

Report to Atlantic County Commissioners on Offshore Wind Developments, the Industrialization of our Ocean, and Impact to Our Local Economy

April 2024

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The future of Atlantic County's economy could be at great risk, based on the future impacts of offshore wind projects and the industrialization of our ocean. Projects closest to our coast, Atlantic Shores and Ocean Wind developers will build 566 giant wind turbines starting 9 miles off our beaches- 357 will be 1040 ft high and 209 will be 906 feet high. Examples of statements in the construction and operations documents for the wind development projects are: "residences along the shoreline have a consistent view that is industrialized" and "at night the navigation lights would become the focus of viewer attention and could change the character of nighttime skies forever." In addition to the projects next to our coast, another group of 6 offshore wind developments are planned directly east of the ones next to our coastline in an area known as the New York Bight. These developers are planning to build 549 more turbines starting 27 miles off the coast at an even greater height of 1312 feet.

The project impacts as presented by wind developers and state and federal agencies dwarf the true impact to Atlantic County coastal towns because these communities will be surrounded by other projects that are adjacent to each other including Atlantic Shores South, Atlantic Shores North, Ocean Wind 1 and Ocean Wind 2. Although the Ocean Wind projects have been suspended, BOEM has stated that the developer, Orsted, could find another partner or assign the lease to another developer that can use their already approved permit to continue with the development. The impact of these combined projects is unprecedented, and the cumulative impact is not rigorously addressed and communicated to the public. The combined impact of these specific projects should be examined in more rigorous detail and conclusions should be presented to the communities of South Jersey. Scientific studies have shown that the visual impact of the offshore wind projects and the industrialization of our ocean will have a profound negative impact on our tourist-based economy at the Jersey Shore.

The County has already experienced a 36% loss in employment since 2000 due to the great recession, the retraction in the casino industry, hurricane Sandy and COVID. Since 2007, equalized property values also fell by 29% even when adjusted for the equivalent property value of the PILOT tax. The catastrophic economic events caused great harm to the Atlantic County economy because of property foreclosures, massive assessment appeals, and reduced employment. The IRS implementation of the 2017 \$10,000 SALT deduction limit added to the real estate downturn in high tax areas since the higher net cost of homeownership made residential real estate in those areas became less attractive. Through large tax increases, lower property values, and higher cost of home ownership, the Atlantic County residential real estate and the business economy have greatly fallen behind neighboring counties. The economic problems also impacted the level of government services – county library, health service and open space programs as well as local schools – could sustain for its citizens. Although lower or stagnant property values and business losses occurred in beach front communities, the negative economic impact expanded to inland communities throughout Atlantic County via lower employment, reduced property values and exorbitant Atlantic County tax increases.

By comparing the differences in Atlantic County and Cape May County economic data during the last twelve to fifteen years (based on available information), Atlantic County's economic malaise becomes even more evident. Except for the casino consolidation, Cape May County had to overcome the same threats to its economy as Atlantic County, but it fared much better. From 2010 to 2023, Cape May tourism spending increased by \$2.1 billion compared to Atlantic County's decrease of \$2.4 billion. From 2008 to 2023, the tax rate surged by 111% in Atlantic County compared to 38% in Cape May County, adjusted for equalized property values. During the same period, Atlantic County residential property values decreased by 3% compared to a

37% increase in Cape May County, also adjusted for equalized values. A comparison of separate categories for shore towns and inland communities shows similar trends.

Without critiquing the differences in the management of the two county economies over the past years, during the last year it was telling how the leadership in each county dealt with the planned wind turbine developments off their coasts which will also have an extreme economic impact in the future. Cape May County's leadership saw the potential negative impacts of the offshore wind developments on their economy. They educated themselves, their local elected officials, and their public; hired experts and legal counsel; and, fought against the wind development off their coast.

Atlantic County addressed the offshore wind developments differently. In February of 2023, a great number of citizens attended the Atlantic County meeting when a decision on an offshore wind resolution was presented. Based on the Commissioners' comments to the public, the general attitude was, "there is nothing we can do" and "it is a done deal". Not one commissioner said that there was something they could, or should do, about the offshore wind projects. During the twelve months after this meeting, to our knowledge, the Atlantic County Commissioners took no public action demonstrating that they educated themselves, informed their public or hired experts and legal counsel to help navigate the complexity of the offshore wind project developments.

Why did Cape May County take a different approach to dealing with the Offshore Wind Projects than Atlantic County, and what were the results of the two different approaches? The answer to the second question is that the wind development projects, Ocean Wind 1 and 2, off Cape May County have been suspended. The wind development projects, Atlantic Shores South and North, off Atlantic County are full speed ahead.

There is still time for the Atlantic County Commissioners to show leadership in addressing the issues with the wind development projects off their coastline. The priority is to become informed of its impact on local economies. Compared to the County's challenging economic issues of the past, the offshore wind projects will have an even greater catastrophic impact to the coastal town's economic activity and property values. The casino industry will most likely move away since Atlantic City will no longer offer a coastal vibe that is an attraction to its customers. It is impossible to imagine how the municipalities and cities will survive. Do the County Commissioners have a plan for how they will lead the transition from a tourism and fishing economy to an economy based on coastline views of offshore wind electric utility plants? If the County Commissioners continue to remain indifferent to the offshore wind projects, their priority should be the planning for a huge adjustment in the economy and tax base, along with large electric rate increases for businesses, homeowners, and public facilities such as county, local governments and school districts.

The following sections of this report include a summary of the economic impacts of the wind developments off the coastline of Atlantic County with a footnote for each summary statement. The footnotes are located after the summary statements. Each one contains the details and calculations to support the summary statements by using scientific studies for the preparation of the analysis. Following the footnotes, the additional sections of this report include 1) Examples of Accolades in the Press for Our Beautiful Beaches 2) National Oceanic and Atmospheric Administration (NOAA) Survey on Beach Characteristics 3) Wind Turbine Rotating Blade Effects 4) Impact on Historic Properties 5) Onshore Cabling to Substations throughout Atlantic County 6) Surf Clam

Industry 7) Local Air Pollution 8) Other Impacted Areas – Farley Marina 9) Visual Impact of Turbines from Casinos 10) Shore Experience Degradation 11) Misrepresentation of Turbine Visibility.

Impact on Atlantic County Economy

The details of studies and calculations used to back up our conclusions are presented after the summary bullet points in the Footnotes.

- **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 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}
- **Large Energy Cost Increase** for residents, businesses, and especially fragile seasonal tourism businesses. Based on the most recent analysis for 11GW of offshore wind energy in New Jersey, electricity rates are expected to increase by over 55% for residents, 70% for commercial and over 80% for industrial users by 2047. Based on the most recent solicitation for 3742 MW of power over 20 years, rates are projected to increase by 20%-30%. ^{V8}
- **Recreational Fishing Revenue=** \$19M/ YR to the NJ economy. How will this be impacted during years of construction and operation? ^{V7}
- **Other Tourist Industry Impacts** The future of the Annual Farley Marina Jimmy Johnson Fishing Tournament, Annual Atlantic City Air Show, and other Beach Concerts, and other Beach Centric Entertainment Events, Bars and Restaurants is uncertain. The airshow alone brings 100,000 tourists to Atlantic City and \$50 million to the economy. ^{V9}
- **Casino Contraction:** Bricks and mortar operating losses for casinos may cause further consolidation in AC. Losses in Casino revenue and profits could reduce local and state taxes/fees including but not limited to the annual \$200 million PILOT tax payments and \$700+ million annual Gamine Specific taxes and fees. The Casino PILOT program ends in 2026 ^{V10}
- **Residential Property Value Loss:** Based on the impact of an industrialized ocean view from beach homes in A.C, Brigantine, Long Port, Margate and Ventnor, total property values could be reduced by \$2.2 billion, and the County, municipalities, and school districts could lose \$36 million in annual taxes. ^{V11}

Footnotes: Studies and Calculations of Economic Impact on Tourism

ACTUAL STUDIES AVAILABLE FOR CALCULATIONS OF TOURISM LOSS ARE BASED ON A COMBINATION OF WIND TURBINE SIZE, DISTANCE AND NUMBER THAT IS MUCH SMALLER AND MUCH LESS OF A NEGATIVE IMPACT ON VISUAL RESOURCES AND SCENIC VIEWS THAN THE ATLANTIC SHORES AND OCEAN WIND 1 PROJECTS WILL HAVE ON THE JERSEY SHORE COMMUNITIES.

THE WIND DEVELOPERS OR GOVERNMENT AGENCIES HAVE MADE NO ATTEMPT TO REPEAT ANY SURVEYS OR STUDIES USING VISUAL SIMULATIONS BASED ON ACTUAL WIND TURBINE SIZE, DISTANCE AND NUMBERS FOR ATLANTIC SHORES SOUTH PROJECT WHICH WAS AVAILABLE ON BOEM WEBSITE IN 2022 (ATLANTIC SHORES SOUTH).

DUE TO THE LACK OF ANY STUDIES THAT INCLUDE SURVEYS USING VISUALIZATIONS OF THE ATLANTIC SHORES PROJECTS, ANALYSES WERE PREPARED USING THE EXISTING STUDIES BY EXTRAPOLATING THE DATA FROM EACH STUDY BASED ON THE SIZE, NUMBER AND DISTANCE OF THE WIND TURBINE PROJECT COMPARED TO THE ATLANTIC SHORES WIND TURBINE PROJECT.

V1. North Carolina State University, the Amenity Costs of Offshore Wind Farms- Evidence from a Choice Experiment, Lutzeyer et. al., August 2017. <https://cenrep.ncsu.edu/cenrep/wp-content/uploads/2016/03/WP-2017-017.pdf>

This study included visualization of 64, 100 and 144 total wind turbines, 5 Mw (around 500 ft tall compared to 1040 ft tall for 15 Mw Atlantic Shores turbines) sized wind turbines with daytime and nighttime views. Wind turbine visualizations were located at various distances from shore including 5, 8, 12 and 18 miles. Based on an extrapolation of the size difference, the comparable distance used in the study would be 5 miles.

The nighttime views increased the visual disamenities and avoidance of rental properties with views of the wind turbines. Participants were divided into categories: 55% never wanted a view from a rental property no matter how much rent was discounted, 23% would tolerate some view along with various discounts, and 21% would rent with a view all the time. No participants would pay more rent to see the wind turbines. This may impact Jersey Shore significantly if increased electric costs based on offshore wind rates increases rental rates. Lastly, the study notes that choices will depend on whether vacationers have an alternative location for their vacation, and this factor will impact the results. Along the eastern seaboard, vacationers have a significantly large number of options for vacation locations within driving distance that will not have 1040 ft high wind turbines starting 9 miles off the beach along with 722 (Brigantine Hotel) turbines in ocean viewshed from the beach. The results from the study used in the calculations on Economic Impact have a 95% confidence level.

