioning, which runs counter to a public statement made by Orsted which asserted that it will “restore the seabed of the site to the original conditions.”<sup>32</sup> The County is concerned that the developer does not plan to leave the ocean in the same way it was found, and requests that the developer be required to return the waters off of Cape May County to their original condition following the decommissioning of the project. In addition, BOEM should require the developer to hold a bond that guarantees the costs of decommissioning.

Furthermore, the DEIS admits that “The addition of offshore wind structures would convert soft-bottom habitat to complex structured habitat,” and would introduce approximately 5,405 acres of hard scour protection around foundations and another 2,576 acres of hard protection around export and interarray

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<sup>32</sup> Summary of Public Comments, Green Acres Scoping Meeting, Archived online at: <https://www.waterlog.net/download/6813/>

cables. BOEM attempts to minimize this massive disturbance by stating that the area is small relative to the existing soft bottom habitat, while it is clear to any reader that 7,981 acres is a significant amount of habitat that is being destroyed regardless of its relative size. BOEM anticipates that hard structures would be colonized by fouling communities (macroalgae, mussels, barnacles), and champions this fact while neglecting that such massive transformations of habitats could result in introducing dangerous amounts of filter-feeders that would reduce the amount of entrained zooplankton and other microorganisms and consequently impact food sources that migrating whales rely on.

## ELECTROMAGNETIC FIELDS (EMF) GENERATED FROM CABLES

Lobsters and other benthic creatures such as sea scallops, ocean quahogs, surf clams and blue crabs are the most valuable seafood landings in New Jersey. In fact, New Jersey is one of the leading suppliers of surf clams and ocean quahogs to both the nation and the world.<sup>33</sup> A 2022 study found that EMF from offshore wind farms could intrude into the brooding and spawning habitats of lobster and crabs and result in deformities that affect larval mortality, recruitment, and dispersal.<sup>34</sup> EMF has a measurable impact on the early life history and consequently the population dynamics of lobsters and crabs. The project, between interlinking array cables and export cables, includes over 284 miles of subsea cables. Cape May County is concerned with the EMF generated from the subsea transmission lines and its impacts on marine life. To minimize these impacts, the County requests that all cables are buried to a minimum depth of 6 feet, rather than 4 feet, which has been proven to be inadequate.

## BIRDS

The County is concerned about the impacts to migrating avian species through and around offshore windfarms as this area of study is not well understood. Conservative estimates project that at least 681,000 birds are killed by collisions with wind turbine blades each year, with an emphasis on smaller birds.<sup>35</sup> On land, wind farms are responsible for the death of over 150 bald and golden eagles due to blunt force trauma from turbine blades.<sup>36</sup> As wind-power grows across America and into open-water areas that are used for migration, these numbers are likely to be severely underestimated based on both the lack of current information available on bird-deaths and the rapid increase of the number of turbines in operation.

A 2020 study of tagged Piping Plovers showed evidence that the migratory path of this species is directly through as many as 12 of BOEM's wind-energy lease areas.<sup>37</sup> These migratory paths are part of the Atlantic Flyway and are shown in **Figure 2**. Various stopover areas along the Atlantic Flyway, such as Cape May Meadows, Stone Harbor Point, and the Forsythe National Wildlife Refuge, are recognized as critical points for migratory birds. As avian species migrate over water at night, as the 2020 study showed most piping

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<sup>33</sup> New Jersey Seafood Harvest

<https://www.nj.gov/seafood/harvest.html>

<sup>34</sup> Harsanyi P, Scott K, Easton BAA, de la Cruz Ortiz G, Chapman ECN, Piper AJR, Rochas CMV, Lyndon AR. The Effects of Anthropogenic Electromagnetic Fields (EMF) on the Early Development of Two Commercially Important Crustaceans, European Lobster, *Homarus gammarus* (L.) and Edible Crab, *Cancer pagurus* (L.). *Journal of Marine Science and Engineering*. 2022; 10(5):564.

<https://doi.org/10.3390/jmse10050564>

<sup>35</sup> How Many Birds Are Killed by Wind Turbines

<https://abcbirds.org/blog21/wind-turbine-mortality/>

<sup>36</sup> Wind Energy Company to Pay \$8 Million in Killings of 150 Eagles

<https://www.nytimes.com/2022/04/10/us/bald-eagles-dead-wind-farms.html>

<sup>37</sup> Loring, Pamela & McLaren, James & Goyert, Holly & Paton, Peter & Loring, Pamela & McLaren, J & Goyert, H & Paton, P. (2020). Supportive wind conditions influence offshore movements of Atlantic Coast Piping Plovers during fall migration 2 Piping Plover migration. *The Condor*. 122. 1-16. 10.1093/condor/duaa028.

