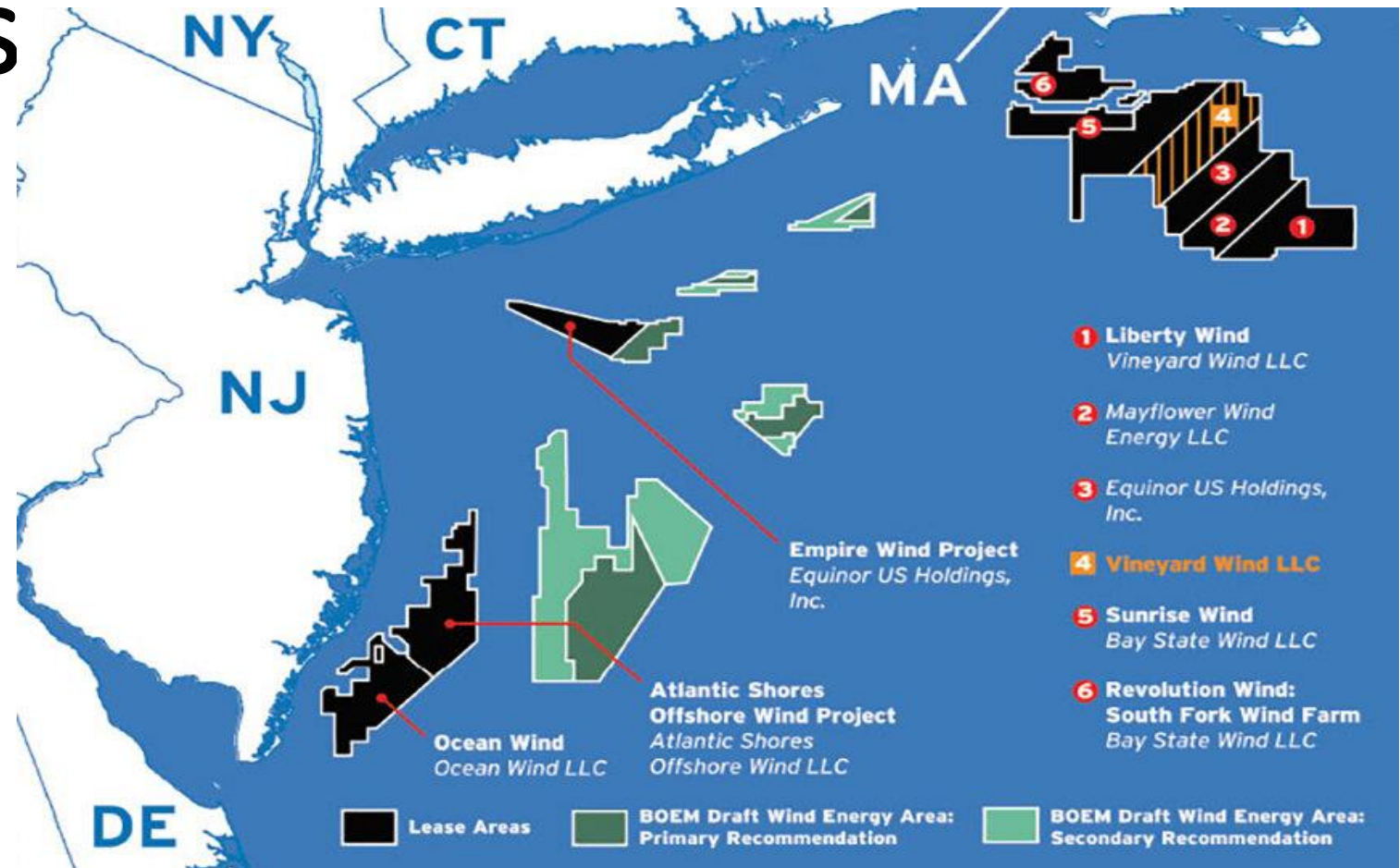


An Overview of Offshore NJ Wind Turbine Programs

Dr. Suzanne Moore

Mr. Keith Moore

20 August 2023



Today's Agenda

- Defend Brigantine Beach Overview
- Overview of the Atlantic Shores and Orsted Wind Turbine Programs
- Defend Brigantine Beach Response
- How You Can Get Involved
- Q&A

Our Goals

- As a result of misleading information and lack of public awareness regarding the proposed wind Atlantic Shores and Orsted industrial wind farm projects off of the Brigantine coastline, we formed Defend Brigantine Beach on December 18, 2022 to inform and educate the community about the offshore wind projects and their associated impacts to the environment, marine life, tourism, the seashore economies, and the health and well-being of our community residents and visitors. We followed up by forming Defend Brigantine Beach, Inc. — a not-for-profit 501(c)3 organization allowing tax-deductible donations.
- Our organization has been formed to defend Brigantine Beach and support other shore communities from the Federal and NJ State planned offshore wind projects, which we believe will devastate our beach experiences, local economies, and the local marine environment, while significantly raising our utility rates.
- We are a non-partisan, mission-driven, grassroots coalition supported by thousands of concerned New Jersey shore homeowners, elected officials, business owners, and visitors.
- We are proponents of a responsible and sensible approach to green, clean, and alternative/renewable energy solutions.
- However, we are opposed to the size, scope, location, and potentially devastating impacts on our ocean and community that this project will have as currently proposed by Atlantic Shores and Orsted offshore wind development companies.

Our Team

Our all-volunteer coalition comprises Brigantine homeowners, residents, business owners, and friends with diverse backgrounds.

We care deeply about the future of our beautiful island.

Leadership Team Members Include:

Katie Finnegan: 501c3 President/Communications Lead; kate@defendbrigantinebeach.org

Suzanne Moore: 501c3 Treasurer; suzanne@defendbrigantinebeach.org

Tom Jones: 501c3 Secretary; tom@defendbrigantinebeach.org

Keith Moore: Government Affairs Liaison; keith@defendbrigantinebeach.org

Judy Tyson; Volunteers Coordinator/ Marketing; volunteers@defendbrigantinebeach.org

Lori Goldsmid / Christine Mazullo: Fundraising/Events

Coordinators; fundraising@defendbrigantinebeach.org

Cindy Peckarick: Community Events Coordinator and Outreach

Ambassador; cindy@defendbrigantinebeach.org



Our Goal is Focused

Defend Brigantine Beach aims to protect the natural seashore, the ocean, marine life, and the economic lifblood of Brigantine and surrounding communities by stopping Atlantic Shores and Orsted wind development companies from the industrialization of our oceans.

The Promises

The Realities

Environmental Impact

Jobs

Electric Cost

Climate Change & Mitigation

2016 Brigantine Master Plan Re-examination Report (2016)

An objective identified from the previous planning documents includes an objective to “implement programs and regulatory controls designed to protect the scenic resources of the community”. Previous actions taken to address this objective include zoning control include building height restrictions and setbacks. A “2016 follow-up” within this section of the report identifies public concern for access to scenic resources: “Another aspect of the planning process has been the desire expressed by local residents for scenic views and resources to be protected and accessible to all. The development of the waterfronts, in particular the back bay areas has provided limited public access to street ends and points of access to the bay visually in many locations.” It also identifies that there is “...an ongoing concern about visual access and scenic corridors on the Island, and there is a continuing desire to renovate some of the less desirable views...” and a need to promote and preserve access to the Bay and Atlantic Ocean. A general goal “to promote a desirable visual environment through creative development techniques and good civic design and arrangements” is made created in the 2016 General Goals and Objectives Statement section. Provisions are made in subsequent sections to respond to this objective and improve the visual environment through changes to building setbacks, height restrictions, and similar measures. However, no additional measures intended to protect or enhance visual access and protecting scenic corridors are proposed.

The Resilience Plan Element

Became a part of the master plan since two major storm events in 2011 and 2012. The reexamination of the Master Plan includes the Resiliency Action Plan that incorporates actions to protect against flooding, extreme storm events, and sea level rise.

ATLANTIC SHORES INCORRECTLY STATES THAT THEIR PROJECT IS CONSISTENT WITH BRIGANTINE MASTER PLAN! NO WHERE IN ANY OF THEIR DOCUMENTS DO THEY STATE THAT THEIR PROJECT WILL MITIGATE FLOODING, STORMS, SEA LEVEL RISE IN BRIGANTINE, AND THEY ADMIT THAT IT WILL HAVE A MAJOR ADVERSE IMPACT TO THE VISUAL SEASCAPE.

[Appendix II- M1 VIA \(boem.gov\)](#), page 172/599



BEACHES AND PRESTINE OCEAN VIEWS ARE OUR LIFE BLOOD IN BRIGANTINE

The major factor of tourism and real estate in Brigantine is its beaches.

Visitors go to beaches for the unbridled nature and to escape their cities and industrialization.

Beautiful Brigantine Beaches Featured in the News

US News Travel, www.thetravel.com, <https://thedigestonline.com>, and *New Jersey Monthly* rate Brigantine in Atlantic County one of the top best beaches in New Jersey. Tourism drives the local economies, and location and view are the primary factors determining housing prices.

[15 Best New Jersey Beaches | U.S. News Travel \(usnews.com\)](#)

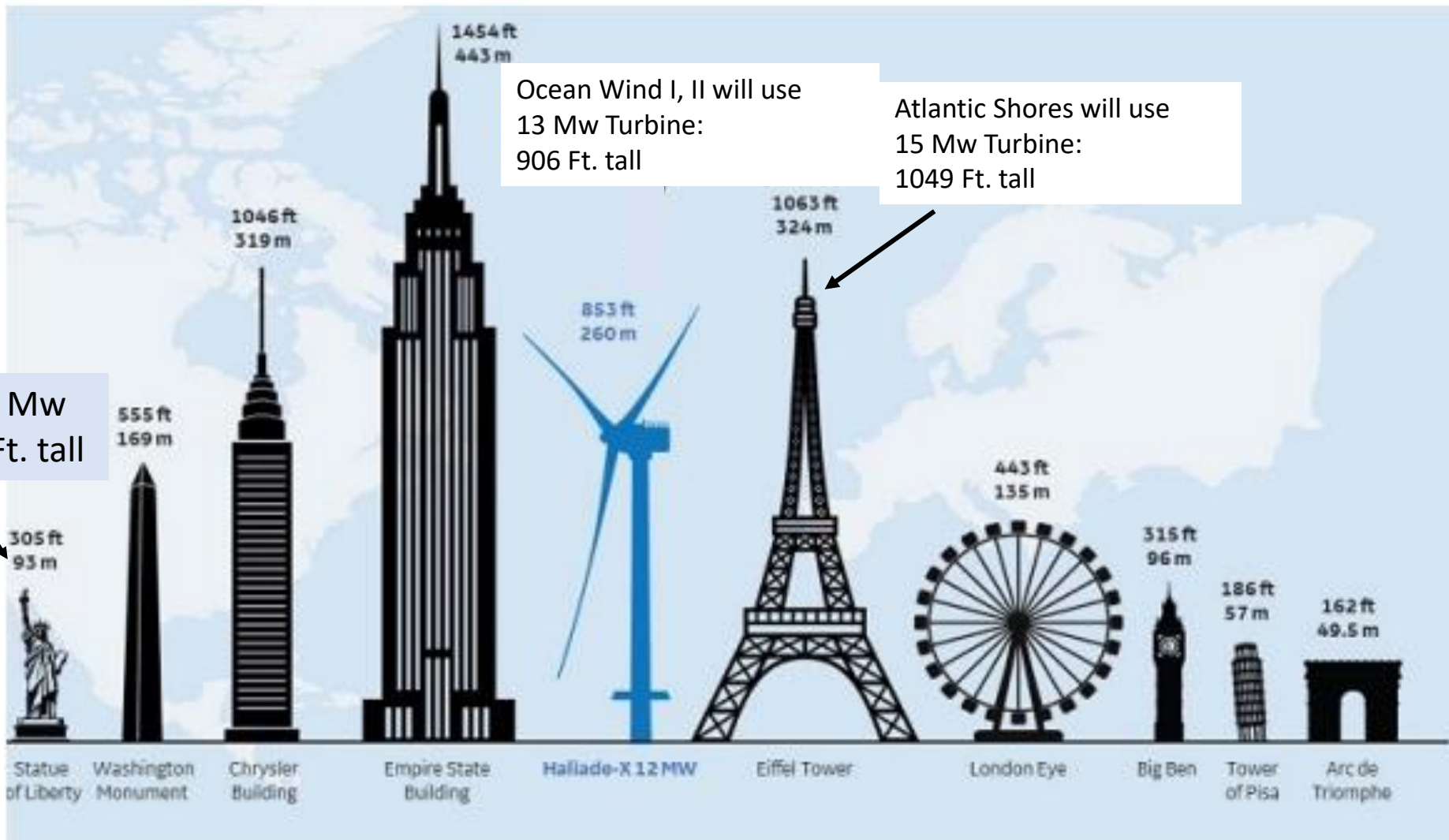
https://www.thetravel.com/best-beaches-in-new-jersey/?fbclid=IwAR0sgA02VnNMNTF6MjDTWNZWW_8epWmjHDtNHGmvm11kZSkCwlMo7hiVsL4#brigantine-beach

<https://thedigestonline.com/news/9-secret-beaches-in-new-jersey/>

[7 of Our Favorite Hidden Beaches | New Jersey Monthly \(njmonthly.com\)](#)