V2. Based on Atlantic County Rental Income

The model lists a wide range of income losses because of unknown rental market supply and demand elasticity factors. For example, other tourists may be willing to rent properties at discounted rental rates. The mix of renters who would not return in combination with new renters who may rent properties at various discounts are examined by Lutzeyer et. al., in North Carolina State University Study (V1). The table below has two calculations: one with Atlantic City and one excluding Atlantic City. The percentage of vacation versus full time resident renters is known for Brigantine. Based on Brigantine City Records, in 2022, 2000 properties were listed as “summer” (vacation) rentals. It is not known what portion of the monthly rental income is attributed to these properties in Brigantine in the table.

Vacation Rental Income Losses in Atlantic County									
Coastal City	Rental Properties (1)	Monthly Rental \$ (1)	Annual Rental \$Millions	NPV 20 YR Loss	Coastal City	Rental Properties (1)	Monthly Rental \$ (1)	Annual Rental \$Millions	NPV 20 YR Loss
Atlantic City	11,793	\$900	\$127.4						
Brigantine	1,096	\$1,208	\$15.9		Brigantine	1,096	\$1,208	\$15.9	
Long Port	40	\$1,677	\$0.8		Long Port	40	\$1,677	\$0.8	
Margate	579	\$1,310	\$9.1		Margate	579	\$1,310	\$9.1	
Ventnor	1,579	\$1,006	\$19.1		Ventnor	1,579	\$1,006	\$19.1	
Total Atlantic County	15,087		\$172.2		Total Atlantic County	3,294		\$44.9	
Economic Loss 10%			(\$17.2)	(\$250.8)	Economic Loss 10%			(\$4.5)	(\$65.3)
Economic Loss 20%			(\$34.4)	(\$501.6)	Economic Loss 20%			(\$9.0)	(\$130.1)
Economic Loss 30%			(\$51.7)	(\$752.3)	Economic Loss 30%			(\$13.5)	(\$195.9)
Economic Loss 40%			(\$68.9)	(\$1,003.1)	Economic Loss 40%			(\$17.9)	(\$261.2)

Assumed Vacation Rental Inflation Rate is 3% and NPV Discount Rate is 6%

[\(1\) City Data.com](#)

V3. 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>

Survey visual information in the report for Atlantic County was based on 3.6MW (model first used in Ireland in 2004) wind turbines, hub height of 73.5M vs. 175M (ASOWNJ) and rotor diameter of 104M vs. 280M (ASOWNJ) or 250 Ft. above sea level compared to 1040 Ft. above sea level for Atlantic Shores Project, 3 and 6 miles off the coast of Atlantic City. The number of wind turbines in the study was 80, compared to 200 turbines for ASOWNJ project with a total cumulative impact of 730 visible turbines. Two pictures, clear and hazy days, were shown to participants. Assumption is that the turbines will not be seen from other shore towns outside of Atlantic County. For wind turbines located 3 miles Offshore, 16.5 % of Atlantic County Visitors are more likely not to visit.

Actual ASOWNJ wind turbines dimensions are 2.7 times (rotor diameter) and 2.4 (hub height), An extrapolation of the hub and rotor heights translates the 3.0 miles to 8.1 miles. This is very close to the 8.7-mile distance from Brigantine, NJ. Factoring in the distance equivalency and more than double the visible wind turbines for the ASOWNJ project and 9 times more visible wind turbines for future planned offshore wind projects, number of participants' negative responses are conservative and should be even higher.

V4. University of Delaware, Atlantic Offshore Wind Energy Development: Values and Implications for Recreation and Tourism, sponsored by the Bureau of Ocean Energy Management (BOEM), Parsons & Firestone, March, 2018 (using the data for smaller, closer turbines with the same line of sight as those proposed for Brigantine) <https://espis.boem.gov/final%20reports/5662.pdf>

Survey used visual impact pictures of 100 turbines each with a height of 547 ft. The Atlantic Shores turbine height is 1040 ft. or 1.9 times the height of turbines used in the study. Adjusting the distance through simple extrapolation, equivalent distance of 5 miles would be 9.5 miles, given the difference in turbine size.

Atlantic Shores turbine distance is 9 miles. In addition, there will be 750-850 turbines in the view of the Atlantic County beaches (cumulative impact), thus, results in this study are conservative estimates. According to the survey results, there is a 24% trip loss at 5 mile (equivalent 9.5 miles for 1040 height turbine) distance. At 5 miles, positive response is negligible.

V5. Tourism Economics, An Oxford Economics Company, The New Jersey Visitor Economy 2022, March 2023 Visit New Jersey.com, Economic Impact (visitnj.org)

V6.

Atlantic County: Reduction in Tourism						
Atlantic County	2022 Annual Tourism \$	Tourism Jobs	Fiscal Tax Impacts	NPV of Tourism \$ over 20 Yrs	FTE Job Years over 20 Years	NPV of Fiscal Tax Impacts over 20 Yrs
Current	\$ 7.8 billion	53,021	\$860 million	\$104.7 billion	1 1 million	\$11.5 billion
\$ Impact (16.5%)	(\$1.3) billion	(8,748)	\$142 million	\$17.4 billion	(175,000)	(\$1.9) million
\$ Impact (24%)	(\$1.9) billion	(12,725)	\$206 million	\$25.5 billion	(255,000)	(\$2.7) billion

Assume 2% Growth Rate and 6% Discount Factor

16.5% reduction based on Global Insight Study(see V3) and 24% reduction based on Parsons & Firestone Study (V4)

V7. Atlantic Shores Offshore Wind South Draft Environmental Impact Statement: Chapters 1-4 (boem.gov)

Table 3.6.1-31. For-hire recreational fishing revenue in New Jersey in comparison to the combined Project 1 and Project 2 WTAs, 2010–2018¹

Year	Revenue in New Jersey (thousands of dollars) ¹	Revenue from WTAs (thousands of dollars) ²	Percentage of Revenue from WTAs
2010	\$55,509	\$13	0.02
2011	\$62,526	\$34	0.05
2012	\$61,825	\$23	0.04
2013	\$102,472	\$15	0.01
2014	\$97,175	\$16	0.02
2015	\$88,203	\$28	0.03
2016	\$33,359	\$10	0.03
2017	\$36,089	\$9	0.02
2018	\$49,439	--	--
Average	\$65,177	\$19	0.03

Sources: (1) NMFS 2022d, (2) NMFS 2022b.

Notes:

Available for-hire recreational revenue data for New Jersey were limited to the period of 2010–2018.

Years with no revenue from the WTAs are indicated by "--"

Atlantic Shores offshore wind developer claims that the project will attract recreational fishing as a result of a "reef affect" as mentioned in a Block Island study, (*Analysis of the Effects of the Block Island Wind Farm on Rhode Island Recreation and Tourism Activities*, BOEM, Smythe, et al. University of Rhode Island, Dec 2018).

This is a total misrepresentation of the study in that Block Island project consists of jacket foundations and Atlantic Shores project foundations will be monopiles unless the developer makes a change to its decision. See information comparing Jacket and Monopile Foundations below from WindPowerEngineering.com.

<p><u>Advantages of jackets (Block Island)</u></p> <ul style="list-style-type: none">• Can be installed using piles or suction caissons in stiff clays or medium-to-dense sands. Soft-soil installations are possible with longer pile lengths that significantly increase friction resistance.• The larger surface area of the lattice configuration may provide an artificial reef location, providing a new habitat for local species.• Economical choice using straightforward manufacturing methods.• Can be moved by barge. <p><u>Disadvantages of jackets</u></p> <ul style="list-style-type: none">• May allow invasive species to establish and spread.• North Sea installations of jacket foundations have reported ongoing grout joint issues, causing long periods of maintenance downtime to sustain structural integrity.• Changes to local water patterns may be detrimental to native marine ecosystems.• Installations using pile drivers can create underwater noise that may injure or kill some marine life.	<p><u>Advantages of monopiles (New Jersey Coast)</u></p> <ul style="list-style-type: none">• Work well in sand and gravel soils.• Have a simple design that installs quickly.• Adaptable for shallow and deeper installations of various sizes.• Cost-effective for installations to 40 m. <p><u>Disadvantages of monopiles</u></p> <ul style="list-style-type: none">• Cost and risks associated with fabrication, installation and transport increase for larger monopiles required at deeper installations where hydrodynamic loads are an issue.• Installation noise can disorient, injure or kill marine life sensitive to pressure waves. This includes humpback whales, loggerhead turtles and manatees.• Wind, wave and seismic loading can negatively affect monopile foundations. This can cause early fatigue damage to the structure if it is not accounted for during installation. <p>Comparing offshore wind turbine foundations (windpowerengineering.com)</p>
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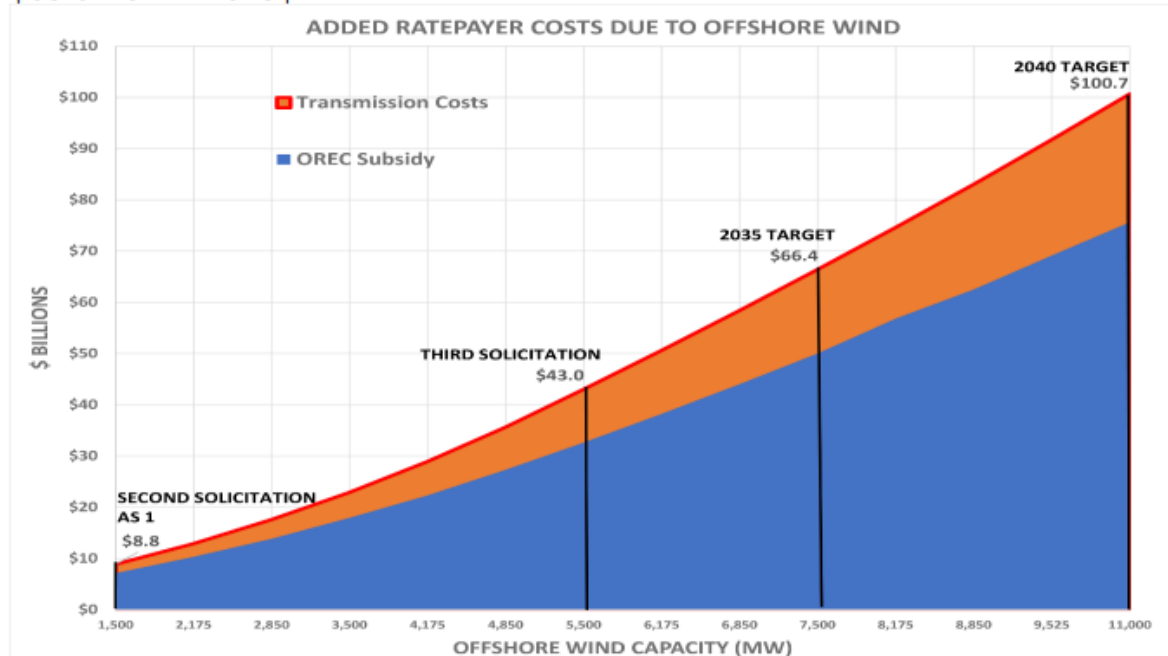
V8. In November 2023, Whitestrand Consulting LLC prepared an analysis of the New Jersey Offshore Wind Program on State Electric Rates for the LBT10 Taxpayers Association. [Impact-of-Offshore-Wind-on-NJ-Electric-Rates-Whitestrand-Consulting-LLC-Nov-2023.pdf \(defendbrigantinebeach.org\)](http://defendbrigantinebeach.org)