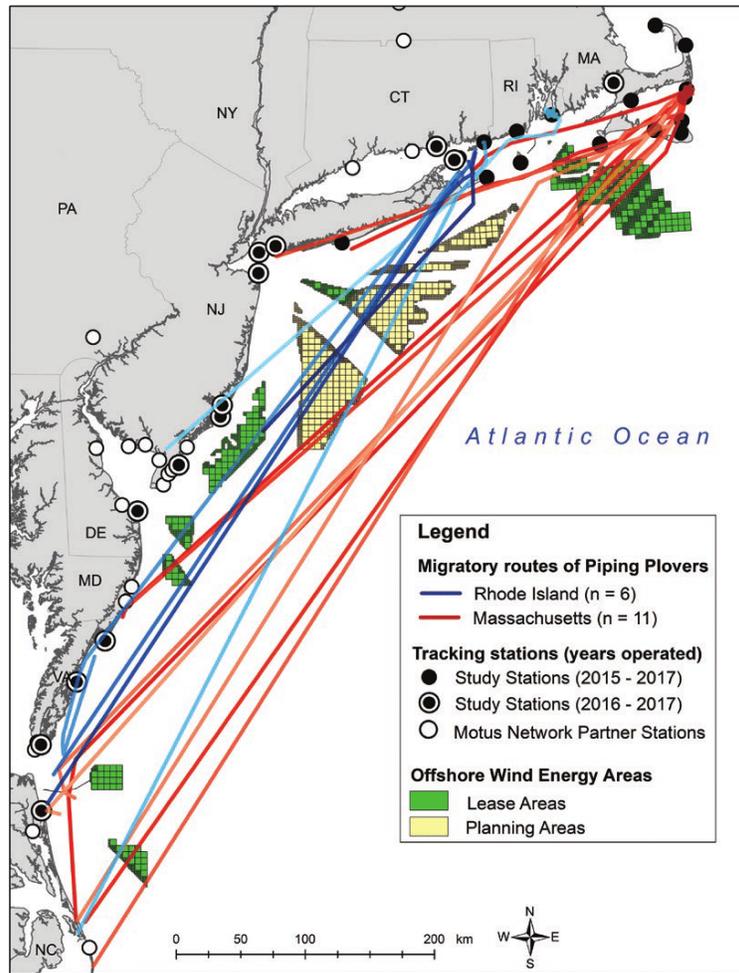
plovers do, they may be attracted to lighting components of the wind farms that could result in blind collisions with turbines due to poor nighttime visibility, haze, fog, or other weather conditions that reduce visibility. Such collisions would go undetected and would occur far from shore where their deaths would be unable to be recorded and monitored. BOEM suggests that this impact would be localized. However, the County is concerned that BOEM is substantially underestimating the adverse impact posed to avian species. Atlantic Shores South spans 100,000 acres and is just one of 48 planned wind farms along the Eastern Seaboard, many of which cover substantially larger acreage than Atlantic Shores South. To categorize the impact of one wind farm that spans nearly 100,000 acres as 'localized' is a failure to consider the cumulative impacts of multiple wind farm arrays that will exist adjacent to one another and is a violation of NEPA guidelines for cumulative impacts.

BOEM also states that wind farms may have a beneficial impact on bird populations due to the artificial reef effect which may create greater foraging opportunities. While this may be true, it places birds at greater risk of colliding with turbine blades. Research has shown, as birds seek prey, they tend not to look in the direction of travel, which makes them effectively blind in the direction of travel, greatly increasing their risk of collision with a turbine blade.<sup>38,39</sup>

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<sup>38</sup> Understanding bird collisions with man-made objects: a sensory ecology approach  
<https://onlinelibrary.wiley.com/doi/10.1111/j.1474-919X.2011.01117.x>

<sup>39</sup> Windmill Hits Eagle  
<https://www.youtube.com/watch?v=rrB0NPNNIlc>