The Wind Projects Proposed Just Off of Brigantine

- **Up to 556, sized up to 15.0 megawatt noisier, gearbox turbines, along the entire coast. Brigantine will be surrounded by 4 wind turbine projects, Ocean Wind I (906 ft. high), II and Atlantic Shores South and North (1049 ft. high). Atlantic Shores South will be directly in front of Brigantine.**
- **Ocean Wind 1,2 LLC developer is Orsted (formerly Dong Energy Oil Company).**
- **Atlantic Shores LLC developers are Shell Oil and First Energy Renewables.**
- **Ocean Wind I Project will be 15 miles off the coast of Atlantic City to Ocean City. Ocean Wind II project has wind turbines 9 miles off the coast of Atlantic City and extends down to Cape May. Atlantic Shores South will be 9 miles directly off the coast of Brigantine. Atlantic Shores North will be located at the north end of Brigantine and continue up the coast of Long Beach Island.**
- **Closely spaced, .6-1 mile apart, Up to 1049 feet (3 football fields) high above sea level**
- **According to BOEM, there will be a total of 722 wind turbines visible from the beaches in Brigantine. (Measurement taken from Brigantine Hotel on 14th St) and 666 visible from North End of Brigantine.**



ACUA Wind 1.5 Mw Turbines: 380 Ft. tall

Ocean Wind I, II will use 13 Mw Turbine: 906 Ft. tall

Atlantic Shores will use 15 Mw Turbine: 1049 Ft. tall

ACUA, in AC
Atlantic Shores
Ocean Wind I, II

Hub Height 262 feet
Hub Height: 574 feet
Hub Height 512 feet

Rotor Blade Diameter: 240 feet
Rotor Blade Diameter: 919 feet
Rotor Blade Diameter 788 feet

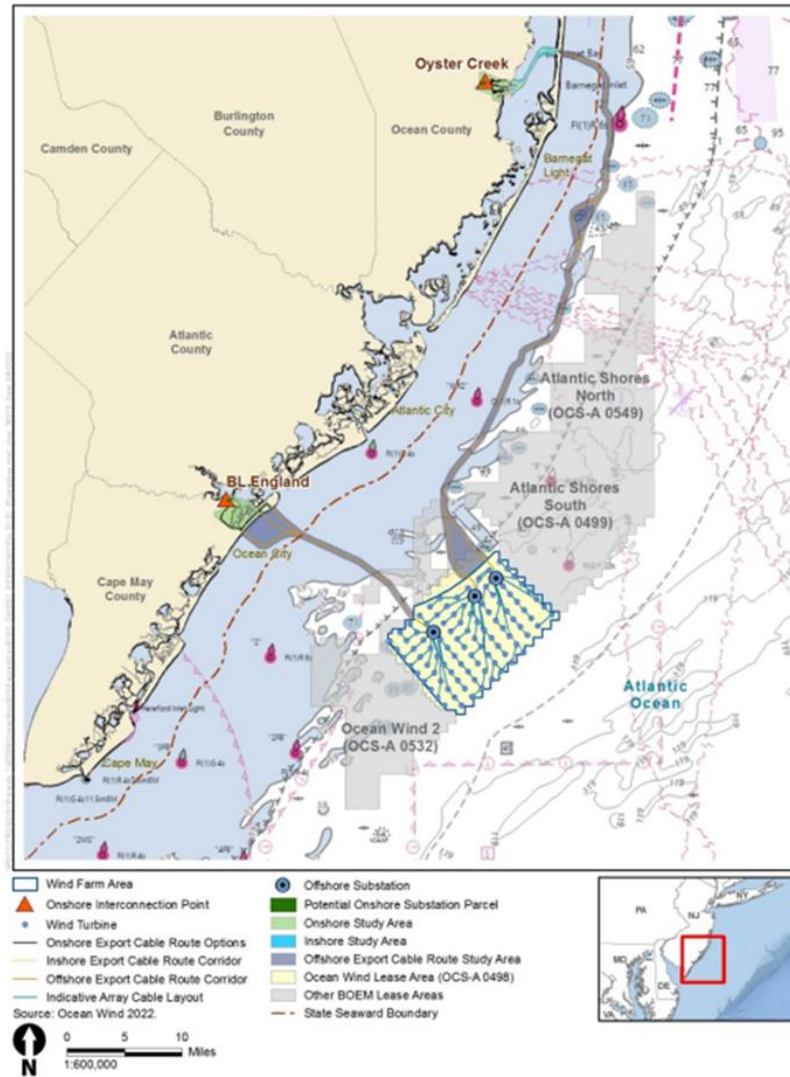
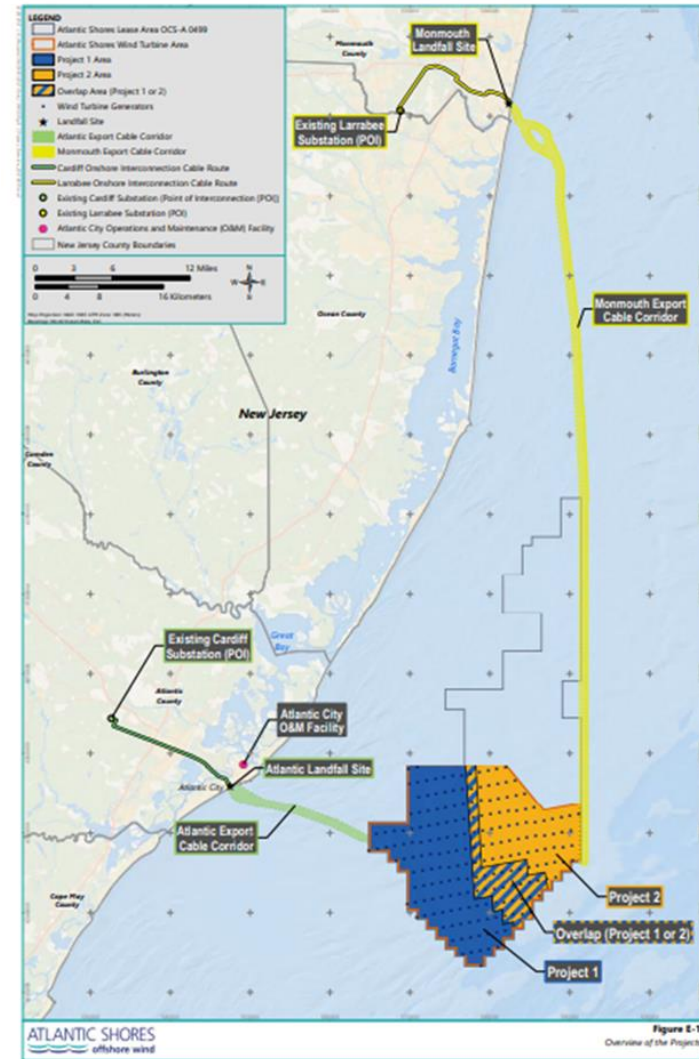


Figure S-1 Ocean Wind 1 Project

Ocean Wind I (yellow) Other Projects in Grey Shaded Areas



Atlantic Shores South

Environmental Impacts- Some You Have Seen/Heard Visible Turbines

The Promise:

- Visible renditions in COP and EIS not so bad
- Turbines will be rarely seen

The Reality:

- Renditions in COPs and EISs need enlarging by 1/3 to be accurate,
- Most done under hazy conditions
- Percent of time visible not based on ocean view, but on undefined inland “visibility” data of what?
- Rotating blades not shown, accurate night view not shown

Offshore Wind Farms Visible to the Jersey Shore

[Atlantic Shores Offshore Wind South Draft Environmental Impact Statement: Cumulative Historic Resources Visual Effects Analysis \(boem.gov\)](#)

All offshore wind projects in the mustard colored area of the map will be visible to coastal areas also included in the mustard colored area including beaches and back bays.

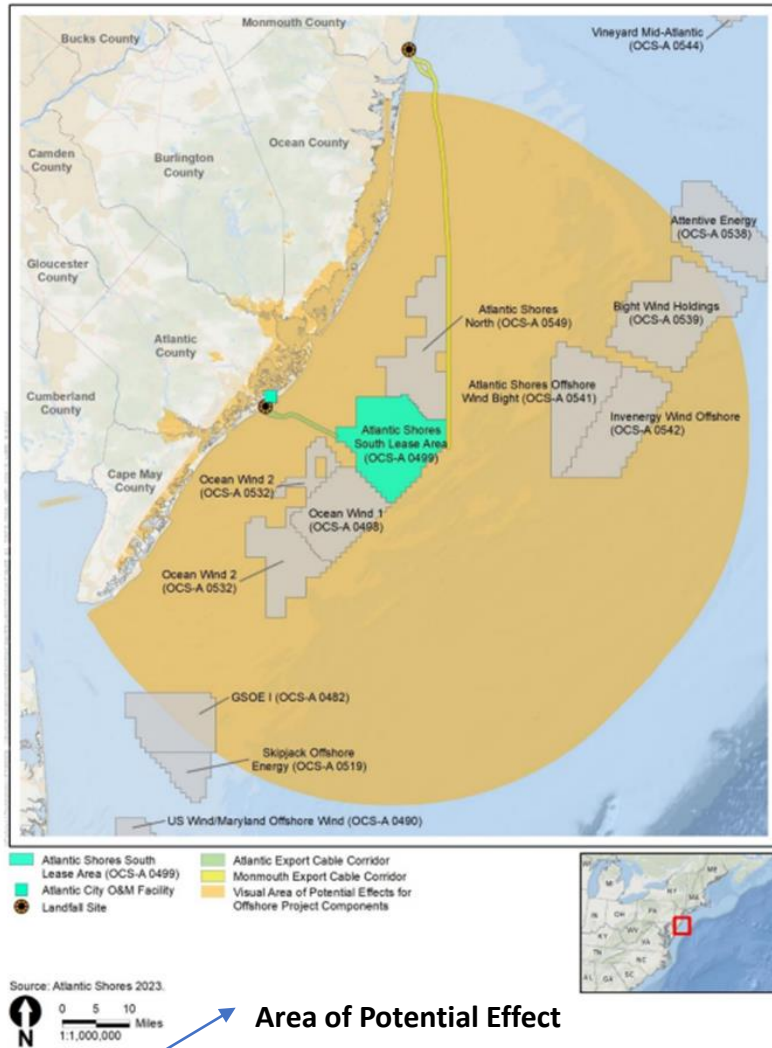


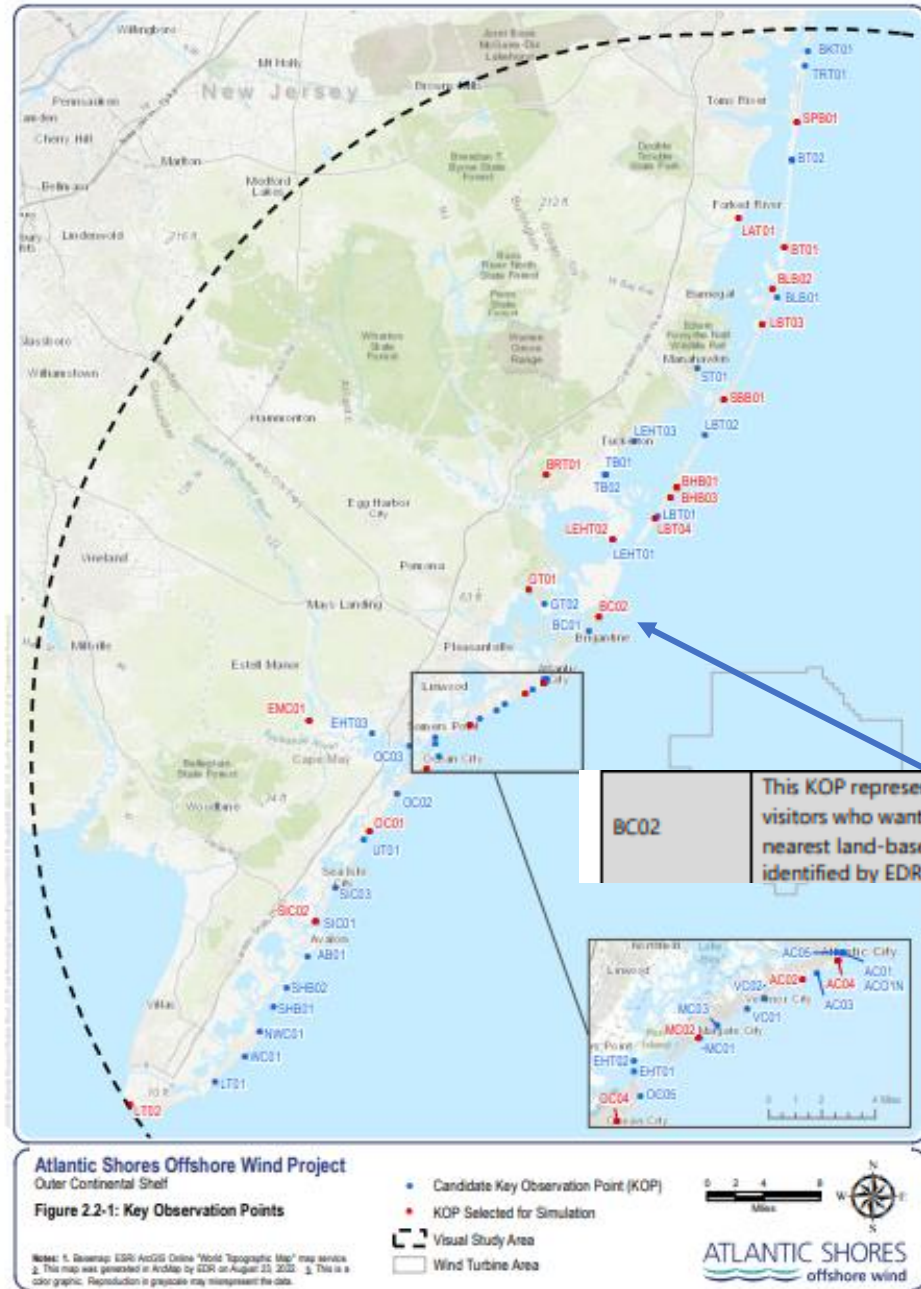
Figure 1 APE for visual effects analysis within the maximum distance for potential visibility of Project facilities



Appendix II-M1

Visual Impact Assessment (VIA) – Wind Turbine Area

[Appendix II- M1 VIA \(boem.gov\)](http://boem.gov)



Key Observation Points (KOPs)

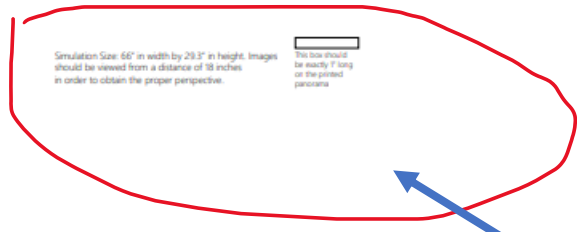
North Brigantine Natural Area

ATLANTIC SHORES offshore wind

Appendix A: Atlantic Shores Offshore Wind Cumulative Photosimulations

BC02: North Brigantine Natural Area, Brigantine City, Atlantic County, New Jersey

Photosimulation (Panorama 2): Scenario 3: 2024-2030 Project construction added after the construction of Atlantic Shores South (Full Lease Build-out Including Atlantic Shores South)



This critical statement about the wind turbine simulation picture is barely visible on the visual impact page!