The report included an analysis of baseline electric power usage and rates, generation costs, transmission costs and rate impacts for the States goal of installing 11GW of offshore wind energy by 2040. The NJBPU along with wind developers and other government agencies ignore the costs of building out the grid for offshore wind energy. These transmission costs will be billions of dollars passed onto rate payers. **According to the analysis, the extra costs for offshore wind generation and transmission will increase retail rates for all customer classes, by over 55% for residential, 70% for commercial and over 80% for industrial users by 2047.**

Residential customers who currently pay about 16 cents/kwhr will see that price double to over 32 cents/kwh, increasing their annual bill by \$1000 in 2047. For commercial ratepayers, including most small business, offshore wind related costs will add almost \$8400/yr. Industrial electric users will see their bills go up by \$70,000/yr. more by 2047. These rate increases will also impact county and local governments, schools, churches, hospitals etc... As a result, the taxing bodies will be forced to increase their assessments on businesses and residents to pay for their increased utility costs.

Total Cost

As shown on the chart below, the aggregate cost to all ratepayers if the NJ offshore wind program is implemented as planned will be \$101 billion over the period 2028-2047. The total \$101 billion represents a present value cost of over \$63 billion in 2023\$.



The Whitestrand Consulting Group’s November 2023 analysis proved to be accurate based on the NJBPU’s most recent (third) solicitation. In December of 2022 the NJPBU ignored the Division of Rate Counsel’s advice to scale back how much new offshore wind capacity is approved because of economic and financial uncertainties. During a stakeholder meeting, Rate Counsel Director Brian Lipman stated that “ratepayers simply cannot afford drastically higher electric bills.” Instead, the NJPBU went ahead with its solicitation, and in January 2024, awarded contracts to Attentive Energy LLC and Leading Light Wind LLC, entitling them to receive payments averaging more the 15 cents/kwh for 3742 MW of power over 20 years, compared with the 6 cents/kwh wholesale price of power available to state utilities. As a result of this award for 3742 MW of offshore wind power, the residents throughout the state could pay up to \$20 billion extra for power and see their already high bills increase by up to 20% or more. Besides the cost to residents, the rate impacts to commercial and industrial users will be severe, up to 20% and 30% respectively. The award not only approved automatic 2.5%- 3% annual rate increases, but also a 15% inflation rate adjustment. [Economic-Analysis-of-Attentive-and-Invenenergy-Offshore-Wind-Projects-Whitestrand-Consulting-LLC-Feb-2024.pdf \(defendbrigantinebeach.org\)](#)

The NJBPU just issued guidance for the fourth solicitation for offshore wind energy. In this guidance they are also allowing a 15% inflation rate adjustment which will be passed onto rate payers. This inflation adjustment was previously opposed by the NJ Rate Council in the third solicitation as documented in their public comments submitted to the NJPBU. More importantly, the NJPBU is allowing Atlantic Shores Project 1 and Ocean Wind 1, 2 to somehow cancel their contracts already approved for the first and second solicitations in 2019 and 2021 for 3758 MW of energy and resubmit higher cost bids in the fourth solicitation. [Economic-Analysis-of-Rebid-of-Atlantic-Shores1-Project-Whitestrand-Consulting-LLC-3.23.24.pdf \(defendbrigantinebeach.org\)](#)

A highly respected annual report on average energy costs is the Lazard’s Levelized Cost of Energy (LCOE). According to Lazard’s cost of energy (found on Defend Brigantine Beach website [PowerPoint Presentation \(defendbrigantinebeach.org\)](http://PowerPoint Presentation (defendbrigantinebeach.org))), unsubsidized offshore wind is at least double the cost of onshore wind and natural gas. This does not even account for the high cost of industrial battery storage which is required for intermittent energy because its supply does not follow the cycle of demand. This storage, according to the report, will add another 52% to the cost. This is referred to the “cost of firming intermittency.”

Other sources questioning the affordability of offshore wind are:

[For Release: Revised Cost Estimates Show Energy Master Plan Will Cost \\$1.4 Trillion, Sending the State Back to the Drawing Board | Affordable Energy For NJ \(njaffordableenergy.com\)](#)

[AENJ Email 2/20/23: Governing By Press Release | Affordable Energy For NJ \(njaffordableenergy.com\)](#)

[AENJ Email 6/5/23: Back Door Gas Stove Ban | Affordable Energy For NJ \(njaffordableenergy.com\)](#)

V9. [Visit Atlantic City Airshow A Success - Brings Nearly A Half Of A Million People to Atlantic City Atlantic City Airshow to return Aug. 24 \(pressofatlanticcity.com\)](#)

V10. The beaches and ocean view are an attraction and provide a competitive advantage for Atlantic City casinos. Atlantic City is known as a waterfront destination city for casino tourists as a result. Atlantic City remains the 2nd largest casino industry behind Las Vegas. ASOWNJ project and other planned offshore wind projects will have a major adverse impact on the view from the casino ocean front rooms, restaurants, beach bars and other ocean front activities which will be dominated by a large and highly visible array of wind turbine generators. The state of the “bricks and mortar” casino industry in Atlantic City is fragile.

State of Casinos in Atlantic City

- **2006 Peak Revenue at \$5.2 B**
- **Interstate Competition and AC Casino Retrenchment 2014-16: Reduction to 7 from 12 Casinos = Revenue of \$2.6B**
- **2021 Bricks and Mortar = \$2.6B**
- **2021 Internet and Gaming = \$2.1B (45%), Cannibalizing Brick and Mortar Revenue**
- **2023: NY State Casino Market Expansion and Proposed Solution to Invest in AC Ocean Front Experience** [Atlantic City investments a must as New York casinos loom, gaming panel says \(pressofatlanticcity.com\)](#)

First, the onslaught of online gaming has cannibalized the bricks and mortar casino tourists in Atlantic City. Second, there are 14 licensed casinos in Pennsylvania. Several are in scenic areas such as ski resorts. Others are adjacent to large urban and suburban areas such as Philadelphia. A new, 510,000 square foot casino with 200 hotel rooms was built next to the sports stadiums in Philadelphia. Pennsylvania casinos offer the same entertainment and fine dining as Atlantic City casinos. Lastly, the NY State casino market is expanding which will bring more competition to the industry. Local industry experts proposed a solution to invest in Atlantic City’s ocean front experience. The ASOWNJ project is in direct conflict with this solution. [Atlantic City investments a must as New York casinos loom, gaming panel says \(pressofatlanticcity.com\)](#).

- The casinos are the major employer of union labor in Atlantic County.

The casino-hotel employment in the County by number of employees as is as follows:

<u>Casino Name</u>	<u>Dated Opened</u>	<u>Total Employees (as of 12/31/21)</u>	<u>Total Employees (as of 12/31/22)</u>
Resorts Casino Hotel ⁽¹⁾	May 1978	1,593	1,643
Caesars Atlantic City Hotel Casino ⁽²⁾	June 1979	2,300	2,561
Bally's Atlantic City Casino Resort	December 1979	1,514	1,462
Harrah's Resort Atlantic City	November 1980	2,497	2,441
Tropicana Atlantic City Resort & Casino	November 1981	2,155	2,094
Golden Nugget Atlantic City ⁽³⁾	June 1985	1,517	1,358
Borgata Hotel, Casino & Spa	July 2003	4,004	4,504
Hard Rock Hotel & Casino	June 2018	3,442	3,448
Ocean Casino Resort	June 2018	<u>2,777</u>	<u>3,285</u>
Total:		21,799	22,796

Source: New Jersey Division of Gaming Enforcement and New Jersey Casino Control Commission

⁽¹⁾ Total Employees for Resorts Casino Hotel include people employed by Resorts Digital Gaming, NJ.

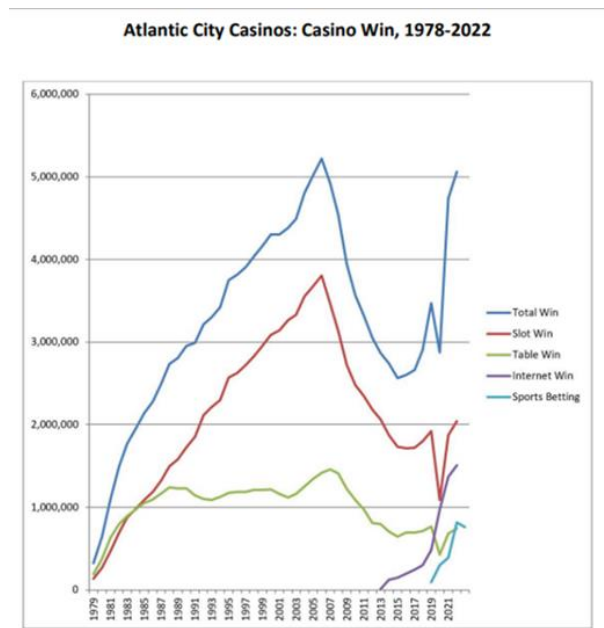
⁽²⁾ Total Employees for Caesars Atlantic City include people employed by Caesars Enterprise Service and Caesars Interactive Entertainment, NJ.