**Figure 2:** Migratory path of Piping Plovers. Source: Loring, Pamela & McLaren (14)

## CONSTRUCTION AND OPERATIONS PLAN

According to the Construction and Operations Plan (COP) provided by Atlantic Shores, across the 200 turbines and 4 large offshore substations as part of just Atlantic Shores South, there will be a total of 2,435,472 gallons of highly toxic and hazardous fluids contained within the offshore structures that are subject to accidents similar to offshore drilling platforms. Each individual turbine consists of as much as 7,881 gallons of diesel fuel, oils, insulants, and coolants. In addition, the 4 large offshore substations include a total of 859,272 gallons of similar fluids. While the safety mechanisms account for the containment of accidental leaks, they do not account for total failure, which could result from high winds from tropical storms, hurricanes, and nor'easters, or collisions with large vessels. Furthermore, as 48 or more offshore windfarms come online, many of which are larger than Atlantic Shores South, a simple data extrapolation shows that the total exposure of hazardous substances stored offshore within structures will grow to 43 million gallons or more. Summaries of potential volumes are shown below, which have been taken directly from the Atlantic Shores South COP.

## **Atlantic Shores South Total Estimated Volumes Oils, Fuels, and Lubricants**

Per Turbine Volumes: 7,881

Total Number of Turbines: 200

$$7,881 \times 200 = \underline{1,576,200 \text{ gallons}}$$

Per Substation Volumes: 214,818 gallons

Total Number of Offshore Substations: 4

$$214,818 \times 4 = \underline{859,272 \text{ gallons}}$$

## **Cumulative Total Estimated Volumes Oils, Fuels, and Lubricants in WTG**

Per Turbine Volumes: 7,881 gallons

*Estimated Number of Atlantic Turbines: 5,500*

$$5,500 \times 7,881 = \underline{43,345,500 \text{ gallons}}$$

Among the primary reasons for opposition to offshore oil drilling in the Mid-Atlantic are widespread concerns about oil spills and impacts to marine species.<sup>40</sup> Citing the concerns about environmental impacts raised previously in the County's comments, in addition to the enormous volumes of hazardous fluids contained within each WTG, it is puzzling that Ocean Wind project is viewed any differently than offshore oil and gas drilling, especially given the uncertainty of the ability of wind farm arrays to withstand potentially catastrophic hurricane conditions. Such events could litter the County's shoreline with fiberglass, microplastic, and other debris alongside hazardous fluids which will be spread far and wide by tides and currents. The DEIS cites 'accidental releases as potentially unavoidable consequences of the project in Table 4.1-1, *potential unavoidable adverse impacts of the proposed action* (Atlantic Shores DEIS, page 893).

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<sup>40</sup> Grassroots Opposition to Offshore Drilling and Exploration in the Atlantic Ocean and off Florida's Gulf Coast  
<https://usa.oceana.org/climate-and-energy-grassroots-opposition-offshore-drilling-and-exploration-atlantic-ocean-and-3/>

Table 7-1 List of Potential Chemical Products Used for WTGs

Component	Description	Approximate Quantity per WTG		Approximate Total Quantity for Project 1 and Project 2 (200 WTGs)	
		Gallons	Liters	Gallons	Liters
Emergency generator fuel	Diesel fuel	400	1,514	80,000	302,833
Hydraulic systems	Hydraulic fluid	350	1,325	70,000	264,979
Yaw/pitch system grease	Grease	150	568	30,000	113,562
Drive train, yaw, pitch system	Gear and bearing lubricating oil	500	1,893	100,000	378,541
Gearbox	Gear and bearing lubricating oil	581	2,199	116,200	439,865
Transformer	Biodegradable dielectric insulating fluid/synthetic ester oil	1,800	6,814	360,000	1,362,748
Hydraulic accumulators	Nitrogen	21,134	80,000	4,226,753	16,000,000
Equipment cooling system	Water/glycol	400	1,514	80,000	302,833
Passive tower damper system	Water/glycol	3,700	14,006	740,000	2,801,205
Component	Description	Pounds	Kilograms	Pounds	Kilograms
Switchgear	Electrical insulator/arc suppressor	243	110	48,502	22,000