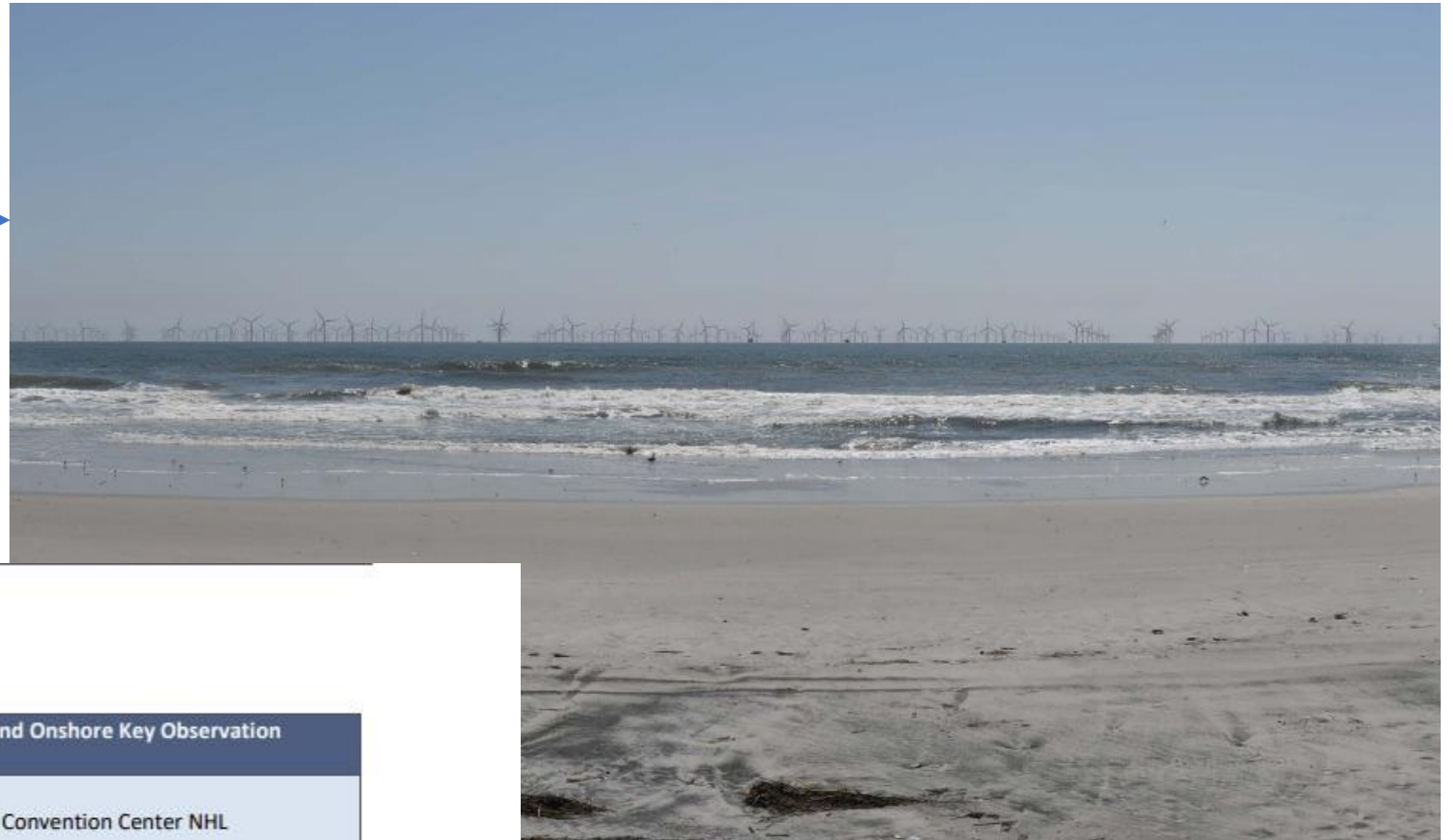
[Atlantic Shores Offshore Wind South Draft Environmental Impact Statement: Appendix H, Seascape, Landscape, and Visual Impact Assessment \(boem.gov\) page 41](#)

Project	Year of Development	Max Blade Tip Height (feet)	Potential Number of WTGs & OSSs Visible from KOP*	Total Number of WTGs & OSSs in Project	Theoretical Distance to Nearest Visible WTG (miles)	Theoretical Distance to Furthest Visible WTG (miles)
Atlantic Shores Offshore Wind South (OCS-A 0499)	2023-2025	1,047	205	205	9.0	23.8
Ocean Wind (OCS-A 0498)	2024-2025	906	111	111	15.7	28.1
Empire Wind (OCS-A 0512)	2023-2027	951	0	72	Not Visible	Not Visible
Empire Wind II (OCS-A 0512)	2025-2027	951	0	104	Not Visible	Not Visible
Skipjack (OCS-A 0519)	2024-2030	853	0	33	Not Visible	Not Visible
Garden State (OCS-A 0482)	2023-2030	853	0	80	Not Visible	Not Visible
US Wind (OCS-A 0489 and 0490)	2024	938	0	101	Not Visible	Not Visible
Atlantic Shores Offshore Wind North (OCS-A 0549)	2025-2030	1,047	164	164	11.3	27.2
Ocean Wind II (OCS-A 0532)	2026-2030	906	111	111	11.1	36.3
Mid-Atlantic Offshore Wind (OCS-A 0544)	by 2030	853	0	104	Not Visible	Not Visible
Ocean Wind East (OCS-A 0537)	by 2030	853	0	82	Not Visible	Not Visible
Attentive Energy (OCS-A 0538)	by 2030	853	0	101	Not Visible	Not Visible
Bight Wind Holdings (OCS-A 0539)	by 2030	853	0	148	Not Visible	Not Visible
Atlantic Shores Offshore Wind Bight (OCS-A 0541)	by 2030	853	71	95	37.5	43.0
Invenergy Wind Offshore (OCS-A 0542)	by 2030	853	4	99	41.6	43.0

Total = 666 Visible Turbines

KOP (KEY OBSERVATION POINT) – BC02 North Brigantine Natural Area

This is the picture that you will see on your computer. It is not accurate because it was reduced to fit on the page!



Visual contrast determinations for KOPs are listed in Table H-18.

Table H18. Visual contrasts to KOPs for the Proposed Action

Contrast Rating Effects	Seascape, Open Ocean, Landscape, and Offshore and Onshore Key Observation Points (square miles [square kilometers])
Strong Contrasts Major	VIA: KOP-AC02 Jim Whelan Boardwalk Hall, Atlantic City Convention Center NHL KOP-AC03 Madison Hotel (Daytime) KOP-AC04 Ocean Casino Resort – Sky Garden (Daytime) KOP-BC02 North Brigantine Natural Area KOP-BHB01 Beach Haven Historic District (Daytime) KOP-BHB02 Beach Haven, Center Street

KOP – BC02 North Brigantine Natural Area

[Atlantic Shores Offshore Wind South Draft Environmental Impact Statement: Appendix H, Seascape, Landscape, and Visual Impact Assessment \(boem.gov\)](#)

This is the accurate image after you enlarge the picture to the scale shown → in the directions!



Simulation Size: 66" in width by 29.3" in height. Images should be viewed from a distance of 18 inches in order to obtain the proper perspective.

This box should be exactly 1" long on the printed panorama

Visual Impact Summary from Atlantic Shores Wind Developer Visual Impact Assessment 2022

Description of View from BC02 North Brigantine Natural Area (The view of the turbines will be the same from the entire island)

“Panel members indicated that the **WTG’s (Wind Turbine Generators) become dominant elements in the view. They reduce the view’s sense of openness and add a large number of built features to what was previously an open, undeveloped ocean view. The presence of the WTGs (Wind Turbine Generators) tends to enclose the view, and adds substantial visual clutter.** This effect is enhanced by the transition of the WTGs an orderly arrangement to stacked alignment when the viewer is looking down a row of aligned WTGs, making them appear disorderly. **The movement of the rotor blades will also attract viewer attention and make the WTGs the focus of this view.** Although the visibility and visual dominance of the WTGs is likely to be reduced under more hazy sky conditions, and when lighting conditions reduce WTG contrast with the sky, proximity of the WTGs will allow them to be **visible under most clear sky conditions. With the Project in place, this KOP has low to moderate scenic quality. Considering the scale, compatibility, and spatial dominance factors that influenced the visual impact rating at this KOP, panel ratings indicated that the WTGs present severe scale contrast with the ocean (water resources), land use, and user activity.** The panel scores also indicate **that the WTGs are not compatible with water resource, landform, land use, and user activity. The WTGs would become the dominant feature in the seascape when compared to the existing water resources, landform, and user activity.** Consistent with the anticipated compatibility, scale contrast, and spatial dominance impacts associated with the Project, panel members assigned the Project visibility an average VTL of 6 from this KOP.”

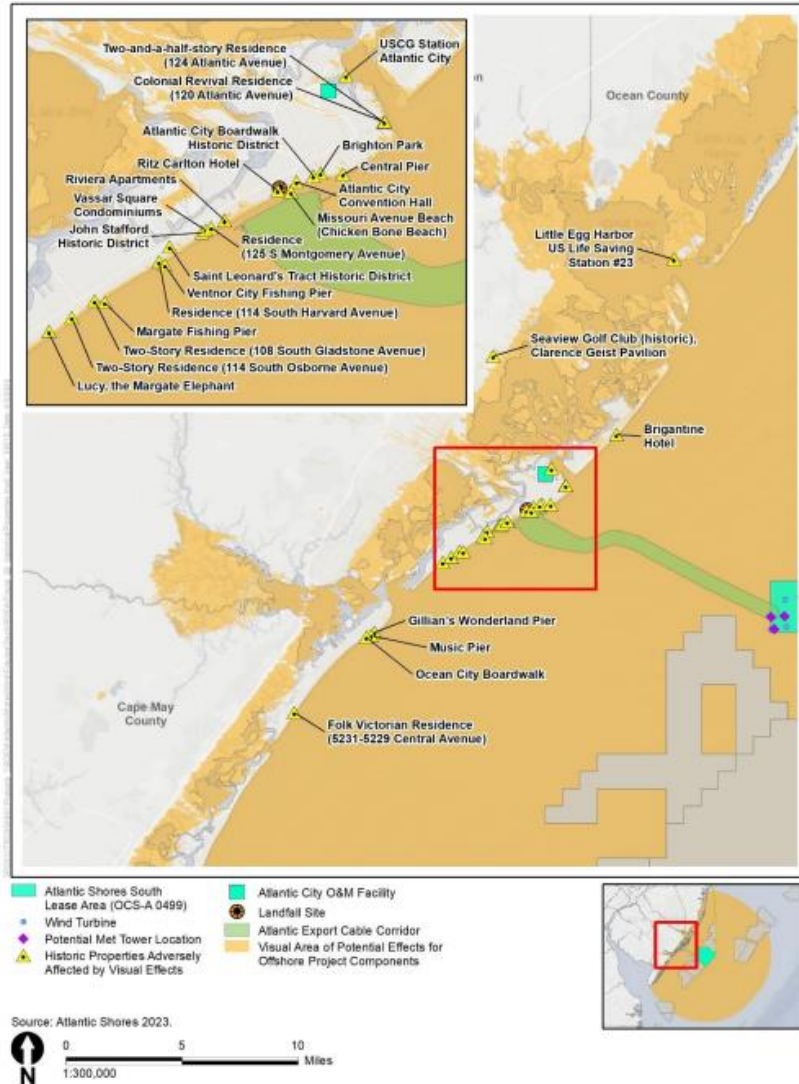


Figure 2 Visual APE with adversely affected historic properties

CUMULATIVE HISTORIC RESOURCES VISUAL EFFECTS ANALYSIS – ATLANTIC SHORES OFFSHORE WIND SOUTH PROJECT

Prepared for
 U.S. Department of the Interior, Bureau of Ocean Energy Management,
 Office of Renewable Energy Programs
 45600 Woodland Road, VAM-OREP
 Sterling, Virginia 20166
 Attention: Marissa Moshier, Section 106 Project Lead