⁽³⁾ The figures for Golden Nugget Atlantic City include people employed by Golden Nugget Online Gaming, NJ.

<https://emma.msrb.org/P11717276.pdf>

- Not only do the Casinos add billions to the tourist economy, but they have also supported billions of dollars in other related industries including construction and manufacturing. Just in the last several years, Casinos have invested \$1 billion in hotel room renovations, constructing new restaurants and updated amenities. If the Casino management and leadership continue to believe that the Atlantic City casino market is sustainable, they will continue to invest in and expand their facilities. The construction created thousands of jobs over the years. Business losses resulting from external factors beyond the casinos' control - such as the visual impact of wind turbine ocean industrialization - will end further investments in casino facilities. The wind developers and government agencies ignore the potential loss of business development related to casino renovation and construction projects and loss of union construction jobs. [Atlantic City Casino Owners Still Spending Millions On World Class Resort \(playnj.com\)](https://www.playnj.com/news/atlantic-city-casino-owners-still-spending-millions-on-world-class-resort)
- The casinos are owned by national/international brand casino industry corporations. If the bottom line of the bricks and mortar activities no longer makes business sense, the casino investors will cut their losses in Atlantic City, concentrate on their other casino locations, and there will be further contraction in Atlantic City.

- Fragile state of Atlantic City Casinos and impact on Atlantic County: Casino contraction in 2014-16 resulted in a reduction of casino revenues from \$5.2 billion to \$2.6 billion. This had a significant impact on the local economies. As a result of this contraction, Atlantic City was on the verge of bankruptcy and taken over by the State in 2016. The takeover was renewed by the Governor in 2021. The Atlantic County government debt rose from \$132 million to \$203 million and the equalized value of property fell from \$56 billion to \$35 billion. Atlantic County tax rate is now double the Cape May County rate. The residents now have the burden of filling the gap in taxes caused by the casino contraction. In 2016 the Casino Property Tax Stabilization Act replaced casino property taxes payments in lieu of taxes (PILOT). Currently Casinos are involved in a lawsuit to get the online gaming and sports betting revenues excluded from the PILOT program therefore there is a possibility that future taxes would only apply to bricks and mortar gambling revenues. The final decision will increase the importance of closely examining the impact ASOWNJ projects will have on gambling tourism bricks and mortar operations in Atlantic City. [AC History \(unlv.edu\)](http://unlv.edu)



- This is information from the Atlantic City Bond Rating, which indicates the risk of contraction in the casino industry.

https://www.moody.com/research/Moodys-upgrades-Atlantic-City-NJs-issuer-rating-to-Ba2-outlook-Rating-Action--PR_907843127

FACTORS THAT COULD LEAD TO A DOWNGRADE OF THE RATING

- Contraction in the casino industry
- Material deterioration in reserves and liquidity
- Withdrawal of state oversight and inability to independently manage operations

V11. Offshore Wind Developments' Impact on Residential Property Values

Government Agencies and Wind Developers cite this study to conclude that offshore wind development will have no impact to property values: Do Views of Offshore Wind Energy Detract? A Hedonic Price Analysis of the Block Island Wind Farm in Rhode Island (Dong & Lang, Dept of Environmental And Natural Resource Economics, University of Rhode Island, April 2022). This study is misleading and not relevant to the wind projects off the coast of New Jersey for the following reasons:

- Block Island only has 5 Wind Turbines, Total Height 659 Ft. 3.8 miles from shore Vs. 200 Wind Turbines, Total Height, 1049 starting 8.7 miles from NJ shore.
- Wind turbines area located at Southern End of Island off Rocky Coasts and Cliffs, small strip of beach in area that is residential with homes on very large lots (3-4 acres).
- Wind turbines are located much further and less visibility from popular beaches and large harbor on the other side of the Island.
- Residential housing significantly less dense compared to Jersey Shore: Example, Block Island: 1400 residences in 9.73 sq miles vs. Brigantine: 5328 SFH residences and 3353 multifamily residences in 6.5 sq miles. Block Island view shed of ocean and natural surroundings is much more expansive with only 5 turbines with a significantly smaller area of the ocean landscape.
- Atlantic County Shore towns and Block Island homeowner experiences are not the same.

It is more prudent to use the Lutzeyer et. al., August 2017 study (see **V1.**) to draw conclusions about consumer behavior in the real estate market, given that the Lutzeyer study examined choices that renters made with properties that had views of wind turbines. This study included nighttime views which increased the visual disamenities and avoidance of rental properties with views of the wind turbines. Participants were divided into categories: 55% never wanted a view from a rental property no matter how much rent was discounted, 23% would tolerate some view along with various rent discounts, and 21% would rent with a view all the time. No participants would pay more rent to see the wind turbines. The results from the study used in the calculations on Economic Impact have a 95% confidence level. ([North Carolina State University, the Amenity Costs of Offshore Wind Farms- Evidence from a Choice Experiment](https://cenrep.ncsu.edu/cenrep/wp-content/uploads/2016/03/WP-2017-017.pdf), Lutzeyer et. al., August 2017. <https://cenrep.ncsu.edu/cenrep/wp-content/uploads/2016/03/WP-2017-017.pdf>) The results of this study are a great cause of concern to those who own real estate at the Jersey Shore, especially owners of beach view properties.

Another report supporting the theory that visible wind turbines would impact real estate values was prepared by Global Insight for the State of New Jersey in 2008 based on a survey completed by the Lieberman Research Group, [New Jersey Shore Opinions About Off-Shore Wind Turbines](https://www.state.nj.us/bpu/pdf/announcements/njoswt.pdf). (*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>)

Survey visual information in the report for Atlantic County was based on 3.6MW (model first used in Ireland in 2004) wind turbines, hub height of 73.5M vs. 175M (ASOWNJ) and rotor diameter of 104M vs. 280M (ASOWNJ) or 250 Ft. above sea level compared to 1040 Ft. above sea level for Atlantic Shores Project, 3 and 6 miles off the coast of Atlantic City. The number of wind turbines in the study was 80, compared to 200 turbines for ASOWNJ project with a total cumulative impact of 730 visible turbines. Two pictures, clear and hazy days, were shown to participants. Assumption is that the turbines will not be seen from other shore towns outside of Atlantic County. For wind turbines located 3 miles Offshore, 16.5 % of Atlantic County Visitors are more likely not to visit.

Actual Atlantic Shores wind turbines dimensions are 2.7 times (rotor diameter) and 2.4 (hub height), An extrapolation of the hub and rotor heights translates the 3.0 miles to 8.1 miles. This is very close to the 8.7-mile distance from Brigantine, NJ. Factoring in the distance equivalency and more than double the

visible wind turbines for the Atlantic Shores project and 9 times more visible wind turbines for future planned offshore wind projects, number of participants' negative responses are conservative and should be even higher.

The report states that real estate impacts analyzed in the 2003 Renewable Energy Policy Project did not consider the view of premiums which come into play, especially the value of an ocean-view or ocean front house. It is those premiums that Global Insight examined. Global Insight group provides the following analysis:

“The oceanfront premium is examined as, in many surveys and environmental impact statements; it is the impact of wind farms on the view that is considered one of the biggest drawbacks of wind farms. In addition, there exists significant literature stating that an ocean view/oceanfront house adds to the value of that property.”

According to the Lieberman Research Group Survey, “of all the disadvantages mentioned, esthetic issues (a wind farm would be “ugly” or an “eye sore” and it would obstruct the ocean view) were mentioned most often. In FACT, OF THE 66% of respondents that mentioned a disadvantage to the wind turbine project, 32% of the total mentioned the impact of the wind farm on the ocean view.”

The percentage of respondents who were shown views comparable to 1040 ft high wind turbines, 8.7 miles from the beach, 45% mentioned view issues.

“On Barrier islands, as well as other beachfront communities, the distance from one's residence to the beach is strongly connected to the property price. Although scenic views are desirable, the single most important attribute for vacationing families is: how close is the beach? In a recreation- oriented beach community, this question is answered in blocks or even better, in the number of houses from the beach.”

In the 2004 study, buyers were willing to pay 46% premium on a beach block home and 156% premium for a beach front home in Stone Harbor and Avalon. A similar study in Washington State found that oceanfront view added 147% to value, ocean views added 32% and partial ocean views added 10%. A 2000 study for Long Beach Island homes also confirmed that after controlling for all other aspects that add value to an island house, a variable for distance to the beach is included to ascertain the willingness to pay for one additional house closer. (Value of Ocean Proximity on Barrier Island Houses, Appraisal Journal (April 2000); The Beach Study: An Empirical Analysis of Distribution of Coastal Property Values, <http://forms.gradsch.psu.edu/equity/mcnair/2003/major.pdf> ; Influence of Canadian Investment on U.S. Residential Property Values, Journal of Real Estate Research, 2003)

The views of the offshore turbines impact on real estate values are examined using the Brigantine NJ community as an example. Brigantine tax office property files were used as the basis of the analysis. Records were eliminated that were not single family and multifamily residences. Vacant land, exempt properties, and properties with zero value were eliminated. Through Google Earth and physical inspection, properties were identified that were beach front and beach view, and records were coded according to their category. Single-family homes and multifamily homes were examined in separate files. The multifamily homes could be a unit in a duplex or part of a multistory, multibuilding resort like

community. The value of the properties was based on the assessed value of land and property improvements and adjusted for the Equalized Value published by Atlantic County each year. A further adjustment to the values was made to account for the price listed on Zillow website based on the average price difference of a sample of 270 properties. The results of the final base line data are in the table below:

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				

An analysis was prepared using the method used in the 2008 Global Insight Report (Footnote V3). The methodology was based on the calculation of percentage increases in real estate based on premiums paid for beach view properties. The premium percentages were based on the 2004 Penn State study of homes in Avalon, New Jersey. Brigantine The Avalon ocean views and beaches are very similar. Brigantine housing density is somewhat less than Avalon’s but overall ocean views are the same. Therefore, the premium percentages can be applied to the Brigantine real estate values to calculate the impact of the 180-degree view of 1040 Ft. high wind turbines, starting 8.7 Miles off the Brigantine beaches.

Using an oceanfront premium of 156% makes the value of a Brigantine single family home residential property worth \$2 million (based on Zillow values). A residential ocean view property would be worth \$1.2 million and a property in proximity to the ocean would be worth \$877,000. Our own data and calculations of average home values for single family homes are very similar to the “premiums” calculated in the Avalon study. The table also lists the calculation for the multifamily premiums.