Table 7-2 List of Potential Chemical Products Used for OSSs

Component	Description	Approximate Quantity per Small OSS		Approximate Quantity per Medium OSS		Approximate Quantity per Large OSS	
		Gallons	Liters	Gallons	Liters	Gallons	Liters
Diesel fuel storage	Diesel fuel	7,500	28,391	12,000	45,425	20,000	75,708
Diesel engines	Internal motor lubrication	5	19	10	38	15	57
Main power transformers, earthing transformers	Biodegradable dielectric insulating fluid, mineral oil, or synthetic ester oil	26,000	98,421	78,000	295,262	130,000	492,104
Reactors	Biodegradable dielectric insulating fluid, mineral oil, or synthetic ester oil	11,000	41,640	33,000	124,919	55,000	208,198
Uninterruptible power supply (UPS) batteries	Electrolyte inside lead/acid batteries or valve-regulated lead acid battery	250	946	400	1,514	400	1,514
Fire suppressant for electrical equipment without oil	Firefighting	676	2,560	1,014	3,840	1,353	5,120
Firefighting aid	Aqueous film-forming foam and water mixtures at 3% by volume	3,500	13,249	4,000	15,142	5,000	18,927
Diesel engine cooling	Water/glycol	30	114	50	189	50	189
Equipment Cooling System	Water/glycol	1,000	3,785	2,000	7,571	3,000	11,356
Component	Description	Pounds	Kilograms	Pounds	Kilograms	Pounds	Kilograms
Switchgear	Electrical insulator/arc suppressor	3,307	1,500	9,480	4,300	9,480	4,300
Air conditioning/condensers	Refrigerant	198	90	397	180	794	360

Source: Atlantic Shores South Construction and Operations Plan, Pages 219-220

## COMMERCIAL FISHING

Commercial fishing is an essential part of the Cape May County lifestyle and economy, providing jobs and food locally and across the Nation. The most valuable fisheries in New Jersey include sea scallops, ocean quahogs, surf clams, and blue crabs. Fishermen in New Jersey contribute to the local economy by providing jobs to seafood processors, wholesalers, distributors, and retailers, as well as jobs created from the repair and operation of fishing vessels and fishing gear. The loss of the seafood and fishing industries would have severe economic and cultural impacts for the County.

Concerns regarding commercial fisheries include increased vessel traffic and congestion, navigational safety, gear loss, loss of revenues, and the disruption of the Cold Pool, and ecologically important component of Mid-Atlantic fisheries. In addition, the most recent Fisheries Mitigation Guidance session hosted by BOEM on July 11<sup>th</sup>, 2022, left many questions unanswered for fishermen who are impacted by offshore wind farms, such as how mitigation payments would be structured, how claims for lost gear would be processed, and the process in which fishermen could work together with BOEM to reconcile the issues raised by the fishing industry.

The DEIS concludes that “The presence Of WTGs would result in a widespread, permanent navigational risk to commercial and for-hire recreational fishing vessels transiting through and fishing near offshore wind farms.” Fishermen from New Jersey’s surf clam fisheries have warned for years that they cannot safely operate in turbine arrays with spacing less than 2 nautical miles apart, which is double what BOEM and wind companies have planned on. The array will be too dense to allow safe operating conditions, which

will force fishermen out of key fishing areas they rely on. In addition, even recreational fishermen who troll for migratory species often deploy long lines which create navigational challenges in and around wind farms. These consequences are unacceptable to Cape May County's cultural history as a commercial fishing community, and for its community members who use waters off Cape May County for pleasure as well. The DEIS also highlights safety issues related to mechanical problems, such as loss of steerage or engine malfunctions, which could also result in an allision with a WTG as the vessel drifts during repair.

## VESSEL TRAFFIC

For generations, fishermen have relied on unobstructed pathways between their fishing grounds and ports. Atlantic Shores South, in addition to several other wind farms planned immediately offshore of Cape May County, pose significant risks to captains that include traffic and congestion in and around ports, congestion of fishing grounds, and traffic through the wind farm. Fishermen have major concerns about transit in and out of wind farms and protocols on ingress and egress from various points along the coast.

The Construction and Operation Plan cites that construction would involve roughly 3,847 vessel trips during construction and installation, and over 1,100 annual trips for operation and maintenance. In addition, construction activities could require up to 51 vessels operating, stationing, or transiting within the Atlantic Shores South area and local ports simultaneously. This traffic could negatively affect fishermen by delaying offloading, requiring crews to search for new fishing grounds, and disturbing existing fishing grounds during transit.

## NAVIGATIONAL SAFETY

Another area of major concern is navigational safety, especially under low-visibility and high-seas conditions created by weather. Some vessel operators have stated that they would be forced to fish elsewhere due to safety issues while navigating through the array. Other vessel operators have said they would not transit the wind farm at all, while some said that they would not transit the wind farm during poor weather conditions. Radar and communications will also be degraded within the turbine array. This issue is only likely to grow as thousands of turbines are installed along the Eastern Seaboard.