Prepared by
 ICF
 1902 Reston Metro Plaza
 Reston, VA 20190

ICF Project No. 104195.0.001.01.008

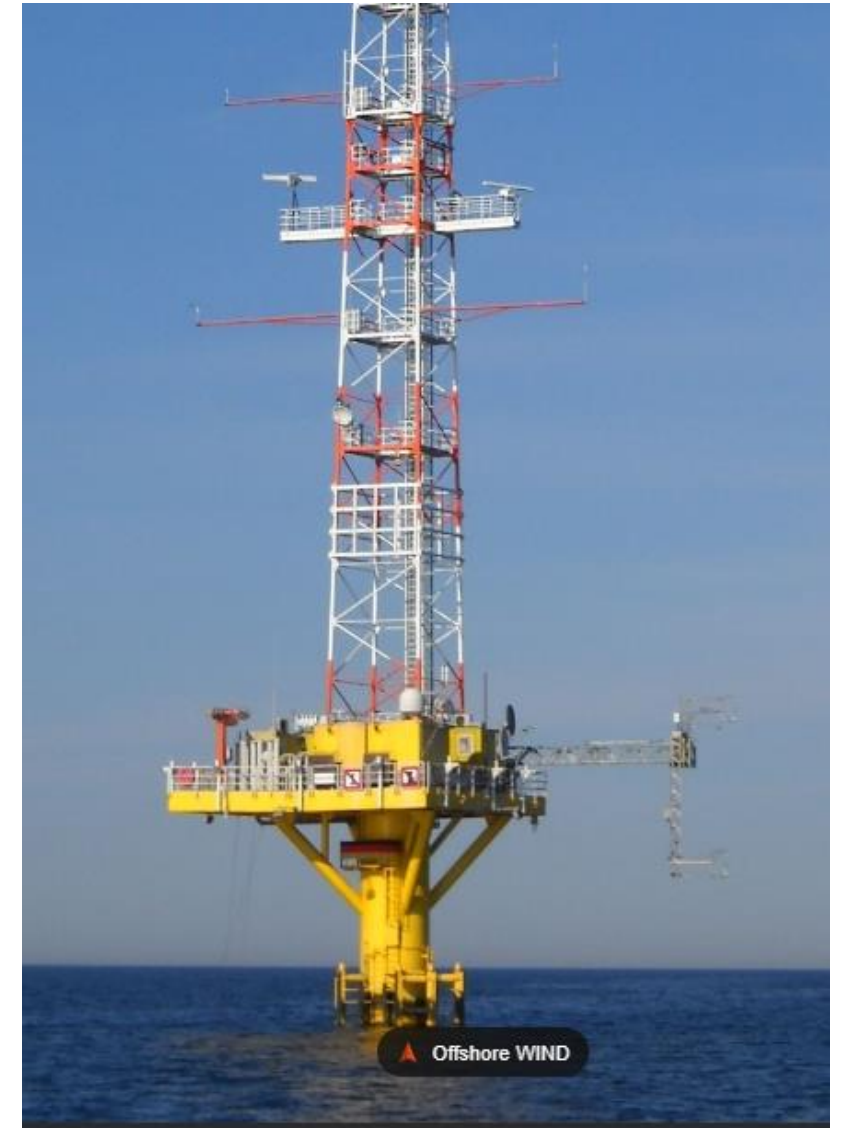
Historic Property	Total Number of Theoretically Visible WTGs (blade tips) from Historic Property	Distance from the Historic Property to the Nearest Theoretically Visible WTG for Atlantic Shores South and Other Proposed Wind Farms
Boardwalk Historic District		8.62 miles to the nearest potential WTG location for other wind energy development activities (Ocean Wind 2)
Atlantic City Convention Hall NHL	749 WTGs	11.4 miles to nearest Atlantic Shores South WTG and 9.12 miles to the nearest potential WTG location for other wind energy development activities (Ocean Wind 2)
Brigantine Hotel	722 WTGs	9.91 miles to nearest Atlantic Shores South WTG and 9.61 miles to the nearest potential WTG location for other wind energy development activities (Ocean Wind 2)

National Historic Landmarks and the National Historic Preservation Act Section 106 Process

BOEM CONCLUSION , PAGE 32, [Atlantic Shores Offshore Wind South Draft Environmental Impact Statement: Cumulative Historic Resources Visual Effects Analysis \(boem.gov\)](#)

cumulative visibility to historic properties.

Cumulative visibility of the Project's WTGs and met tower and other offshore wind energy development activities, including construction and operation, is anticipated to intensify the level of adverse effects on the 27 historic properties. The Project would contribute a substantial portion of visible WTGs to the cumulative adverse effect owing to the location and intensity of the Project and foreseeable build-out attributable to other offshore wind energy development activities.



Environmental Impact –What You Haven't Heard **Shore Conditions & Economy–Cumulative Impact**

- **Visible Turbine Impact**, At 9 miles, the most visible large turbine project in the world- a “dominant” visual effect.
- **Rotating Blades**, amplifies the effect, turn away?..
- **Audible noise to persons at the shore** from turbine *operation*, exceeding the NJ night time residential standard.
- **Other Shore Conditions**, reduced breeze (about 26%), lesser waves, higher local temperature and humidity, based on federal study for NY, no study for NJ.

New Jersey Shore Economy

The Promise:

- Wind Turbines will have no impact to tourism other than increasing recreational fishing as a result of artificial reef affect and the wind turbines off New Jersey coast will have no impact on coastal tourism or real estate values.

The Reality:

Studies cited by BOEM and Atlantic Shores show that **coastal tourism will be significantly impacted**. Study completed in 2008 by Rutgers/Global Insight/Liberman Research Group for the State of NJ concluded that **real estate values will be significantly impacted**.

Study used for increased recreational fishing as a result of artificial reef affect is based on the 2018 Block Island Study, 5 wind turbines, 659 ft. tall, 3.8 miles from southern tip of island. It is a qualitative study based on a review of newspaper articles, focus groups and other participant observation techniques. Study contains no jobs or GDP data and no measurement of statistical significance.

BOEM also states that the structures, 289 acres of scour protection for foundations and 294 acres of offshore export cable hard protection will have a long-term adverse impact on recreational fishing and boating through the risk of collision, risk of gear entanglement, damage of loss; navigational hazards; space use conflicts, presence of cable infrastructure; and visual impacts.

We are not NIMBYS!

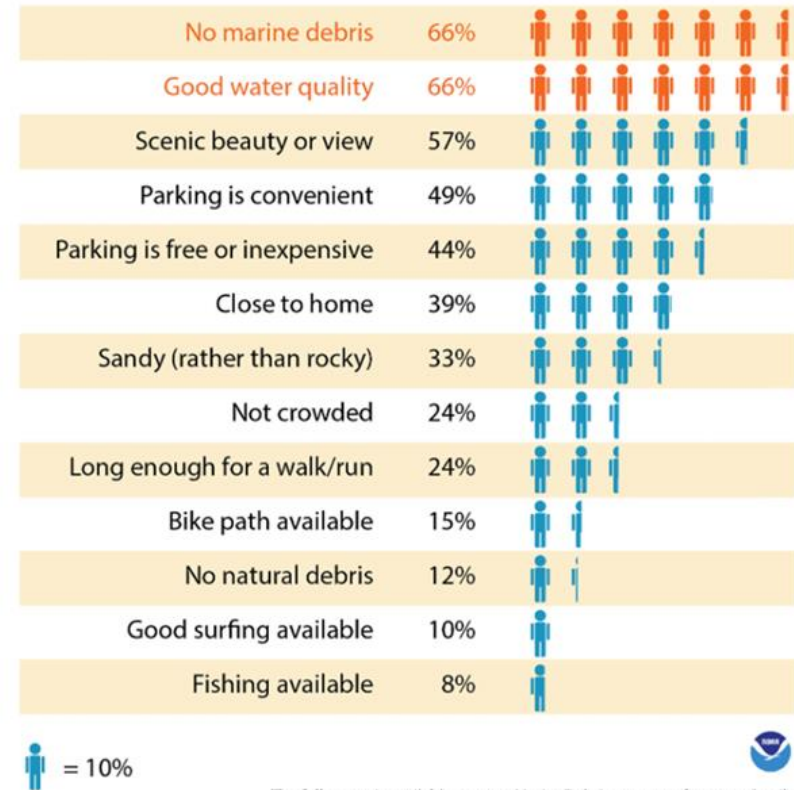
Almost all studies on Economic Impact to Local Communities are based on the visual impact of Wind Turbine Size, Wind Turbine Number and Distance from the Shore

No Studies have been completed that have the combination of number, size and short distance from the shore as the Atlantic Shore Project and cumulative impact of all projects !

No Surveys on tourism behavior were completed based on the Atlantic Shores Visual Impact Simulations which were completed in 2022.



Percentage of people that ranked the following beach characteristics as very important



The full report is available at www.MarineDebris.noaa.gov for more details.

2019.07.Econ_.Impacts.Marine.Debris.complete.wFN_30Aug2019_508 (1).pdf (Nat'l Oceanic and Atmospheric Admin.)

Impact on Atlantic County Tourism Economy

Several Surveys (including BOEM's) of public reaction to visible turbines.

- **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. ^{V1, V2}
- **Tourism Revenue, Job Losses, and Tax Losses:** ^{V3, V4, V5, V6}
16.5% - 24% would not visit Atlantic County beach town, which could be a loss of:
 - 8,700-12,700 jobs or 175,000 -255,000 job years over the assumed 20 year project life
 - \$1.3 – \$1.9B in annual revenue or NPV of \$17.4 B - \$25.5 B over the project life
 - \$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. ^{V1}
- **Casino Consolidation:** *Bricks and mortar operating losses for casinos may cause further consolidation in AC, and tourism losses and tax impacts will be escalated further.*
- **Large Energy Cost Increase for Fragile Seasonal Tourism Businesses** ^{V8}
- **Recreational Fishing Revenue= \$19M/ YR** to the NJ economy. How will this be impacted during years of construction and operation? ^{V7}
- **Impact to Annual Farley Marina Jimmy Johnson Fishing Tournament, Annual Atlantic City Air Show, Beach Concerts, and other Beach Centric Entertainment Events, Bars and Restaurants is unknown.** ^{V9}

STUDY ON BRIGANTINE PROPERTY VALUES

Brigantine Residential Property Analysis				
	Properties	(\$ Billions)	Avg \$	Zillow \$
Single Family Residences	5,328	\$3.4	638,138	797,673
Multifamily Residences	3,353	\$1.2	357,888	447,361
	8,681	\$4.6	529,893	662,366
Properties with Beach View				
Beach Front Single Family	116	\$0.2	1,724,138	2,155,172
Beach Block Single Family	649	\$0.6	924,499	1,155,624
Subtotal	765	\$0.8	1,045,752	1,307,190
Beach Front Multifamily	777	\$0.3	386,100	482,625
Total	1,542	\$1.1	713,359	891,699
Properties without Beach View				
Single Family Residence	4,435	\$2.9	653,890	817,362
Multifamily Residence	2,704	\$0.9	332,840	416,050
Excludes 187 vacant land properties, \$58 million				
Avg\$: Property Values = Assessment/.7357 (Eq Value Factor)				
Zillow Property Values are 25% higher on average based on sample of 270 homes				

Real Estate Property Data from City of Brigantine, May 2023

Beach Front, Beach Block properties identified by map number, physical observation of all properties and verification by Google Earth. Properties were coded according to views of ocean from property and walking distance to ocean.