The assumption used by Global Insight’s analysis was that “a property can only ‘fall’ one category as the result of wind turbines being placed offshore. Said differently, the value of an oceanfront property can drop no lower than the value of an ocean-view property. Similarly, an ocean-view property whose value is affected by the wind farm will drop no lower than a house in proximity to the ocean. Logically this makes sense as the homeowner will still be in proximity to the ocean with its breezes and the easy walk back even if the homeowner’s total view is affected by the wind turbines.” Since we do not have a count on multifamily homes within proximity to the ocean, the calculation is prepared with both premium amounts to provide an upper and lower range of losses.

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

Based on Zillow values, the impact to real estate could be a reduction of \$670 - \$795 million for Brigantine. For single family homes alone, real estate value reduction is \$288 million (Zillow value). The Global Insight analysis includes an additional step assuming that the reduction would be less if a property did not have a 180-degree view of the wind turbines. The calculation assumed that an oceanfront property has a view that covers about 180 degrees. According to Global Insight, "If a wind farm was built directly off the shore only three miles away, it would impact about 45 degrees of that view, or about a quarter of its view. The property would lose 25% of the premium due to the wind farm. To adjust for the "degrees of impact", the total loss maximum was multiplied by 25% to arrive at the reduced loss amount."

In Brigantine, there will be 730 wind turbines in view, starting 8.7 miles off the coast in Brigantine in all directions. BOEM has not measured "the degrees of impact" for the cumulative effect of the ASOWNJ project and future proposed offshore wind turbines. Therefore, no adjustment was made for the degrees of impact.

The results of the calculations have a major impact on the financial wellbeing of the residents of Brigantine and can be applied to every ocean front community with visible offshore wind turbines in Atlantic County, Cape May County, and Ocean County. The loss of property values will also impact the County and City/Municipal tax revenues as owners appeal the assessed value of their properties, and there will be less incentive to renovate, build and rebuild properties with ocean views. Lastly this study assumes that there will be no impact to properties that do not have a view of the Ocean. In Brigantine, the beach is walkable from at least one half of

its homes. The width of the island is on ½ mile. If the homeowners' reason for purchasing a home is to enjoy the beach's pristine views, this incentive will be eliminated because of the view of 730 wind turbines starting 8.7 miles off the beach in all directions. The impact on the housing market in Brigantine could be much greater than a reduction in value of \$670- \$795 million based on Zillow market values in 2023.

Below is a table of the calculation of the reduction in residential property values for all coastal communities in Atlantic County based on the percentage reductions of property values in Brigantine. These numbers are based on the equalized value of property which is lower than the Zillow market values. The assessed and equalized values are used in this table since the county tax assessments are based on the equalized values and local and schools use the assessed values. Please note that the impact to the financial well-being is even greater since the true market value is typically higher than the assessed and equalized values based on the sample comparison of homes on Zillow.com.

Based on the Brigantine loss analysis, residential property values will be reduced anywhere from 12-14% or an average of 13%. Using the 13% reduction for all the coastal communities, this results in a loss of \$2.2 billion in the equalized value of real estate in the Atlantic County coastal towns of Brigantine, Atlantic City, Long Port, Margate and Ventnor. Atlantic County will lose \$9.4 million in taxes for their general budget and \$800,000 in taxes to support their libraries, health services and open space. As the coastal town property values drop, the in-land communities will be forced to absorb more of the county tax assessment. Total tax loss across the county coastal community school districts will be \$10 million and coastal community local budgets will lose \$15.6 million. Total tax loss is estimated to be \$36 million for the County, school districts and local governments because of lower residential property values in the coastal communities. The governments will be faced with a decision to further increase taxes, reduce services or a combination of both alternatives. What source of revenue will the offshore wind industry provide to these government bodies to offset the loss in taxes from reduced residential property values?

Impact of Offshore Wind Projects to Residential Property Values and Local Taxes						
	Brigantine *	AC	LP	MARG	VENTNOR	TOTAL
residential assessed value**	3,311,289,600	1,318,649,953	1,856,802,200	3,807,540,500	2,019,296,700	12,313,578,953
residential value equal rate	4,502,669,283	1,773,599,513	2,364,220,888	5,578,174,100	2,441,402,884	16,660,066,668
number of properties	8,680	10,759	1,584	6,703	6,388	34,114
average value (eq)	518,741	164,848	1,492,564	832,191	382,186	488,365
Asssed Value Loss						
loss low	(394,477,536)	(157,092,205)	(221,202,868)	(453,596,446)	(240,561,015)	(1,466,930,069)
loss high	(636,516,326)	(250,723,510)	(334,216,239)	(788,554,224)	(345,127,012)	(2,355,137,311)
Average loss	(515,496,931)	(203,907,857)	(277,709,554)	(621,075,335)	(292,844,013)	(1,911,033,690)
Equalized Value Loss						
loss low	(536,407,895)	(211,290,841)	(281,652,209)	(664,533,955)	(290,846,984)	(1,984,731,883)
loss high	(636,516,326)	(250,723,510)	(334,216,239)	(788,554,224)	(345,127,012)	(2,355,137,311)
Average loss	(586,462,110)	(231,007,175)	(307,934,224)	(726,544,089)	(317,986,998)	(2,169,934,597)
high% property loss	-12%	-12%	-12%	-12%	-12%	-12%
low% property loss	-14%	-14%	-14%	-14%	-14%	-14%
County Tax Rate	4.39	3.76	4.38	4.38	4.39	
County loss taxes	(2,572,192.14)	(869,681.28)	(1,349,558.74)	(3,185,627.05)	(1,394,730.03)	(9,371,789)
						-5%
Libraries, Health Svcs, Open Space Tax Rate	0.57	0.05	0.25	0.25	0.57	
Tax Loss	(331,358.93)	(10,842.60)	(78,296.56)	(184,811.35)	(179,674.43)	(784,984)
						-4%
School District Tax Rate	4.91	14.57	0.77	3.05	8.39	
Tax Loss	(2,531,985.17)	(2,971,742.86)	(212,828.14)	(1,891,921.33)	(2,456,155.60)	(10,064,633)
	-15%	-8%	-14%	-16%	-14%	
Municipal Budget Tax Rate	6.83	15.93	3.99	6.65	12.23	
Tax Loss	(3,520,934.46)	(3,248,834.79)	(1,106,896.31)	(4,128,715.62)	(3,581,236.68)	(15,586,618)
	-15%	-8%	-14%	-16%	-14%	
Total County and Local Tax Loss	(8,956,470.70)	(7,101,101.54)	(2,747,579.75)	(9,391,075.34)	(7,611,796.74)	(35,808,024.07)
2023 ASSESSMENT, ATLANTIC COUNTY						
* BRIGANTINE BASED ON DETAILED PROPERTY LOSS ANALYSIS						
** Excludes vacant land and apartments greater than 4 units						

The analysis reveals that residential property values are adversely and measurably impacted by the proximity of the industrial- scale of planned wind energy turbine projects. There will also be a serious impact on the use and enjoyment of many homes in our communities. The approval of wind energy projects within such a proximity to occupied homes is tantamount to an inverse condemnation, or regulatory taking of private property rights, as the views and noise are in some respects a physical invasion resulting in a forced reduction in property values.

Additional Information Related to the Atlantic County's Tourism Industry and Offshore Wind Developments' Impact

Beaches and Pristine Ocean Views are Our Life Blood for Atlantic County Tourism.

- The major factor of tourism real estate in Atlantic County 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=IwAR0sgA02VnNMNTF6MjDTWNZWV_8epWmjHDtNHGmvm11kZSkCwIMo7hiVsL4#brigantine-beach

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

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

Beautiful Atlantic City Beaches Featured in the News

[Atlantic City Beach Reviews | U.S. News Travel \(usnews.com\)](#)

Atlantic City Beach

#1 in [Best Things To Do in Atlantic City](#)

[The Best of Atlantic City, from Boardwalk to Beaches | Pacaso](#)

The best of Atlantic City, from boardwalk to beaches

PUBLISHED DATE: JANUARY 5, 2023

[Comparing Atlantic City vs. Las Vegas: which is better? - CasinoUSA](#)

The most important factor that sets Atlantic City apart from Las Vegas is that it has beaches. This tiny little aspect is the prime reason for competition between Las Vegas and Atlantic City, because not only does the city have beaches, it has free beaches.

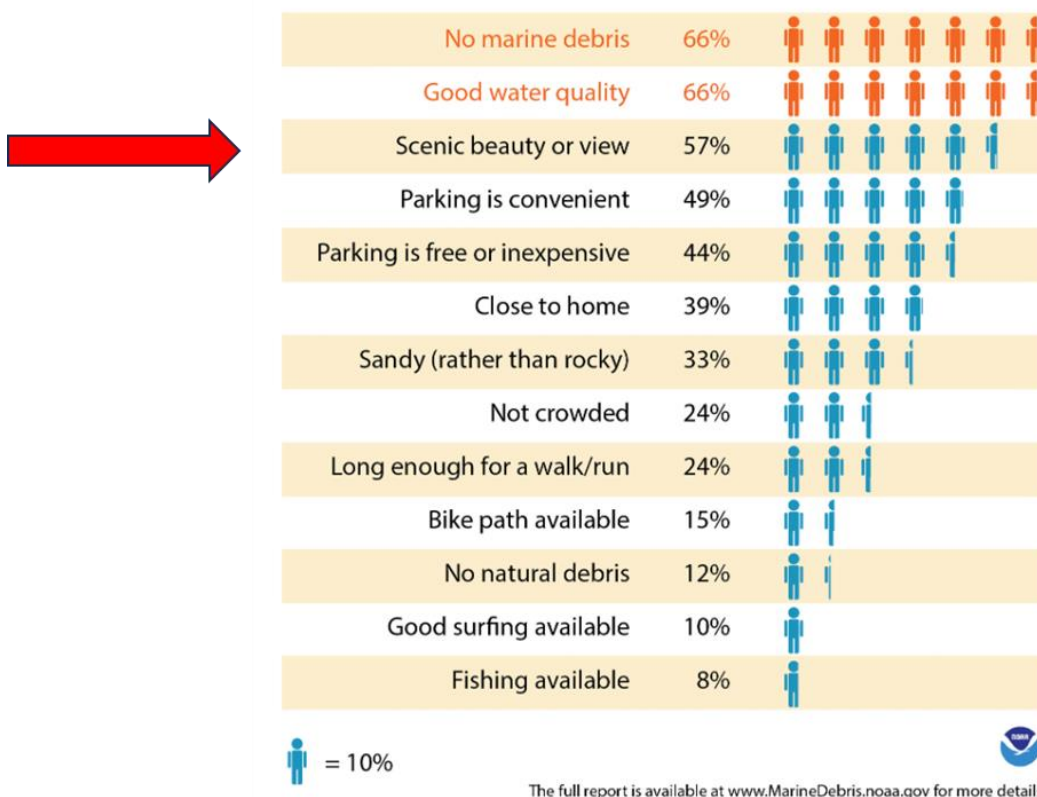
National Oceanic and Atmospheric Administration's (NOAA) Survey on Very Important Characteristics of Beaches

According to NOAA survey 57% ranked scenic beauty or view as a very important beach characteristic.