## GEAR LOSS

Fishermen in Cape May County are concerned about the process in which they would recover losses from gear that becomes entangled or damaged by wind farm equipment. Fishermen have stated that they will likely abandon any fishing grounds within the wind farm areas. However, if the species that fishermen are trying to catch migrate into the wind farm area, the captain may risk entanglement while trying to follow their catch. In addition, subsea cables create concerns for fishermen who drag equipment behind their boats. According to MIT, several fishermen have lost or damaged dragnets around Block Island where subsea cables lay exposed.<sup>41</sup> Orsted has said that the cables at Block Island are covered with rocks and mattresses,

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<sup>41</sup> Trouble in the wind: Offshore turbine farms complicate fishing, shrimping  
<https://climate.mit.edu/posts/trouble-wind-offshore-turbine-farms-complicate-fishing-shrimping>

yet several fishermen have nevertheless reported lost or damaged gear, which requires days of downtime to repair and is costly to the vessel operator.

## LOSS OF FISHING REVENUES

In every single impact category included in the DEIS, BOEM classifies the impacts to fishing as *major*. As a County that prides itself on its historic fishing culture and relies on fishing revenues for its economy, Cape May County has significant concerns about lost revenues for fishermen as a result of Atlantic Shores South, as well as other planned wind farms that will continue to restrict access to various parts of the ocean. There are reasons for both increased costs and loss of revenue. Fishermen may have to take longer routes to reach their destination, or travel at slower speeds while transiting wind farms. Fishermen may lose access to fishing grounds that were once relied on, forcing them to relocate and risk fishing in unfamiliar areas. In addition, as certain areas become off limits, the relocation of vessels to other known fishing areas could result in overfishing of those areas and the depletion of resources.

## THE COLD POOL

The Mid-Atlantic exhibits a unique seasonal phenomenon referred to as the Cold Pool in which warm and cold-water temperatures are horizontally stratified along the continental shelf. This drastic difference between cold and warm water drives a thriving ecosystem that supports diverse and abundant species. Fisherman can catch both warm and cold-water fish and shellfish simply by adjusting the depth of their gear. A Rutgers study in 2021 writes that “the scale of these wind farms has the potential to alter the unique and delicate oceanographic conditions along the expansive Atlantic continental shelf, a region characterized by a strong seasonal thermocline that overlies cold bottom water, known as the “Cold Pool.” The seasonal characteristics of the Cold Pool are “associated with and drivers of important biological and ecological processes that support key species of commercial and recreational importance.”<sup>42</sup>

A recent study concluded that offshore wind farms are projected to impact primary production and bottom water deoxygenation. The model used in the study projects an increase in sediment carbon in deeper areas of the southern North Sea due to reduced current velocities and decreased dissolved oxygen inside an area with already low oxygen concentration. The results provide evidence that cumulative impacts from ongoing offshore wind farm developments can have a substantial impact on the structuring of coastal marine ecosystems on basin scales.<sup>43</sup> The County is concerned that the vertical mixing caused by thousands of wind turbines will disrupt the natural processes of the Cold Pool, which is necessary to our local ecosystem and economy.

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<sup>42</sup> Offshore Wind Energy and the Mid-Atlantic Cold Pool: A Review of Potential Interactions  
[https://scemfis.org/wp-content/uploads/2021/11/Miles\\_2021.pdf](https://scemfis.org/wp-content/uploads/2021/11/Miles_2021.pdf)

<sup>43</sup> Daewel, U., Akhtar, N., Christiansen, N. *et al.* Offshore wind farms are projected to impact primary production and bottom water deoxygenation in the North Sea. *Commun Earth Environ* 3, 292 (2022). <https://doi.org/10.1038/s43247-022-00625-0>

## JOBS AND ECONOMY

The County acknowledges the prospects for new jobs the offshore wind industry may create. However, citing a testimony from the CEO of Orsted, the County is concerned that the vast majority of new jobs and investments have been made outside of the State of New Jersey and have no benefit to Cape May County.<sup>44</sup> The County is uncertain that the creation of new full-time-equivalent jobs will be greater than the jobs lost in commercial fisheries and tourism. Currently, the vast majority of components and labor required for offshore wind projects are coming from foreign countries with no allegiance to the United States. Projections for ‘hundreds of thousands of jobs’ linked to offshore wind development and have not materialized and appear to be nothing more than politically motivated statements to gain the approval of labor unions and environmental groups. Empirical data tells another story. While the State of New Jersey claims that thousands of new jobs will be created, according to the developer of Ocean Wind 1, many of those jobs (500 or less) are short term, and only a small amount (69) are permanent jobs.<sup>45</sup>

The South Fork wind project, according to the Department of the Interior, will produce only 165 short-term and 10 long-term jobs. Atlantic Shores believes that more than 40,000 jobs will be created by this project (See Table B.4-11). That is simply impossible and is a testament to the severity of public deception required to advance these projects, in addition to the manipulation of elected officials to gain their approval.