Methodology based on: Global Insight, Inc. an Assessment of the Potential Costs and Benefits of Offshore Wind Turbines, prepared for the State of New Jersey, September. 2008

Property Value Loss Based on Methodology Used in 2008 Study for the State of New Jersey

Global Insight, Inc. an Assessment of the Potential Costs and Benefits of Offshore Wind Turbines, prepared for the State of New Jersey, September. 2008

<https://www.state.nj.us/bpu/pdf/announcements/njoswt.pdf>

Brigantine Residential Property Analysis 2023			
		Equalized Assessed Value	Zillow Value
Residential Parcels Single Family Homes 2023		5328	5328
Value of Residential Home 2023		\$3,400,000,000	\$4,250,001,744
Average Value of Residential Home 2023		\$638,138	\$797,673
Average Value of Ocean Front Property	156% View Premium	\$1,633,633.63	\$2,042,042.88
Average Value of Ocean View Property	46% View Premium	\$931,681.68	\$1,164,602.58
Average Value of Ocean Proximity property	10% Premium	\$701,951.95	\$877,440.30
Ocean Front Housing			116
Ocean View Housing			649
Premium Loss Ocean Front Per Home		-\$701,952	-\$877,440
Premium Loss Ocean View Per Home		-\$229,730	-\$287,162
Total Premium Loss		-\$230,521,021	-\$288,151,395
Residential Parcels Multifamily Homes 2023		3353	3353
Value of Residential Home 2023		\$1,199,998,464	\$1,500,001,433
Average Value of Residential Home 2023		\$357,888	\$447,361
Average Value of Ocean Front Property	156% View Premium	\$916,193.28	\$1,145,244.16
Average Value of Ocean View Property	46% View Premium	\$522,516.48	\$653,147.06
Average Value of Ocean Proximity property	10% Premium	\$393,676.80	\$492,097.10
Ocean Front Housing			777
Premium Loss Ocean Front to Ocean View		-\$393,677	-\$492,097
Premium Loss Ocean Front to Ocean Proximity		-\$522,516	-\$653,147
Total Premium Loss Ocean Front to Ocean View	Scenario 1	-\$305,886,874	-\$382,359,447
Total Premium Loss Ocean Front to Ocean Proximity	Scenario 2	-\$405,995,305	-\$507,495,266
Possibly Value Loss Maximum	Scenario 1	-\$536,407,895	-\$670,510,841
Possibly Value Loss Maximum	Scenario 2	-\$636,516,326	-\$795,646,660



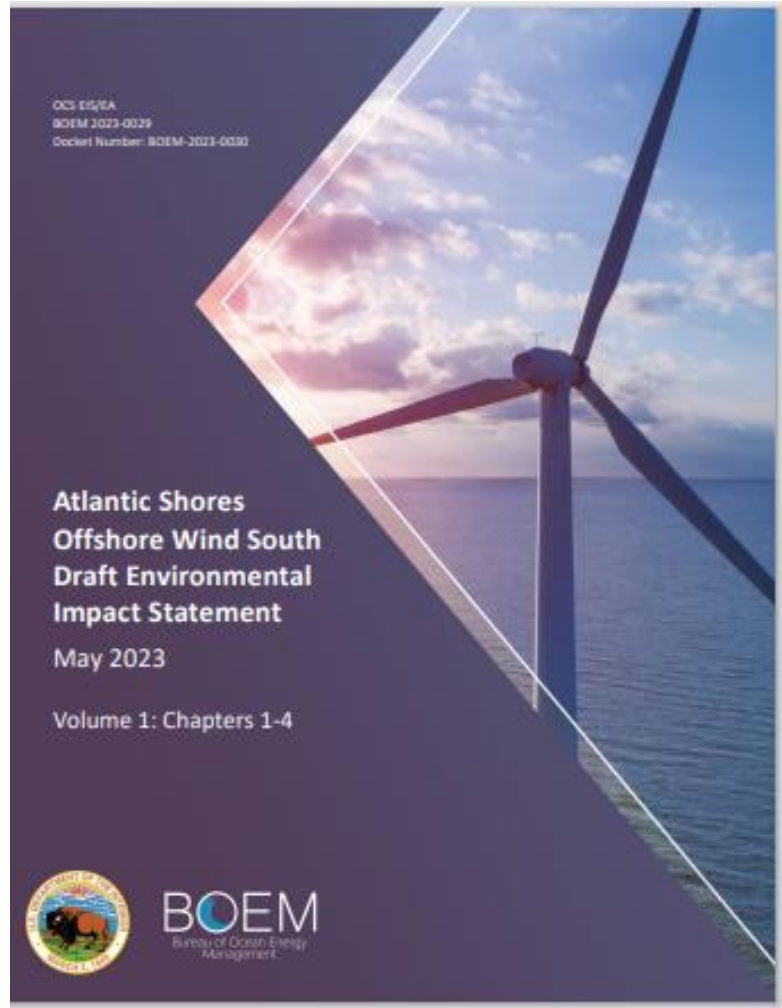


Table 4.1-1. Potential unavoidable adverse impacts of the Proposed Action

Resource Area	Potential Unavoidable Adverse Impacts of the Proposed Action
Socioeconomic Conditions and Cultural Resources	
Commercial Fisheries and For-Hire Recreational Fishing	<ul style="list-style-type: none"> • Restriction in harvesting activities during construction of Offshore Project elements and during operations of offshore wind facility • Changes in vessel transit and fishing operation patterns • Changes in risk of gear entanglement, navigational hazards, and space-use conflicts associated with the presence of structures • Changes in the availability of target species because of habitat loss and conversion associated with the presence of structures
Cultural Resources	<ul style="list-style-type: none"> • Destruction of or damage to ancient submerged landforms • Although unlikely, unanticipated removal or disturbance of previously unidentified marine or terrestrial archaeological resources • Changes to the integrity of aboveground historic resources or visual disruptions to the historic or aesthetic settings from which these resources derive their significance
Demographics, Employment, and Economics	<ul style="list-style-type: none"> • Disruption of onshore and marine recreational businesses during onshore and offshore construction and cable installation • Potential changes to Ocean Economy sectors due to the long-term presence of the offshore wind facility, including commercial fishing, tourism, and recreation.

[Atlantic Shores Offshore Wind South Draft Environmental Impact Statement: Chapters 1-4 \(boem.gov\)](https://www.boem.gov) PAGE 893/904

Table 4.1-1. Potential unavoidable adverse impacts of the Proposed Action

Resource Area	Potential Unavoidable Adverse Impacts of the Proposed Action
Land Use and Coastal Infrastructure	<ul style="list-style-type: none"> • Conversion of undeveloped areas for cable maintenance or replacement • Land use disturbance due to construction as well as effects due to noise and travel delays • Potential for accidental releases during construction
Navigation and Vessel Traffic	<ul style="list-style-type: none"> • Congestion in port channels • Increased navigational complexity, vessel congestion, and allision risk within the WTA • Potential for disruption to marine radar on smaller vessels operating within or in the vicinity of the Project, increasing navigational complexity • Hindrances to SAR missions within the WTA
Other Uses	<ul style="list-style-type: none"> • Disruption to offshore scientific research and surveys and species monitoring and assessment • Increased navigational complexity for military or national security vessels operating within the WTA through decreased effectiveness of individual radar systems • Changes to aviation and air traffic navigational patterns
Recreation and Tourism	<ul style="list-style-type: none"> • Disruption of coastal recreation activities during onshore construction, such as beach access • Viewshed effects from the WTGs altering enjoyment of marine and coastal recreation and tourism activities • Disruption to access or temporary restriction of in-water recreational activities from construction of Offshore Project elements • Temporary disruption to the marine environment and marine species important to fishing and sightseeing due to turbidity and noise • Hindrances to some types of recreational fishing, sailing, and boating within the area occupied by WTGs during operation
Scenic and Visual Resources	<ul style="list-style-type: none"> • Alterations to the ocean, seascape, landscape character units' character, and effects on viewer experience by the wind farm, vessel traffic, onshore landing sites, onshore export cable routes, onshore substations, converter stations or both, and electrical connections with the power grid

Jobs

The Promise: “tens of thousands” per Atlantic Shores CEO

The Reality:

- **Confusing terminology: “job years”, i.e., 1 job over 20 years = 20 job years**
- **Atlantic Shores: No job guarantees during construction, 88 over 20 yrs for operation & maintenance**
- **Ocean Wind I: 1923 jobs**
- **Unclear how many to NJ vs Dutch/French**

Table 33. Expected and Guaranteed In-State Jobs by Applicant and Project
BC//EC

	Atlantic Shores Offshore Wind		Ocean Wind 2 ¹⁵⁴	
		C	A	B
Jobs Scope and Commitment Period	O&M jobs, verified every five years during OREC 20-year term		All jobs, from award date to final COD + 3 years	
Expected Jobs				
Development and Construction				
Conditions	None		NJWP timely completion and reasonable NJWP lease costs	
Employment (FTE-years)	Not available		2,137 () 2,327 ()	
Operations				
Conditions	None		None ¹⁵⁵	
Duration (years) ¹⁵⁶	20		5 5	
Annual Jobs (FTEs/year) ¹⁵⁷	88		[52] [52]	
Jobs Guarantee				
Type of Guarantee	Firm		Conditional	
Deficiency Cure Rate	100%		90% 90%	
Guaranteed Pre-O&M Jobs (FTE-years)	0		1,923 () 2,094 ()	
Guaranteed O&M Jobs (FTE-years)	1,760			
Guaranteed Annual Average O&M Jobs (FTEs/year)	88			
Deficiency Consequence	Additional contribution to workforce development fund for any guaranteed shortfall, credited at \$50,000/FTE-yr in the COD year and escalated thereafter at 2.5% per annum		None	

Key conclusions in comparing the Applicants' jobs guarantees:

<https://nj.gov/bpu/bpu/pdf/boardorders/2021/20210630/Offshore%20Wind%20Solicitation%202%20-%20Levitan%20Evaluation%20Report.PDF>

Electric Cost

The Promise: will go down

The Reality: will go up

For first 3 BPU-approved projects: \$16 billion--6.7% increase in residential electric costs (\$1,809 over 20-year project life), 8.6% commercial(\$15,000 life), and 10.3% industrial(\$126,00 life).

For the full 11,000-megawatt program: \$47 billion-20% increase in residential cost (**\$5,300 project life**), 25% increase in **commercial** (**\$44,000** life), and a 30% increase in **industrial** cost(**\$370,000** life).

Plus taxpayer costs: 30% Federal Tax Credits, \$250 million Paulsboro monopiles, \$350 million Salem County staging area, \$1 billion onshore transmission upgrades + offshore transmission grid to NJ/NY?

Electric Cost – Current Environment

Unknown Costs: 2019 and 2021 Power Purchase Agreement Rates include an assumption (information in redated) for connection to the Power Grid and will be adjusted when actual costs are calculated.

Cost Escalation: According to Bloomberg, before tax credits, costs associated with US offshore wind projects have risen 57% since 2021 due to inflation in components and labor costs, and rising interest rates.

Company Financial Losses: Shell Oil (Atlantic Shores Project) stockholders by a margin of 4 to 1 voted against the company's green/renewable program emphasis and company switching focus to fossil fuels. Orsted (Ocean Wind Projects) finances at high risk. Other Offshore Wind Companies backing out of lease agreements. Turbine Manufacturers, Siemens, Vestas, GE posting financial losses.

Climate Change-The Mitigation Program

The Promise:

- **Address, tackle , lead the way to combat climate change**

The Reality:

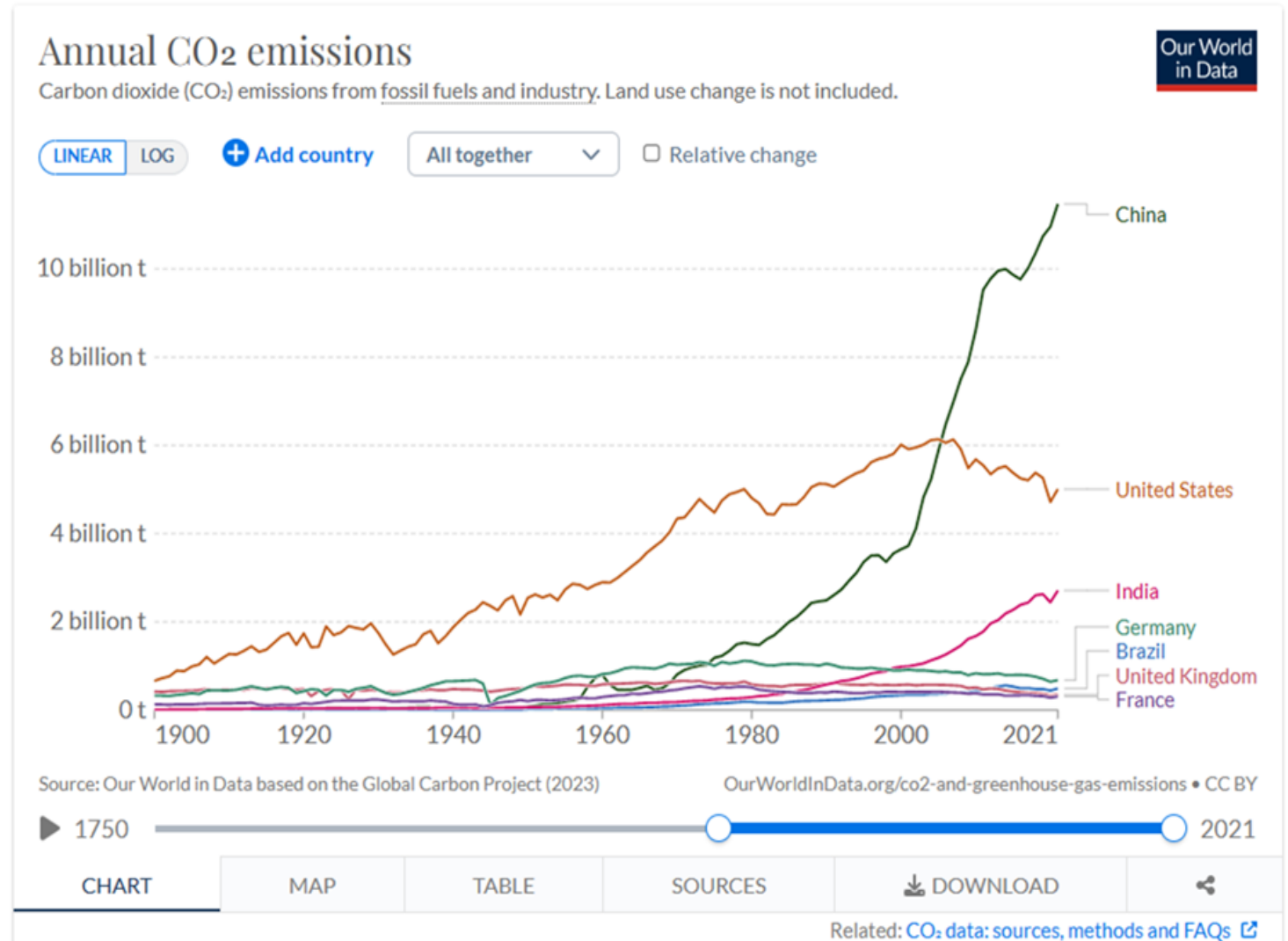
- **World is not on the carbon reduction path to stop it and wind projects won't change that,**
- **Per BOEM EIS, wind projects have "no collective effect on global warming"**
- **Do "smart" carbon reductions, tons/\$\$, don't destroy env/econ**
- **Prepare for it, recent EIS " increase resilience to impacts of climate change " China-massive port, shore protection & and Army Corp of Engineers Program for New Jersey Coastal Flooding**

The Reality of Global Carbon Emissions

- Do You Believe CO₂ Emissions Cause Climate Change?