[2019.07.Econ_Impacts.Marine.Debris.complete.wFN_30Aug2019_508\(1\).pdf](#) (this was the link to the Marine Debris Study but it has since been taken off NOAA's website)



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



Wind Turbine Rotating Blade Effect

The visual impact of the stationary turbines is just part of the impact to the shore. The physiological impact of any prolonged view of the rotation is unclear, but because of the disparity between what the brain expects to see at the seashore and the actual view, it could cause visible induced vertigo or other effects. [Offshore Wind Turbine Visibility and Visual impact Threshold Distances, Robert Sullivan, Argonne Labs](#)

Nothing has been said about this by the government agencies or wind turbine developers, but it is a serious problem and should be considered before proceeding with any project so close with such a MAJOR visible impact.

The Cumulative Historic Resources Visual Effect Analysis and BOEM's Adverse Finding [Atlantic Shores Offshore Wind South Draft Environmental Impact Statement: Finding of Adverse effect for Construction and Operations \(boem.gov\)](#)

The Atlantic Shore South project, along with the cumulative impact of other planned offshore wind projects, beginning 8.7 miles off the shore will have a major impact to tourism including the tourist's visual experience related to historic properties. BOEM finds that the undertaking would adversely affect the following historic properties:

- 37 ancient submerged landform features (ASLFs) with potential archaeological or traditional cultural property (TCP) significance (Table I-5; Section I.3.1.1, Assessment of Effects on Historic Properties in the Marine APE)
- One terrestrial archaeological resource (Table I-6; Section I.3.1.2, Assessment of Effects on Historic Properties in the Terrestrial APE)
- 28 historic aboveground resources: one in the terrestrial portion of the area of potential effects (APE) and 27 in the visual portion of the APE, including two NHLs (Tables I-6 and I-8; Section I.3.1.2, Assessment of Effects on Historic Properties in the Terrestrial APE, and Section I.3.1.3, Assessment of Effects on Historic Properties in the Visual APE)

Table 4 Summary of theoretically visible WTGs by project from historic properties

Historic Property	Maximum Number of Theoretically Visible WTGs and Hubs per Project Presented as: WTGs (up to blade tip); Hubs									
	Atlantic Shores South (the Project)	Atlantic Shores North	Ocean Wind 1	Ocean Wind 2	Garden State	Skipjack	Bight Wind Holdings	Atlantic Shores Offshore Wind Bight	Invenergy Wind Offshore	Total
Atlantic City Boardwalk Historic District	200; 200	148; 148	98; 98	111; 111	60; 30	41; 0	32; 0	95; 80	91; 13	876; 680
Atlantic City Convention Hall NHL	200; 200	148; 148	98; 98	111; 111	59; 0	5; 0	0; 0	93; 3	35; 0	749; 560
Brigantine Hotel	200; 200	148; 148	98; 98	111; 111	11; 0	0; 0	7; 0	95; 26	52; 0	722; 583
Brighton Park	200; 200	148; 145	98; 98	111; 111	0; 0	0; 0	0; 0	0; 0	0; 0	557; 554
Central Pier	200; 200	148; 148	98; 98	111; 111	4; 0	0; 0	0; 0	0; 0	31; 0	592; 557
Colonial Revival Residence at 120 Atlantic Avenue	200; 200	148; 148	98; 98	111; 111	0; 0	0; 0	0; 0	0; 0	40; 0	597; 557
Folk Victorian Residence at 5231–5229 Central Avenue	200; 195	143; 25	98; 98	111; 111	60; 2	16; 0	0; 0	0; 0	0; 0	628; 431
Gillian’s Wonderland Pier	200; 200	148; 102	98; 98	111; 111	59; 0	0; 0	0; 0	0; 0	0; 0	616; 511
John Stafford Historic District	200; 200	148; 147	98; 98	111; 111	11; 0	0; 0	0; 0	7; 0	0; 0	575; 556
Little Egg Harbor U.S. Life Saving Station #23	200; 200	148; 148	98; 98	111; 94	0; 0	0; 0	1; 0	91; 0	10; 0	659; 540
Lucy, The Margate Elephant	200; 200	148; 120	98; 98	111; 111	11; 0	0; 0	0; 0	0; 0	0; 0	568; 529
Margate Fishing Pier	200; 200	148; 132	98; 98	111; 111	7; 0	0; 0	0; 0	0; 0	0; 0	564; 541
Missouri Avenue Beach (Chicken Bone Beach)	200; 200	148; 136	98; 98	111; 111	0; 0	0; 0	0; 0	0; 0	0; 0	557; 545
Music Pier	200; 200	148; 101	98; 98	111; 111	59; 0	0; 0	0; 0	0; 0	0; 0	616; 510

Historic Property	Maximum Number of Theoretically Visible WTGs and Hubs per Project Presented as: WTGs (up to blade tip); Hubs									
	Atlantic Shores South (the Project)	Atlantic Shores North	Ocean Wind 1	Ocean Wind 2	Garden State	Skipjack	Bight Wind Holdings	Atlantic Shores Offshore Wind Bight	Invenergy Wind Offshore	Total
Ocean City Boardwalk	200; 200	148; 51	98; 98	111; 111	32; 0	0; 0	0; 0	0; 0	0; 0	589; 460
Residence at 114 South Harvard Avenue	200; 200	148; 143	98; 98	111; 111	11; 0	0; 0	0; 0	0; 0	0; 0	568; 552
Residence at 125 S Montgomery Avenue	200; 200	148; 143	98; 98	111; 111	4; 0	0; 0	0; 0	0; 0	0; 0	561; 552
Ritz Carlton Hotel	200; 200	148; 148	98; 98	111; 111	60; 11	27; 0	6; 0	95; 33	62; 0	807; 601
Riviera Apartments	200; 200	148; 129	98; 98	111; 111	0; 0	0; 0	0; 0	0; 0	0; 0	557; 538
Saint Leonard's Tract Historic District	200; 200	148; 148	98; 98	111; 111	60; 4	14; 0	0; 0	82; 0	18; 0	731; 561
Seaview Golf Club, Clarence Geist Pavilion	200; 200	148; 148	98; 98	111; 111	11; 0	0; 0	0; 0	80; 0	7; 0	655; 557
Two-and-a-Half-Story Residence at 124 Atlantic Avenue	200; 200	148; 148	98; 98	111; 111	0; 0	0; 0	0; 0	37; 0	0; 0	594; 557
Two-Story Residence at 108 South Gladstone Avenue	200; 200	148; 139	98; 98	111; 111	20; 0	0; 0	0; 0	0; 0	0; 0	577; 548
Two-Story Residence at 114 South Osborne Avenue	200; 200	148; 136	98; 98	111; 111	20; 0	0; 0	0; 0	0; 0	0; 0	577; 545
U.S. Coast Guard (USCG) Station Atlantic City	200; 200	148; 148	98; 98	111; 111	0; 0	0; 0	0; 0	46; 0	1; 0	604; 557
Vassar Square Condominiums	200; 200	148; 148	98; 98	111; 111	60; 22	35; 0	2; 0	95; 25	51; 0	800; 604
Ventnor City Fishing Pier	200; 200	148; 143	98; 98	111; 111	21; 0	0; 0	0; 0	0; 0	0; 0	568; 552

Notes: Percentages are rounded to the nearest tenth place decimal.

Table 1 Historic properties adversely affected by the Project

Property Name	Address/Location	NRHP Status	Distance To Nearest Project WTG
Atlantic City Boardwalk Historic District	Atlantic City, NJ	Eligible (Determined by NJ HPO)	10.47 miles
Atlantic City Convention Hall NHL	2301 Boardwalk, Atlantic City, NJ	National Historic Landmark	11.4 miles
Brigantine Hotel	1400 Ocean Avenue, Brigantine City, NJ	Potentially eligible	9.91 miles
Brighton Park	1801 Boardwalk, Atlantic City, NJ	Potentially eligible as a contributing element to the Atlantic City Boardwalk Historic District	11.16 miles
Central Pier	1400 Boardwalk, Atlantic City, NJ	Eligible (Determined by NJ HPO)	10.85 miles

Property Name	Address/Location	NRHP Status	Distance To Nearest Project WTG
Two-Story Residence at 114 South Osborne Avenue	114 South Osborne Avenue, Margate City, NJ	Eligible (Determined by BOEM)	14.11 miles
U.S. Coast Guard (USCG) Station Atlantic City	900 Beach Thorofare, Atlantic City, NJ	Eligible (Determined by NJ HPO)	11.46 miles
Vassar Square Condominiums	4800 Boardwalk, Ventnor City, NJ	Eligible (Determined by BOEM)	12.45 miles
Ventnor City Fishing Pier	Cambridge Avenue at the Ventnor City Boardwalk, Ventnor City, NJ	Potentially eligible	12.83 miles

Source: Atlantic Shores 2023.

Notes: BOEM = Bureau of Ocean Energy Management; NJ = New Jersey; NJ HPO = New Jersey Historic Preservation Office.