To potentially put hundreds of tourism and fishing-related workers out of jobs for such minimal job creation is a violation of N.J.A.C. 7:7-15.4, which states that coastal energy facility construction and operation shall not directly or indirectly result in net loss of employment in the State for any single year... Coastal energy facility construction and operation resulting in the loss of 200 or more person-years of employment in jobs in New Jersey directly or indirectly related to the State's coastal tourism industry in any single year is prohibited.

With an economy based almost entirely on tourism and commercial fishing, the County is unable to sustain drastic changes to its workforce and culture as a result of offshore wind farms. Small family businesses that have been operating for generations will face hardship and may be forced to close and sell existing assets, creating a vacuum for activities and services that have been routinely provided for residents and tourists for generations. Without these services, rental and home values will begin to decline in value and demand as the spirit and workforce of the Jersey Shore is lost.

## COSTS TO RATEPAYERS

According to the New Jersey Rate Counsel Director Brian Lipman, the Atlantic Shores South project will undoubtedly lead to higher electricity prices for ratepayers in Cape May County due to the substantial tax subsidies provided to wind developers, which are funded by taxpayers and ratepayers in New Jersey. Lipman has expressed concerns multiple times about the significant increases in electricity costs that will be imposed on ratepayers as a consequence of offshore wind development in the state.

Taxpayers and ratepayers in the State of New Jersey have already provided enormous subsidies for the construction of facilities related to offshore wind. According to the Heritage Foundation, the upfront

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<sup>44</sup> Testimony of David Hardy, October 2021

[https://energycommerce.house.gov/sites/democrats.energycommerce.house.gov/files/documents/Witness%20Testimony\\_Hardy\\_ENG\\_2021.10.21.pdf](https://energycommerce.house.gov/sites/democrats.energycommerce.house.gov/files/documents/Witness%20Testimony_Hardy_ENG_2021.10.21.pdf)

<sup>45</sup> Atlantic Shores South, Benefits to New Jersey (Orsted), Archived online at <https://www.waterlog.net/download/6810/>

construction cost of the Governor Murphy's 11-GW offshore wind plan will cost just over \$8,000 per resident.<sup>46</sup> New Jersey taxpayers provided \$225 million to the Port of Paulsboro, which, according to the Mayor of Paulsboro, was importing steel from Russia and still hasn't created the jobs it was promised. New Jersey taxpayers provided \$637 million for the construction of the New Jersey Wind Port in Salem as well, and Cape May County has noted any increase in jobs in connection with these projects, or the construction of Ocean Wind 1, or Atlantic Shores.

The construction of wind turbine-based electric utilities is known to be quite costly. In the case of the Atlantic Shores South project, each tower will support a 12-MW turbine, surpassing the size of any similar power supply in the United States. The DOE acknowledges that offshore wind energy entails greater operational costs and downtime, and as wind turbine output diminishes over time, operating and maintenance costs increase. The U.S. Energy Information Administration predicts that offshore wind energy is approximately 3.4 times more expensive than power generated by natural gas plants. Considering the escalating demand for electricity, the substantial operating costs, and the declining energy output over time of wind energy, there is no evidence to suggest that this project will effectively reduce climate change in New Jersey. This is further supported by the Heritage Foundation's report, which relied on the U.N. Intergovernmental Panel on Climate Change Climate Simulator Model, which determined that the temperature reduction from the Governor's 11-GW plan would be no more than 0.0003 degrees Celsius by 2050 and 0.0007 degrees Celsius by 2100 (see footnote 42).

Given the lack of comprehensive information available regarding the costs for residents, Cape May County cannot endorse the project in its current state. The New Jersey Board of Public Utilities (NJBPU) should mandate that the developer disclose the expected costs for residents. Additionally, NJBPU should safeguard consumers' interests by ensuring they are not financially burdened if the project fails to generate a significant portion of its proposed capacity.