- The Impact of CO₂ Emissions in China and the Rest of the World is Global.

- Our Ocean will continue to rise, flooding will continue, and our severe weather events will persist on the NJ Coast.

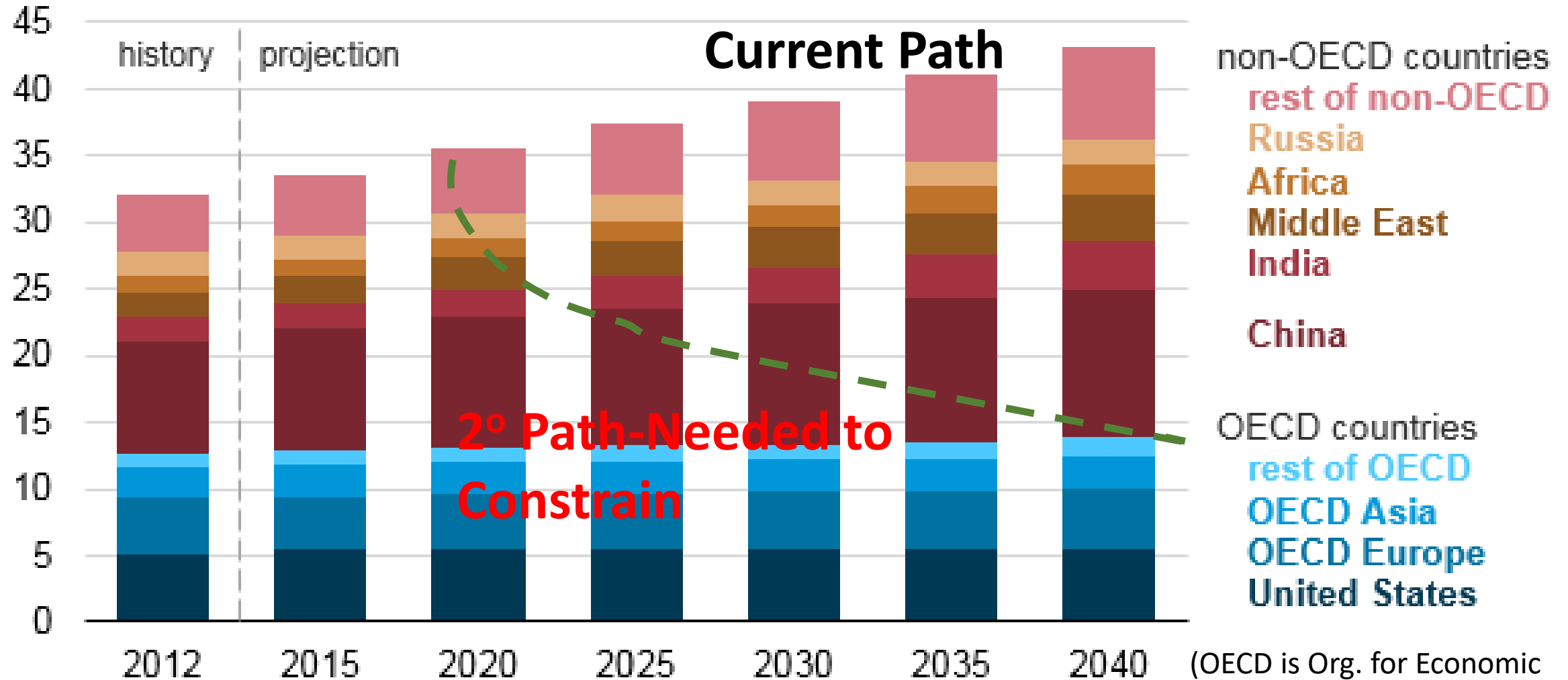


The Reality of Global Carbon Emissions

Energy-related carbon dioxide (CO₂) emissions by country or region (2012-40)



billion metric tons

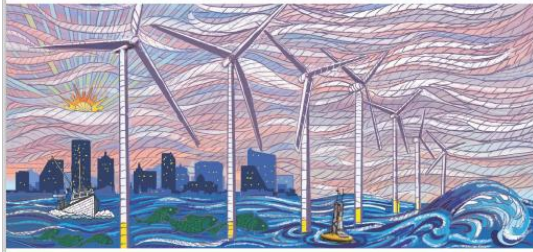


(OECD is Org. for Economic Cooperation and Dev.)

Source: U.S. Energy Information Administration, [International Energy Outlook 2016](#)

What Atlantic Shores, LLC Says:

Atlantic Shores Offshore Wind
Construction and Operations Plan
Lease Area OCS-A 0499



Volume I: Project Information



Benefits, Effects, Environmental Protection Measures

“For every megawatt of power generated by the Projects, there will be an associated reduction in GHG emissions, reported as carbon dioxide equivalents (CO₂e), by approximately 2,625 tons per year.”*

*Avoided air emissions estimates are based on the latest-available non-baseload output emission rates for the Reliability First Corporation (RFC) East subregion as published by the Environmental Protection Agency (EPA 2020), assuming a 50% capacity factor and 4% transmission losses for the Projects.

[Atlantic Shores Offshore Wind \(boem.gov\)](https://www.boem.gov)

Pg 9/224, E-9,

What is Excluded/Included in the GHG Reduction Calculation?

- ↑ Emissions of ocean vessels and vehicles during construction, operations and decommissioning phases?
- ↑ Emissions of inefficient back up fossil fuel power for intermittent wind?
- ↑ Emissions from fossil fuel power used for running the turbines?
- ↑ Emissions from fossil fuels used in the operation of turbines and substations?
- ↑ Reduction in the ocean’s efficiency in cleaning our atmosphere of CO₂?
- ↑ Leading Edge Erosion of Blades

Methodology for Measuring Offshore Wind Emissions Not Developed!

News

Global offshore wind industry joins forces with the Carbon Trust to decarbonise and scale up sustainably

Eleven offshore wind developers – bp, EnBW, Fred Olsen Seawind, Ørsted, Parkwind, RWE, Scottish Power Renewables, Shell, SSE Renewables, Total Energies and Vattenfall – are partnering with the Carbon Trust to make future offshore wind more sustainable.

31 January 2023

They will work in collaboration with the Carbon Trust as part of the new Offshore Wind Sustainability Joint Industry Programme to develop the **first industry-backed methodology** and guidance to measure and address the carbon emissions associated with offshore wind farms throughout their lifecycle, including emissions from the manufacturing of materials and installation of wind farms.

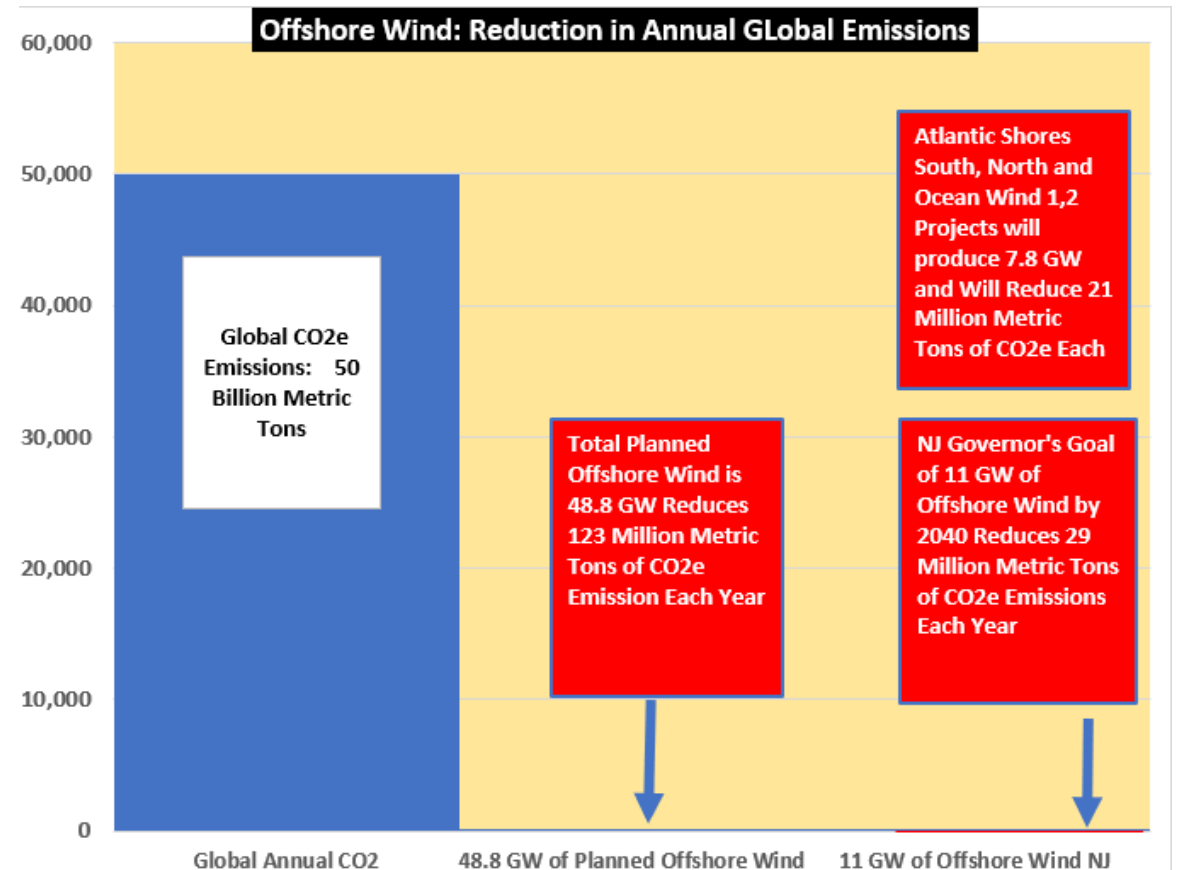
Offshore Wind Mitigation of Greenhouse Gas

Per BOEM document, there are 48.8 GW of offshore wind developments planned on over 2 million acres of the US Ocean's Continental Shelf. (East Coast down to South Carolina)

Per BOEMs estimate this will reduce annual greenhouse gas emissions by 128 million tons.

Total Greenhouse gas emissions are estimated to be 50 billion tons/year .

Planned offshore wind developments will reduce total global carbon by .26%.



NO GUARANTEES FROM WIND DEVELOPERS

Do Offshore Wind Developers guarantee that their wind turbine projects will stop our ocean from rising, stop our flooding, and reduce severe weather events at the Jersey Shore?

NO!



Instead, they are handing out “grants” to Coastal Towns so they can update local infrastructure to mitigate their flooding which will be paid for by electricity ratepayers!