Property Name	Address/Location	NRHP Status	Distance To Nearest Project WTG
Colonial Revival Residence at 120 Atlantic Avenue	120 Atlantic Avenue, Atlantic City, NJ	Potentially eligible	10.65 miles
Folk Victorian Residence at 5231–5229 Central Avenue	5231–5229 Central Avenue, Ocean City, NJ	Potentially eligible	20.82 miles
Gillian's Wonderland Pier	600 Boardwalk, Ocean City, NJ	Eligible (Determined by NJ HPO)	17.01 miles
John Stafford Historic District	Ventnor City, NJ	NRHP Listed	12.47 miles
Little Egg Harbor U.S. Life Saving Station #23	800 Great Bay Boulevard, Little Egg Harbor Township, NJ	Eligible (Determined by NJ HPO)	11.95 miles
Lucy, The Margate Elephant	Decatur and Atlantic Avenues, Margate City, NJ	National Historic Landmark	14.4 miles
Margate Fishing Pier	121 S. Exeter Avenue, Margate City, NJ	Potentially eligible	13.6 miles
Missouri Avenue Beach (Chicken Bone Beach)	Atlantic City, NJ	Eligible (Determined by NJ HPO)	11.2 miles
Music Pier	825 Boardwalk, Ocean City, NJ	Eligible (Determined by NJ HPO)	17.2 miles
Ocean City Boardwalk	Ocean City, NJ	Eligible (Determined by NJ HPO)	16.9 miles
Residence at 114 South Harvard Avenue	114 South Harvard Avenue, Ventnor City, NJ	Eligible (Determined by NJ HPO)	13.01 miles
Residence at 125 South Montgomery Avenue	125 S. Montgomery Avenue, Atlantic City, NJ	Potentially eligible	12.4 miles
Ritz Carlton Hotel	2715 Boardwalk, Atlantic City, NJ	Eligible (Determined by NJ HPO)	11.66 miles
Riviera Apartments	116 S. Raleigh Avenue, Atlantic City, NJ	Eligible (Determined by NJ HPO)	12.3 miles
Saint Leonard's Tract Historic District	Ventnor City, NJ	Eligible (Determined by NJ HPO)	12.69 miles
Seaview Golf Club, Clarence Geist Pavilion	401 South New York Road, Galloway Township, NJ	Potentially eligible	15.6 miles
Two-and-a-Half-Story Residence At 124 Atlantic Avenue	124 Atlantic Avenue, Atlantic City, NJ	Potentially eligible	10.65 miles
Two-Story Residence at 108 South Gladstone Avenue	108 South Gladstone Avenue, Margate City, NJ	Eligible (Determined by NJ HPO)	13.82 miles

The negative impact is so detrimental that the Bureau of Ocean Energy Management (BOEM) has made a Finding of Adverse Effect under Section 106 of the National Historic Preservation Act (NHPA) pursuant to 36

Code of Federal Regulations (CFR) 800.5. It is stated that BOEM will continue consultations with consulting parties for resolving adverse effects on historic properties.

The Bureau of Ocean Energy Management (BOEM) in its Environmental Impact Study, does not present any significant mitigation measures to measurably reduce the most severe impacts of the proposal such as turbine exclusion zones from shore similar to those being provided to other states to address visual impacts and adverse impacts to the historic properties under the National Historic Preservation Act and New Jersey Coastal Zone Management rules. The ASOWNJ DEIS’s list of historic sites excludes a number of historic and tourist sights including but not limited to light houses along the coast.

The typical mitigation for violating the historic value of these properties is to provide a sum of money to the historical property owners for the inconvenience of ruining their properties. **In November 2023, two organizations in Rhode Island, The Preservation Society of Newport County and The Southeast Lighthouse Foundation, have sued BOEM, claiming that the agency is flouting the law and ignoring the rights of historic organization as well as indigenous tribes.** They also claim that the turbines in the Revolution Wind Offshore Wind Development area will spoil the uncluttered view of the ocean for residents, tourists and as such threaten their communities’ livelihoods. The law firm, Cultural Heritage Partners filed the lawsuits alleging that BOEM ignored the National Historic Preservation Act, which was legislation intended to preserve historic and archaeological sites in the United States.

EMF Cables Through Atlantic City Tourist District, Chelsea Neighborhood in Atlantic City and Through Other Local Neighborhoods to Substation in Egg Harbor Township

The noise and disruption to this area will have a major negative impact on tourists, businesses, and residents. Research has also revealed the health issues to children and fetuses from exposed to electromagnetic fields. The cables will be installed next to an elementary school in Atlantic City. The disruption to the County will go on for years as shown in this time table.

Table 4.1-1 Anticipated Construction Schedule

Activity	Duration ^a	Expected Timeframe ^b	Project 1 Start Date	Project 2 Start Date
Onshore Interconnection Cable Installation	9 - 12 months	2024 - 2025	Q1-2024	Q1-2024
Onshore Substation and/or Converter Station Construction	18 - 24 months	2024 - 2026	Q1-2025	Q1-2025
HRG Survey Activities	3 – 6 months	2025 - 2029	Q2-2025	Q3-2025
Export Cable Installation	6-9 months	2025	Q2-2025	Q3-2025
Coffer Dam Installation and Removal	18-24 months	2025 - 2026	Q2-2025	Q3-2025
OSS Installation and Commissioning	5-7 months	2025 - 2026	Q2-2026	Q2-2026
WTG Foundation Installation ^c	10 months	2026 – 2027	Q1-2026	Q1-2026 ^c
Inter-Array Cable Installation	14 months	2026 - 2027	Q2-2026	Q3-2026 ^d
WTG Installation and Commissioning	17 months	2026 - 2027	Q2-2026	Q1-2027 ^d

The installation of onshore cabling including trenching, horizontal direct drilling and jack and bore will result in the degradation of tourist area and underserved population in Atlantic City. The landfall site will eliminate a parking lot covering an entire block in Atlantic City. According to the NOAA survey, 49% of tourists ranked convenient parking as very important as a beach characteristic. The installation of onshore cabling including trenching, horizontal direct drilling, and jack and bore will result in significant degradation of neighborhoods, and destruction of tourist areas, recreation areas and most importantly the climate justice populations in Atlantic City. This project will not be just disruptive, it will add significant noise, air pollution, diminished access, dust and dirt which will be a nightmare for the residents.

Health Risks of EMF Cables to City Neighborhoods

And most importantly, based on current science there will be significant health risks for our neighbors living in these environmental justice protected areas because of EMF (Electro-Magnetic Frequency) emitted from high voltage underground cables.

The wind developers and government agencies fail to use a respected source but instead use the International Commission for Non-Ionizing Radiation Protection (ICNIRP) guidelines in evaluating EMF exposure. Studies have shown that this organization's guidelines fail to meet fundamental scientific quality requirements and are not suited to set EMF exposure limits. Medical research scientists who study health based impacts of EMF rely on the World Health Organization (WHO) and the Institute for Research in Immunology and Cancer (IRIC).

Back in 2007 the WHO and IRIC stated that EMF was not harmful. Then in 2011, these scientific institutions classified EMF exposure under a category called "Group 2B". Group 2B states something is "possibly carcinogenic", but that classification comes from studies that were looking at less than a measurement of 3 Milligauss.

Now we have even more recent studies that show that even a small increase in EMF will change health outcomes. Examples found on PubMed are both meta-analysis of the exposure to EMF related to childhood leukemia and fetal development.

The first study, titled, Exposure to magnetic fields and childhood leukemia: a systematic review and meta-analysis of case control and cohort studies, published in the journal, Reviews in Environmental Health, was a Childhood Leukemia Metanalysis printed in 2022, including 36,000 children diagnosed with childhood leukemia going back to 1970. The study concluded that statistically significant associations were observed between exposure to ELF-MF (extremely low frequency-magnetic field) and childhood leukemia. Altogether there was a 2 fold increase in childhood leukemia.

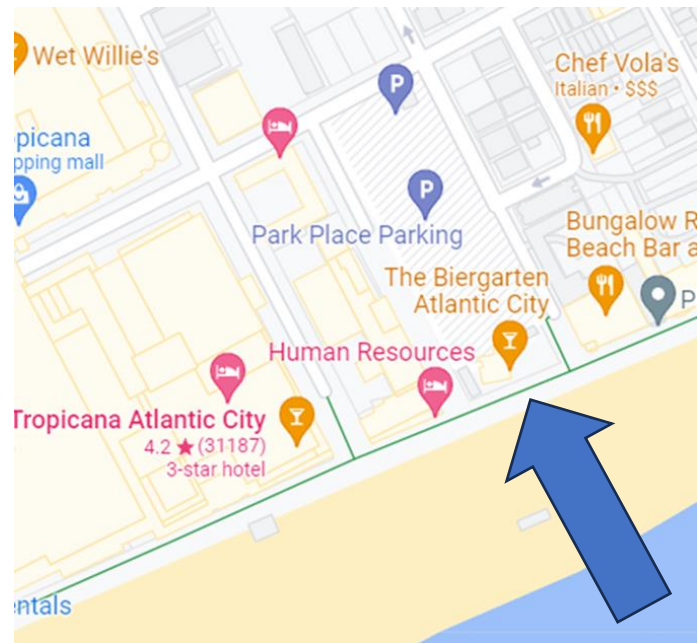
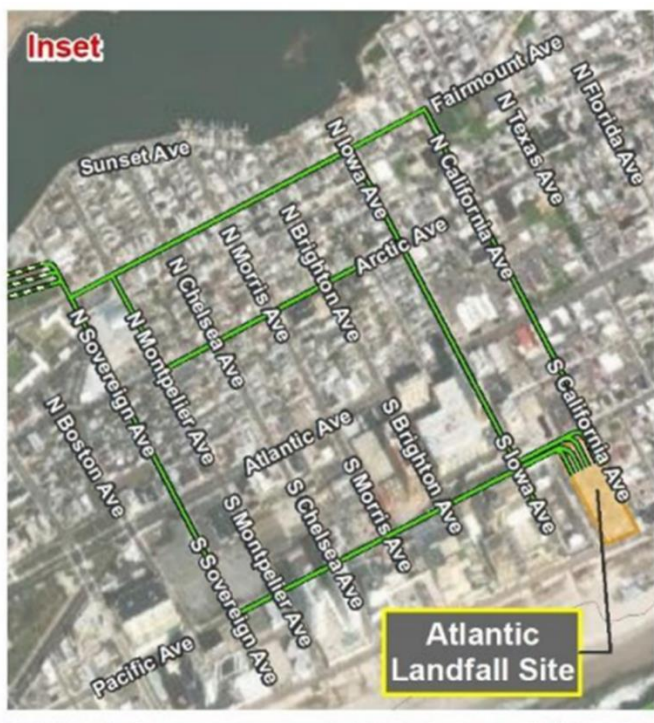
The second study was another meta-analysis of 6 studies and only included power line based EMF exposure. Children of pregnant women who were exposed to 4 Milligauss or higher were found 14 times more likely to develop all cancers over 4 years. The results of the study showed that the residential period of more than 4 years near high-voltage power lines before or after birth is an important factor for all in childhood. Material exposure to EMFs significantly increased development disorders in their fetus such as embryonic development. There was a 3.95 times and significant increase in placental apoptosis or cell death. There were 5-fold central nervous system defects and spina bifida increase as well as a significant increase in club foot in the fetus.