## TOURISM

Cape May County's tourism industry demonstrated remarkable growth and resilience in 2022 with total direct tourism expenditures reaching an impressive \$7.4 billion, representing an 11.9% increase or \$787 million more than the previous year. The County ranked second in tourism expenditures statewide, with Atlantic County taking the top spot. Notably, Cape May County fully recovered from the pandemic in 2021 and surpassed its 2019 levels by \$499 million. The County outperformed other counties in key sectors like food and beverage, retail, and recreation. Tourism generated \$642.3 million in state and local taxes, equivalent to \$1.75 million per day. The industry also supported over 39,430 direct jobs and accounted for 60.7% of the County's total employment. Visitor numbers also showed significant growth, with visitation reaching 11.38 million, including 4.21-million-day visitors and 7.17 million overnight visitors. The occupancy tax also saw a notable increase, generating \$19.4 million, marking a 19.05% increase compared to 2021 and a 48.22% increase compared to 2019.

Based on the numbers above and Orsted's citation of a 15% decline in tourism in its own Tourism Fact Sheet for Ocean Wind 1, the County could face losses of up to \$1.11 billion annually in total visitor spending, effectively erasing 6 years of direct tourism growth. The County's current tourism data suggests a 15% decline in tourism would result in the loss of 1.7 million annual visitors and consequently a loss in

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<sup>46</sup> <https://www.heritage.org/renewable-energy/commentary/new-jerseys-8000-resident-wind-energy-scheme-wont-reduce-climate-change>

nearly 6,000 tourism-supported jobs. These projections are based solely off of one project, rather than the cumulative impacts once all projects are constructed.

## VISUAL IMPACTS TO SCENIC AND CULTURAL RESOURCES

The history of Cape May County and its communities is deeply rooted in its culture and traditions involving the ocean and its natural resources. Such traditions and natural resources have made Cape May County home to some of the most desirable real estate in America that has drawn millions of annual visitors, driven by the natural beauty of the coastal landscape, its bounty of seafood, and fertile soil perfect for growing produce. The ecological value along the Jersey Shore alone makes it one of the greatest seashore locations in America. This value has driven residential and commercial development and appreciation of home prices that have helped support the economy in South Jersey and have led to lasting cultural heritages for the people of South Jersey.

Pristine views of the ocean are not exclusive to oceanfront homeowners. The vast majority of beach users in Cape May County come from landlocked states that do not offer such a cherished resource. Families travel hundreds of miles to watch the sun rise over the Atlantic Ocean and enjoy a peaceful ocean landscape. A clear ocean viewshed is more than a public asset – it is a public treasure that has been depended on for peace, serenity, and quality of life for centuries. The Public Trust Doctrine in New Jersey upholds this commitment to natural resources, specifically defining visual access in its Public Access Handbook as “the ability of the public to have access to views of coastal resources without these views being unreasonably obstructed.”<sup>47</sup>

In other states, such as California, BOEM has prepared visual simulations prior to issuing leases. In New Jersey, visual simulations were made available to the public more than 10 years after the Wind Energy Areas were determined. Since 2011, wind turbines have more than doubled in size. At the time the Wind Energy Area was determined, the current technology that is proposed did not exist, and therefore the public was unable to address its impacts and raise concerns. A timeline of events would unmistakably show that the public was effectively deceived about the height and proximity of wind farms in the Atlantic, only to find out a decade later once contracts and agreement were in place that the wind farms would result in a dominant and major impact on the ocean landscape.

For offshore wind projects BOEM is proposing for New England, BOEM is commissioning studies of baseline tourism and recreation to prospectively consider the impacts on “recreation, employment, small business, property values, [and] heritage tourism” from offshore wind development.<sup>48</sup> BOEM showed no such foresight in the case of the proposed Atlantic Shores project. Instead, it relied on two studies of tourism impacts based on turbines roughly half the size (574 feet) of the turbines proposed for Atlantic Shores South, and then proceeded to use those same studies as justification for their acceptable size (Atlantic Shores South turbines are 1,047 feet).<sup>49</sup> This is a major flaw, and the tourism and rental impact studies should be excluded from the DEIS. BOEM also uses the second of the two studies (see footnote 14) as justification for the visual impacts despite the study concluding that “a substantial portion of the survey population would change their vacation destination if wind farms were placed within visual range of the beach.” That study also concluded that under no circumstances would respondents be willing to pay more

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<sup>47</sup> PUBLIC ACCESS IN NEW JERSEY: The Public Trust Doctrine and Practical Steps to Enhance Public Access  
[https://www.state.nj.us/dep/cmp/access/public\\_access\\_handbook.pdf](https://www.state.nj.us/dep/cmp/access/public_access_handbook.pdf)

<sup>48</sup> BOEM funding opportunity M23AS000359; posted June 16, 2023

<sup>49</sup> Parsons, G.R., & Firestone, J. (2018). Atlantic Offshore Wind Energy Development: Values and Implications for Recreation and Tourism.

to rent a home that had turbines in its viewshed.<sup>50</sup> These are visual impacts that will have enormous on tourism, jobs, and property values.