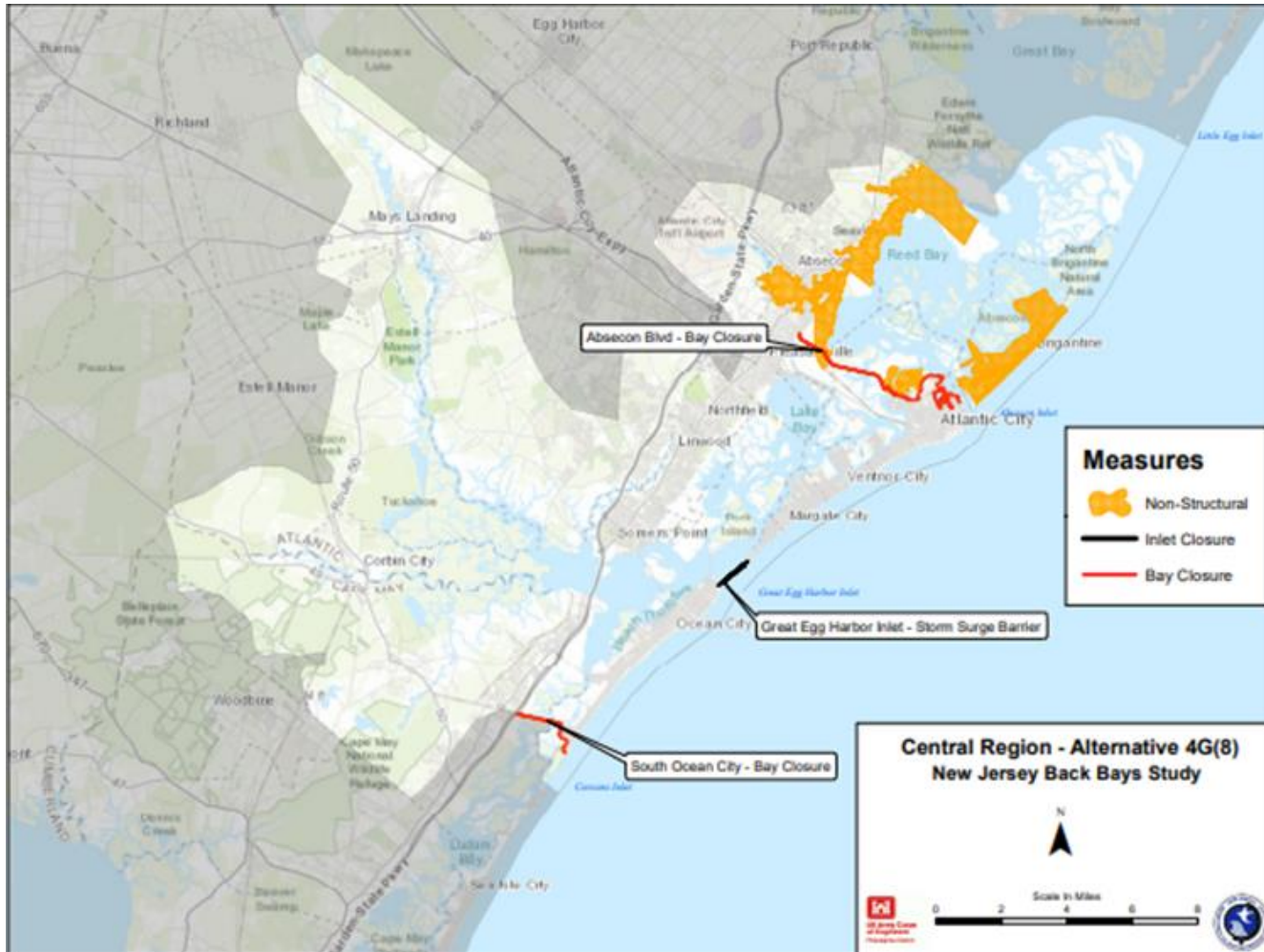
“During this round of funding, the Trust earmarked \$3.5 million in support of coastal infrastructure and resiliency projects that aim to help mitigate the impacts of severe weather occurrences and flooding to help increase resiliency and help municipalities and counties better respond to natural disasters.” **Oct 2022**

[Ocean Wind Pro-NJ Grantor Trust Receives Unexpected Number of Funding](#)

[Requests from Coastal Towns for Local Coastal Resiliency Projects - Ocean Wind Pro-NJ Grantor Trust \(pronitrust.org\)](#)

Mitigation Addressing New Jersey Coastal Issues

US Army Corps of Engineers, New Jersey Back Bays Coastal Storm Risk Management Draft Integrated Feasibility Study and Tier 1 Environmental Impact Statement, 2021



NJ Coast Issues: Rising Ocean, Sinking Land, Slowing Gulf Stream

“Paradigm shift” to industrial flood control – proposed storm surge barriers, cross-bay barriers, floodwalls, and levees to prevent bay flooding from rising sea levels and elevation of 18,000 structures.

<https://www.nap.usace.army.mil/Portals/39/docs/Civil/NJBB/Draft-Report/TSP-Map-Atlantic-CMC-August-2021.pdf?ver=HhpM3MeYOMuPvENdnhXX6Q%3d%3d>



RUTGERS NJ Coastal Solutions from Rutgers University

Robert Kopp, et al. from Rutgers University in “The Future Sea Level in New Jersey”

“It is critical that the state and coastal communities develop resilience plans that are robust to the range of possible futures the state might face. A regional approach requires increased communication, provides opportunities for collaboration and facilitates the pooling of resources to complete large-scale projects that are infeasible for individual entities.” <https://impact.rutgers.edu/the-rising-tide/>

Rutgers Solutions:

- **Relocating development away from the shore and/or exposed areas**
- **Blue Acres program**
- **Accommodating natural processes by continuing occupancy and adjusting to the hazard (houses on pilings)**
- **Protecting existing infrastructure in place**
- **Green infrastructure such as local soils, plants, and animals such as oysters**
- **Dredging of clean sediment accumulated in navigation channels to fill up drowning wetlands**
- **Stormwater green infrastructure**
- **Porous paving**

Environmental & Other Impact What You Haven't heard

The Promise: Renewable, Clean, Benign Form of Energy

The Reality: Renewable ? Far from Benign

- **Shore Conditions and Economy**
- **Vessel Navigation**
- **Military Radars**
- **The Piping Plover & Red Knot**
- **Hurricane Risk**
- **EMF Health Impact Marine Life and Humans**
- **New Jersey Cold Pool**
- **Wind Wake**
- **Blade Corrosion (Leading Edge Erosion) and BPA chemical in Ocean**
- **Decommissioning**
- **Questionable Emissions Reduction Calculations**
- **Operating Turbine Noise and Vibration – Whale Migration and Marine Life**

Conclusions-the Proposed Project- Reality

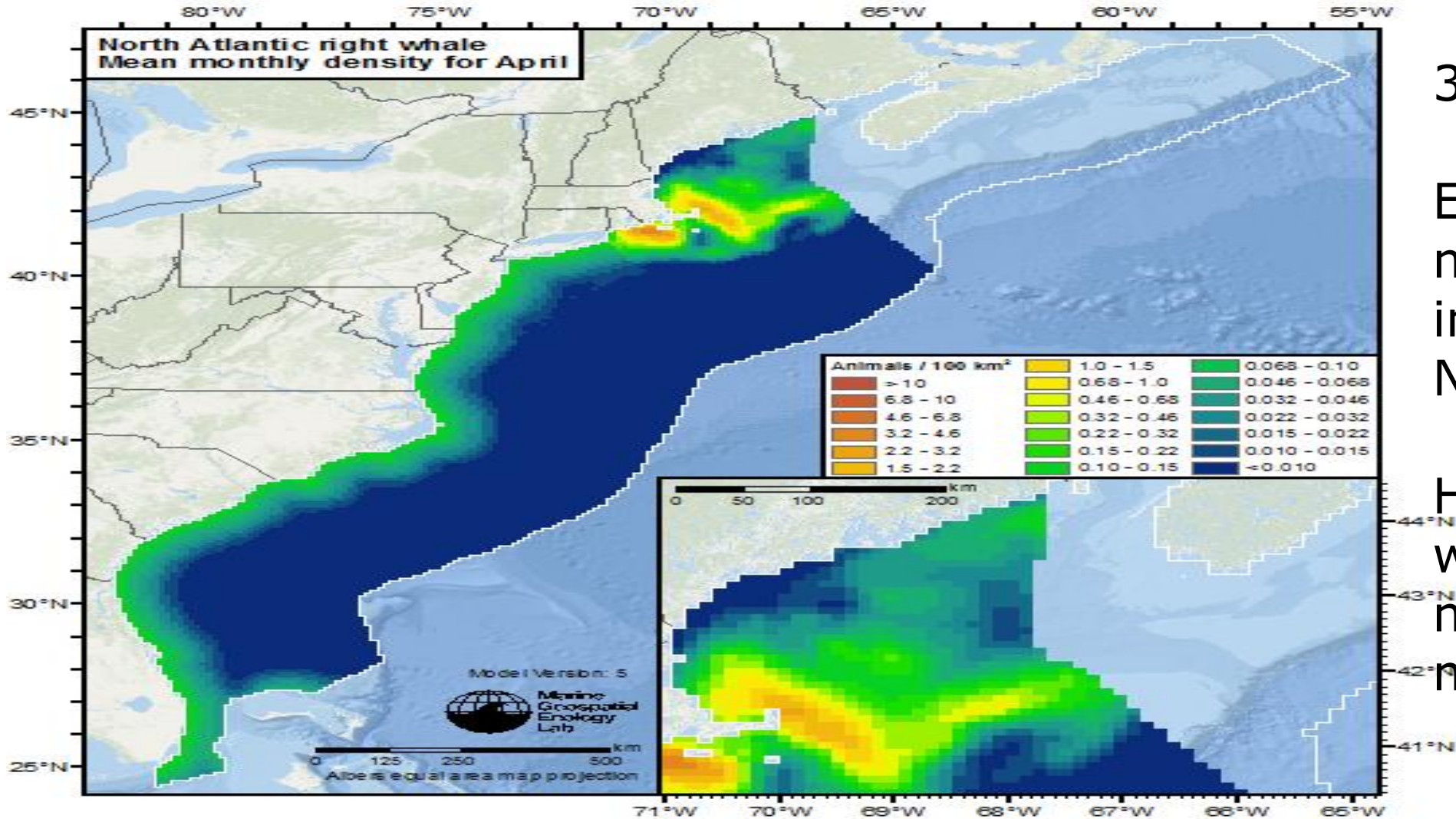
- **Turbines pose dramatic change to the shore for decades, last summer to see a natural seascape**
- **Project does not affect climate change, sea level rise, create long term jobs or lower electric costs-No Rush Needed**
- **Project does severely affect the shore and marine environment, vessel navigation, and possibly defense capability**
- **Comes down to your personal values for the shore, and if you heard a convincing reason to degrade it.**

Environmental Impact –What You Haven't Heard Whales & Turbine Operational Underwater Noise

- **Noise level at new large gearbox turbines 10,000 times more intense than moderate size turbines**
- **Noise extends out many miles at levels the right whale (and others) will avoid**
- **With development also farther out in NY Bight, how will the whale migrate?**
- **Need to leave a path--choose one or the other, NJ close- or NY Bight farther out.**

Environmental Impact –What You Haven’t Heard

The Right Whale & Turbine Operational Underwater Noise



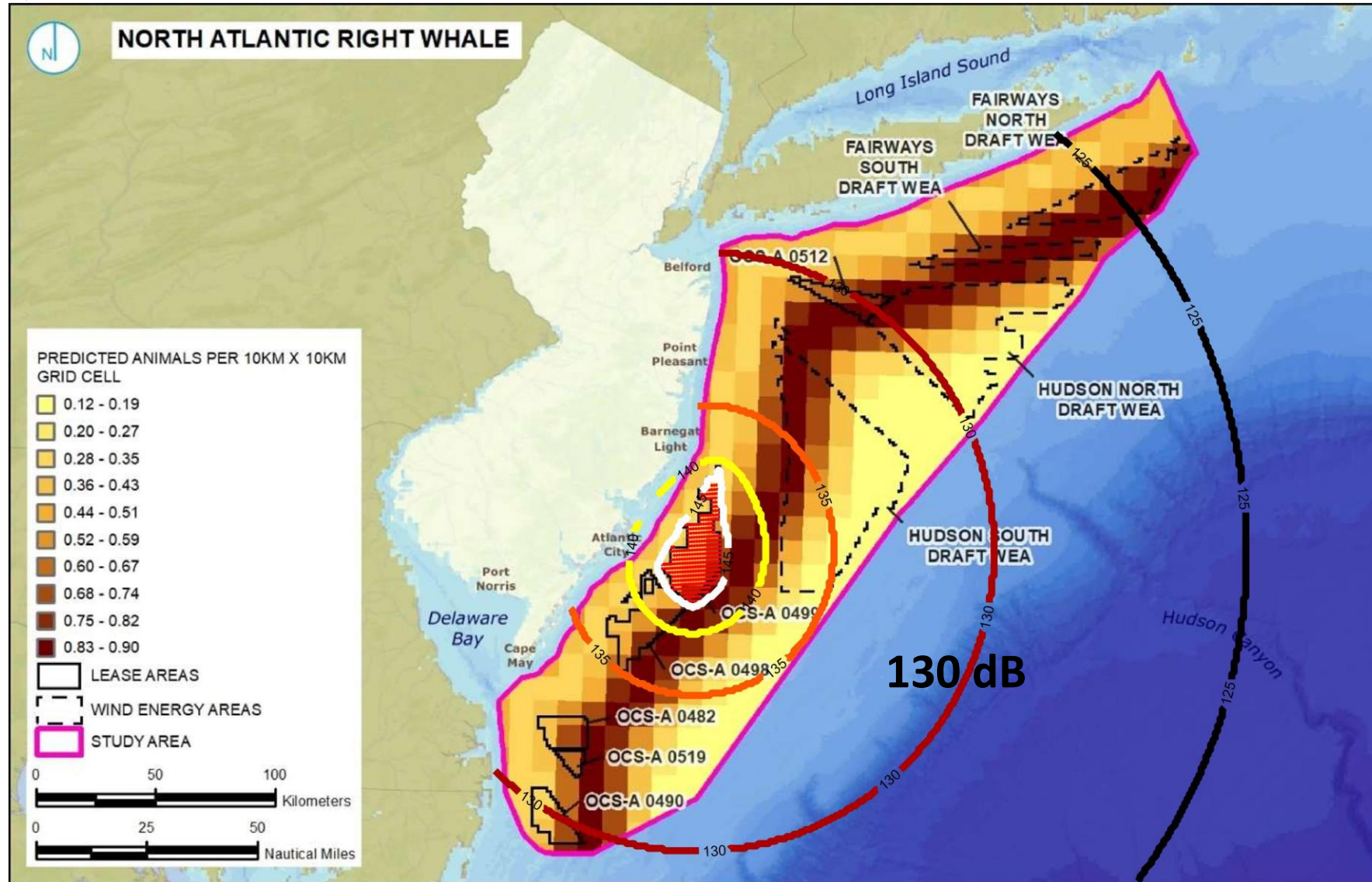
350 left

Essential annual migration, south in winter, birth North feeding

Historical route, within 86 miles, mainly inside 56 miles

Operational Noise Level versus Distance from Turbine Complex

Results - Monopile



Levels above 130 decibels out to 93 miles

90 % whale avoidance

With development also further out blocking all migration NARW paths

Need to chose one area, close in or far out

Fig 9– Estimated URN due to source SPL of 181 dB re 1μPa at 1m, spreading loss and attenuation loss

INCIDENTAL HARASSMENT AUTHORIZATIONS
FROM OFFSHORE WIND IHA's
48 OCS-A PROJECTS

2016-Present

MARINE MAMMAL SPECIES All Marine Mammals Are PROTECTED under the Marine Mammal Protection Act	TOTAL STOCK SIZE OF MAMMAL SPECIES	TOTAL OF ALL INCIDENTAL HARASSMENT TAKES (IHA)	TOTAL % OF STOCK SIZE
TOTAL COUNT OF ALL SPECIES	1,954,725	597,833	31%
TOTAL ENDANGERED SPECIES	18,193	5,165	28%
WHALES – Mysticetes (Baleen)			
Fin Whale, Endangered	6,802	3,155	46%
North Atlantic Right Whale, Endangered	338	1,051	311%
Sei Whale, Endangered	6,292	399	6%
Blue Whale, Endangered	412	23	6%
Sperm Whale, Endangered	4,349	537	12%
TOTAL Endangered Whales	18,193	5,165	28%
OTHER WHALES – Protected			
Humpback Whale	1,396	2,348	168%
Minke Whale	21,968	5,113	23%
Dwarf Sperm Whale	4,548	8	0.2%
Pygmy Sperm Whale	7,750	10	0.1%
Cuvier's Beaked Whale	Unknown	75	n/a
Bainville's Beaked Whale	5,500	8	0.1%
Gervais' Beaked Whale	Unknown	8	n/a
Sowerby's Beaked Whale	Unknown	8	n/a
True's Beaked Whale	Unknown	6	n/a
Northern Bottlenose Whale	Unknown	12	n/a
Mesopodont Whale	Unknown	29	n/a
TOTAL WHALES	77,548	12,790	16%
DOLPHINS – Odontocetes, Protected			
Atlantic Spotted Dolphin	39,921	33,771	85%
Atlantic White-Sided Dolphin	93,233	23,560	25%
Bottlenose, Offshore Dolphin	62,851	63,452	101%
Bottlenose, Coastal Dolphin	6,639	14,317	216%
Clymene Dolphin	4,237	344	8%
Common Dolphin, Short-Beaked	172,974	260,782	151%
Pygmy Killer Whale	Unknown	10	n/a
Killer Whale	Unknown	12	n/a
False Killer Whale	1,791	41	2%
Fraser's Dolphin	Unknown	384	n/a
Melon-Headed or Little Killer Whale	Unknown	228	n/a
Pantropical Spotted Dolphin	6,593	275	4%
Long-finned Pilot Whales	39,215	4,665	12%
Short-finned Pilot Whales	28,924	2,369	8%
Risso's Dolphin	35,215	2,686	8%
Rough-Toothed Dolphin	4,853	258	5%
Striped Dolphin	67,036	149	0%
White Beaked Dolphin	536,016	183	0%
TOTAL DOLPHINS	1,099,498	407,486	37%

NOAA INCIDENTAL TAKE AUTHORIZATIONS

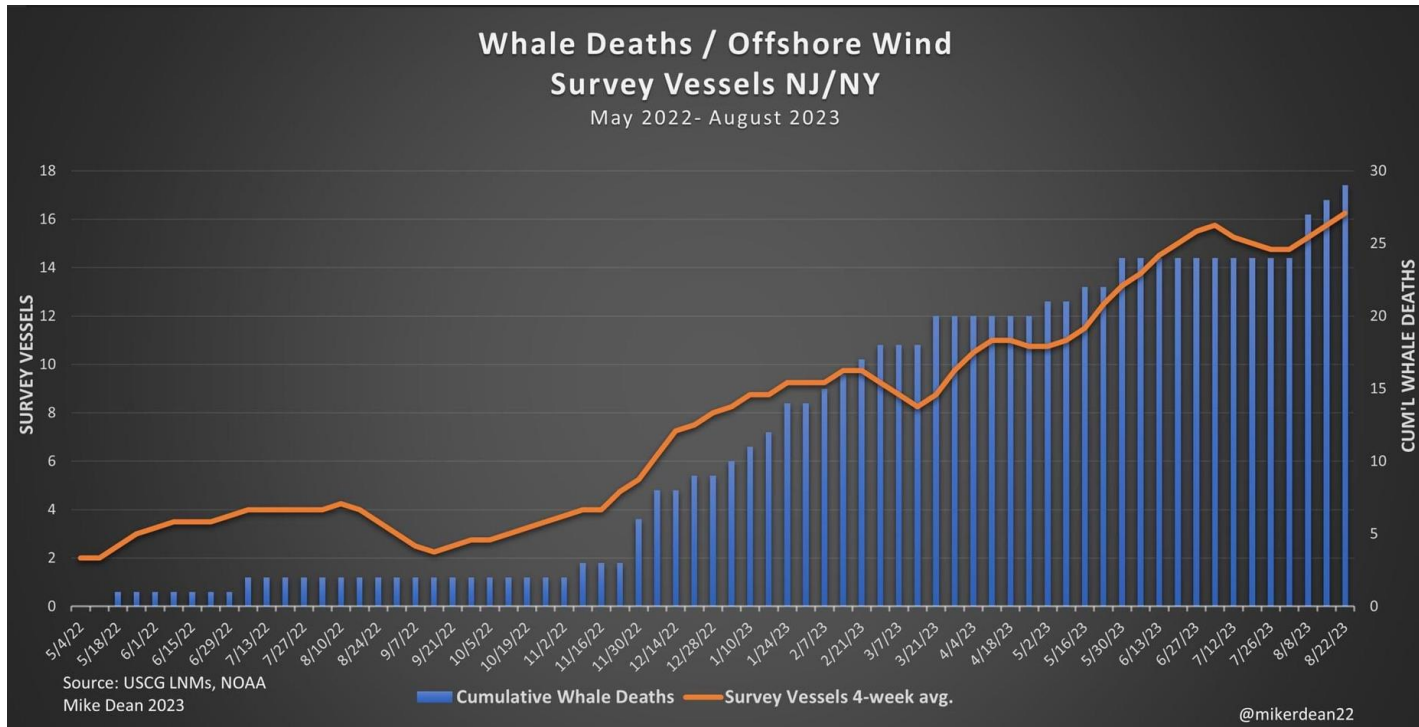
MARINE MAMMAL SPECIES All Marine Mammals Are PROTECTED under the Marine Mammal Protection Act	TOTAL STOCK SIZE OF MAMMAL SPECIES	TOTAL OF ALL INCIDENTAL HARASSMENT TAKES (IHA)	TOTAL % OF STOCK SIZE
PORPOISES, Protected			
Harbor Porpoise	95,543	33,676	35%
SEALS – Pinnipeds, Protected			
Gray Seal	27,300	52,297	192%
Harbor Seal	61,336	80,160	131%
Harp Seal	Unknown	11,421	n/a
Hooded Seal	593,500	3	0%
TOTAL SEALS	682,136	143,881	21%

Compiled by Arthur Gager
Printed: 06/27/2023, 8:43 AM
Source: Federal Register
<https://www.federalregister.gov>
Source: NOAA Incidental Take Authorizations for Other Energy Activities
<https://www.fisheries.noaa.gov/national/marine-mammal-protection/incidental-take-authorizations-other-energy-activities-renewable>

<https://www.fisheries.noaa.gov/national/marine-mammal-protection/incidental-take-authorizations-other-energy-activities-renewable>

TABLE OF WHALE DEATHS ON THE EAST COAST SINCE DECEMBER 2022

Surveying, Pile Driving



12:23

Whale Deaths Dec 1- 2022 -... Done

34	5/4/23	Whale, minke	MA
35	5/5/23	Whale, minke	NY
36	5/5/23	Whale, minke	ME
37	5/7/23	Whale, minke	MA
38	5/8/23	Whale, minke	MA
39	5/16/23	Whale, humpback	MA
40	5/15/23	Whale, humpback	NC
41	5/18/23	Whale, humpback	NY
42	5/26/23	Whale, humpback	RI
43	5/28/23	Whale, humpback	RI
44	5/31/23	Whale, humpback	NY
45	5/31/23	Whale, humpback	NJ
46	5/31/23	Whale, humpback	MA
47	6/4/23	Whale, minke	VA
48	6/11/23	Whale, humpback	MA
49	6/12/23	Whale, humpback	MA
50	6/14/23	Whale, humpback	MA
51	6/14/23	Whale, minke	NY
52	6/27/23	Whale, humpback	NY
53	6/30/23	Whale, minke	ME
54	7/2/23	Whale, minke	MA
55	7/8/23	Whale, minke	VA
56	7/12/23	Whale, minke	ME
57	7/22/23	Whale, humpback	MA
58	7/29/23	Whale, sperm	MA
59	7/30/23	Whale, minke	ME
60	7/31/23	Whale, humpback	ME
61	8/2/23	Whale, minke	ME
62	8/4/23	Whale, minke	ME
63	8/11/23	Whale, humpback	NY
64	8/12/23	Whale, humpback	NJ
65	8/14/23	Whale, humpback	NY

DEFEND BRIGANTINE BEACH AND PARTNERS RESPONSES



Our “Coalition Partners”

- **Save LBI (Long Beach Island); Bob Stern**
- **Protect Our Coast-NJ; Suzanne Hornick (Founder)**
- **Save the East Coast-NJ; Apostolos Gerasoulis**
- **Save Jersey Shore; Trevor Doyle**
- **Cape May County; Mike Donohue**
- **Other Groups: Save the Right Whales, Clean Ocean Action, Miss Belmar Whale Watch; Amy Disibio-Nantucket; David Shanker-Monmouth County; Mike Dean-LBI**

Engagements/Accomplishments

- Social Media sites moving towards 5000 subscribers
- Developed and coordinate and implement February 11, 2023, first Brigantine Town Meeting, which attracted over 600 residents, legislators, and coastal mayors and provided information on the NJ Windfarm project.
- Attended two major Atlantic County Commissioners meetings resulting in favorable votes against wind energy through a moratorium to stop surveying.
- Supported Cape May County informational sessions and a recent US Congressional Hearing on March 16, 2023, led by Congressman Jeff Van Drew, and prepared and submitted written testimony to the hearing
- Participated in and spoke at “Protect Our Coast NJ” Rally on March 30, 2023, in Trenton, New Jersey where a Petition with close to 500,000 citizen signatures was delivered to Governor Murphy, demanding a stop to the Windfarm projects.
- Developed, coordinated, and spoke at the initiative led by Brigantine Mayor Vince Sera to support a Mayor’s Moratorium demanding a stop to constructing these wind farms until whale deaths whales coincident with offshore windfarm surveying can be determined. This resulted in a Coalition of over 30 New Jersey Mayors to date, calling for a moratorium on all offshore wind activity until investigations are held. **These Mayors are now joining forces for Litigation against this project.**
- Participated in numerous press conferences, posted news and research articles, held rallies, held numerous informational and fundraising campaigns, and supported other organizations to achieve our common goal of stopping the industrialization of our ocean...
- ...And some groundbreaking news to be released very soon!!!

Legal Interventions/Litigation Save LBI

Statute/Action	Status
NEPA and ESA/ EIS and Biological Opinion to support selection of turbine areas	with Judge
NEPA /EIS on cumulative east coast impact to the right whale	with Judge
MMPA/ Enjoin vessel surveys	With Judge
CZMA/ State finding that project is “consistent” with NJ CZMA rules	To Court/Notice filed *
OWEDA/ State cost-benefit analysis	BPU Rehearing requested.
ESA & MMPA/Blocking of right whale migration	Upon project approval
NEPA & NHPA/ Deficient Project EIS, historic property process	Upon project approval
Noise Control Act/ Audible noise at shore exceeding standards	Upon project approval
OCSLA/ National Security and Vessel Navigation criteria	Under review
Jones Act/ Use of US vs. foreign flag vessels	Under review
Inverse Takings/Nuisance , others	Under review

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Jones Act/ Use of US vs. foreign flag vessels	Under review
Inverse Takings/Nuisance , others	Under review

Legal Interventions/Litigation DBB and POCNJ

Statute/Action	Status
Orsted Wind Subsidies	Filed- State of NJ/Orsted
BOEM FEIS-Orsted Permit Challenge	In Process
Constitutionality of No Windfarm Locations South of VA - Trump EO	Under Consideration
BOEM FEIS- Atlantic Shores Permit Challenge	TBD When Released by BOEM
Atlantic Shores Wind Subsidies	TBD 2024

Help Us: Donate, Volunteer, Participate
Together We Can Win!!

DefendBrigantineBeach.org





You can donate via:

- [Venmo: Defendbrigantinebeach](#)
 - [Paypal: Defendbrigantinebeach@gmail.com](mailto:Defendbrigantinebeach@gmail.com)
(credit card or debit card)
 - [GO FUND ME: Defend Brigantine Beach](#)
 - Check: payable to Defend Brigantine Beach.
Mail to PO Box 562, Brigantine NJ 08203
- Your much-appreciated donations will be used to fund our organization's efforts to inform the public, develop educational materials, hold public events, and support legal challenges **to stop the devastating environmental, visibility, and economic impacts of Atlantic Shores' and Orsted' wind turbine projects to be installed less than NINE miles off of our shores.**

THANK YOU FOR YOUR TIME!

QUESTIONS