Cultural heritages and traditions are extremely important to the residents of Cape May County. The County is concerned that the proximity of Atlantic Shores South will significantly diminish the value of ecological resources, the ocean viewshed and its associated sense of place and feeling, and consequently devalue the cultural heritages that have made South Jersey a prized location for centuries.

## INCREASED SURFACE TEMPERATURES AND REDUCED COOLING SEA BREEZES

BOEM cited that “Modeling in the North Sea demonstrated that offshore wind farms have the potential to reduce wind speed at the water surface and in turn influence temperature and salinity distribution in the wind farm area (Christiansen et al. 2022).” While BOEM concluded that in comparison to long-term variation in temperature and salinity, wind farm effects were relatively small, the study did not reflect the vast amounts of offshore wind energy that BOEM is currently anticipating. BOEM then acknowledges that “impacts on stratification strength at a large scale and atypical mesoscale variations in current may occur” (Christiansen et al. 2022). Finally, BOEM cites a study (Golbazi et al. (2022)) which modeled the effects of 10 MW turbines in WEAs off the eastern coast of the United States and found that wind speed, among other meteorological metrics, would be reduced at the surface.

This is consistent with the findings of a 2018 study (which BOEM did not cite) where researchers at the Harvard School of Engineering determined that the impacts to air quality and greenhouse gas emissions are expected to increase over the next decade as a result of the construction of wind energy projects, while also warming surface temperatures over the next century and reducing cooling sea breezes.<sup>51</sup> The Harvard researchers found that the warming effect in the continental U.S. caused by wind turbines is actually larger than the effect of reduced emissions for the first century of its operation. This is unacceptable to Cape May County, which tends to exhibit marginally cooler temperatures than landlocked areas, which helps drive visitors to our beaches on hot and sunny days.

## CLOSING THOUGHTS

Cape May County reiterates that is not opposed to clean energy projects but has major concerns about any project that will harm its communities and their way of life. The process by which this project has moved can at best be called shoddy. The developer and its federal and state sponsors are proposing a project unlike any that exists elsewhere in the world. That makes Cape May County and its neighbors the victims of an experiment where not all the essential facts are known. Despite Cape May County's continuous efforts to engage in a fair and reasonable manner with offshore wind developers from the outset, its concerns have been consistently disregarded. The environmental review consumes over 4,000 pages, but the words that contain studies and their conclusions about its negative impacts might as well have been printed in invisible ink. Sadly, BOEM has not been a protector of the interests of the people but a promoter of the greedy foreign companies whose corporate interests happen to match the domestic political agenda whose goal to

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<sup>50</sup> Lutzeyer, S., Phaneuf, D. J., and L. O. Taylor (2017). The Amenity Costs of Offshore Windfarms: Evidence from a Choice Experiment. (CEnREP Working Paper No. 17-017). Raleigh, NC: Center for Environmental and Resource Economic Policy.

<sup>51</sup> Large-scale wind power would require more land and cause more environmental impact than previously thought (David Keith, Harvard John A. Paulson School of Engineering and Applied Sciences, 2018) <https://seas.harvard.edu/news/2018/10/large-scale-wind-power-would-require-more-land-and-cause-more-environmental-impact>

produce clean energy will not be reached with poorly planned and uncertainly financed projects such as this one.

As proposed, the Atlantic Shores South Offshore Wind Project will do far more harm to the residents and businesses of Cape May County than it does good. The relatively small number of short-term jobs it may create will be far outnumbered by the number of long-term and seasonal jobs it causes to be lost. The rapid industrialization of our oceans and the cumulative impacts on fisheries and endangered species from multiple wind farms may be long-term and irreversibly damaging to the economy, environment, and culture of Cape May County. In addition, the energy provided by offshore wind will be unreliable and significantly more expensive compared to proven sources of electricity generation, which places our residents at risk of carrying greater financial burdens.

Given all of the detrimental impacts detailed above, the County of Cape May is opposed to the Atlantic Shores South project as proposed in the DEIS. The County remains open to working with BOEM and its lessees in a productive and respectful manner in order to rectify these concerns.

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