These studies represent populations such as children and fetuses whose cells aren't developed, and whose DNA is easily cleaved.

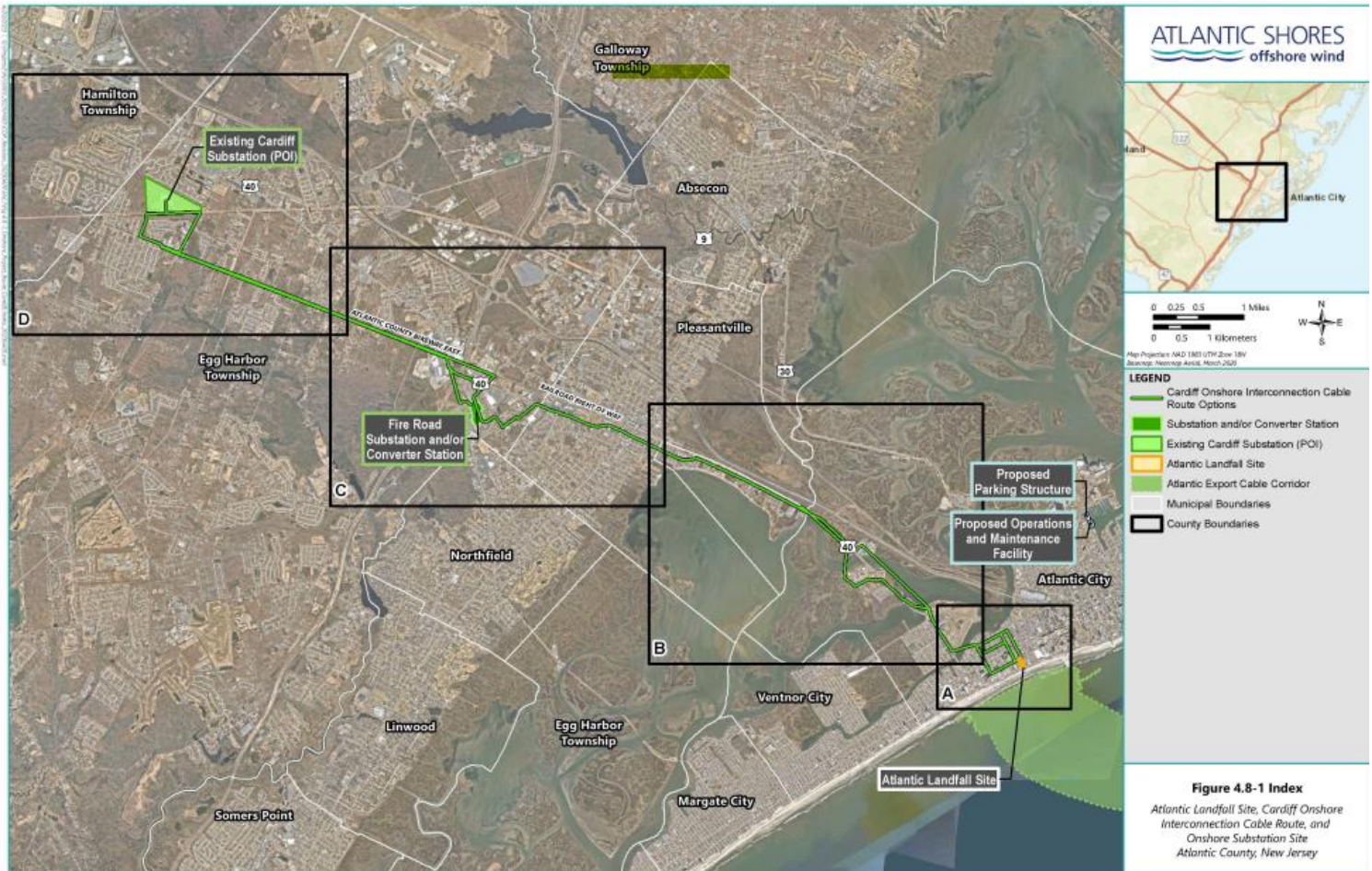
The authors concluded that the 2011 guidelines must be revised to reflect recent studies. Even a small amount of enhancement of exposure will result in unacceptable health consequences of our future generations. EMF exposure is a significant environmental danger for pregnant women and their fetuses.

Atlantic Shores is planning to run EMF cables on the exact beaches, parks, where young mothers who may be expecting another child and fathers bring their children to play. Atlantic Shores LLC is planning to run EMF cables through residential neighborhoods and next to the Sovereign public school building. Is Atlantic Shores LLC going to guarantee that the children who live, play and go to school in these areas are safe?

Atlantic Shores has stated in their documents that these export cables will operate at peak loads at up to 349mG versus the studies which determined that 4mG is potentially dangerous. Have you had neighborhood meetings with these underserved communities to inform them of these dangers to the health and welfare, most importantly their children?



(Left) Map in Atlantic Shores Construction and Operations Plan for on shore entry and cabling to the onshore substation. (Right) Google Map of beach area where cable will come onto the shore.



[Atlantic Shores Offshore Wind \(boem.gov\)](http://boem.gov) page163/244. This is the entire cable route through towns and neighborhoods in Atlantic County.

Surfclam Industry

The surfclam fishing industry is one of the largest clamming industries in the United States and employs many residents of the climate justice areas. According to a Rutgers Study, offshore wind farms could reduce Atlantic City's surfclam fishery revenue up to 25%.

[Offshore wind could shrink Atlantic City's surfclam revenue, study says - WHYY](#)

This excerpt below, expresses the concerns of the Mid-Atlantic Fishery Management Council, in their *Atlantic Surfclam and Ocean Quahog Fishery Performance Report, April 2022*:

“Wind Development The clam advisors are concerned about the BOEM (Bureau of Ocean Energy Management) wind farm leasing process and potential impacts to historically important fishing areas. The industry’s opportunities to engage with developers on wind array siting relative to the most productive clam fishing beds has not been productive. This resistance in cooperation lends to the notion that the clam fishery and the ocean wind developers cannot coexist as the developers have made no attempt to give the clam industry any

consideration in their layout of their arrays and the spacing between the turbines which will make it unsafe for clam vessels to work within wind farms. Siting is critical in terms of ensuring reasonable fishing access. It has been the experience of the clam industry that any communications by BOEM, wind energy developers, or state regulators is purely perfunctory and true mitigation efforts will not be made. In the New England and Mid-Atlantic region, offshore wind development is out of control. The industry feels that no matter how hard they try to engage with developers on these issues, their input is not being considered or incorporated into the siting and development process. The spatial and operation requirements of the fishery (considering things like weather, tides, safety, etc.) need to be accounted for to ensure access to the wind arrays, but at present that is not happening. These arrays become de-facto Marine Protected Areas and the Councils and industry have nothing to say about how the fishing grounds are managed within the arrays. Unlike finfish, clams do not move, so once the vessels cannot fish in an area those resources are lost to the fishery and the value it brings to the economy. These areas are also likely to be lost to survey data further impacting the biomass estimates of the fishery. The Council needs to consider the biological impacts on the fishery itself, and other cumulative environmental effects that may occur. These should include things like productivity of the resource, larval displacement, scour and sediment suspension, hydrographic changes, and effects of sounds and other pressures on the zooplankton community (which includes food for clams). In addition, in water structures from offshore wind or other types of closures (e.g., GSCHMA) will result in vessels having to travel further and having a larger carbon footprint.”

[d_FPR_for2022_SurfclamOceanQuahog.pdf \(squarespace.com\)](#)

A paper by researchers in the Institute for Coastal Systems in Germany used numerical modeling to show how wind wakes may change local conditions. In the North Sea paper, researchers say their modeling studies show that expanding offshore wind installations.

“will substantially impact and restructure the marine ecosystem of the southern and central North Sea. Changing atmospheric conditions will propagate through ocean hydrodynamics and change stratification intensity and pattern, slow down circulation and systematically decrease bottom shear stress.”

[Wind turbines will affect base of ocean food chain, study predicts | National Fisherman](#)

The Kleinman Center for Energy Policy outlined the conflict between the fisheries and offshore wind turbine developments.

“Adding to the industry’s concerns is the overall [lack of information](#) regarding the environmental impacts of offshore wind farms in the U.S. In particular, the effects of wind farms on [fish populations](#) is not yet completely understood.”

The disputes are so intense that a fishery has filed a lawsuit against Empire Wind, a 816-MgW project planned off the shores of Long Island. According to the Kleinman Center, solutions are to allow fishing within project areas, establish compensation funds for the damage to fisheries and provide alternative employment for fisherman. These are embarrassingly inadequate solutions to this issue and fail to address the real issue of the possibility of eliminating an important food chain in the US.

Increased Local Air Pollution

According to the American Lung Association, Atlantic County has one of the lowest air pollution levels in New Jersey. The climate justice areas will be effected by the ASOWNJ project local pollution more than any other area.

[12 NJ Counties Ranked Among Worst Air Quality In The USA: Report | Rumson, NJ Patch](#)

How will the vessel and road traffic from constructing and maintaining 400-500 wind energy bases and turbines off our coast impact the air pollution in Atlantic County? Below is the table of ocean vessels that will be used for just the Atlantic Shore South Project. According to Atlantic Shores South COP

“Currently, maximum estimates for the total number of vessels required for any single offshore construction activity range from two vessels for scour protection installation to up to 16 vessels for OSS installation. For export cable installation, it is currently estimated that up to six vessels could be operating at once. Across the Projects, if all construction activities were occurring concurrently (which is unlikely), a total of 51 vessels could be present at any one time.”

According to Construction Timelines in Atlantic Shores South and Orsted Ocean Wind 1 Projects construction plans, many of the construction phases will be running currently for both projects. Construction will continue to increase air pollution as Atlantic Shores North and Ocean Wind 2 projects are constructed. Reporting is absent for increased air pollution and there is no mention of on shore road traffic vehicles and their pollution. On shore pollution from construction and maintenance vehicles is equally ignored.

Disruption and Harm to other Tourist Industry Areas

Farley Marina is next to the Golden Nugget Casino and visible to the Borgata (MGM) Casino and respective restaurants. The Marina is a thriving and successful tourist attraction and promotes boating and recreational fishing activities. Construction and vessel traffic and air pollution from the ASOWNJ project and cumulative impact of other planned offshore wind projects will harm the tourist industry.

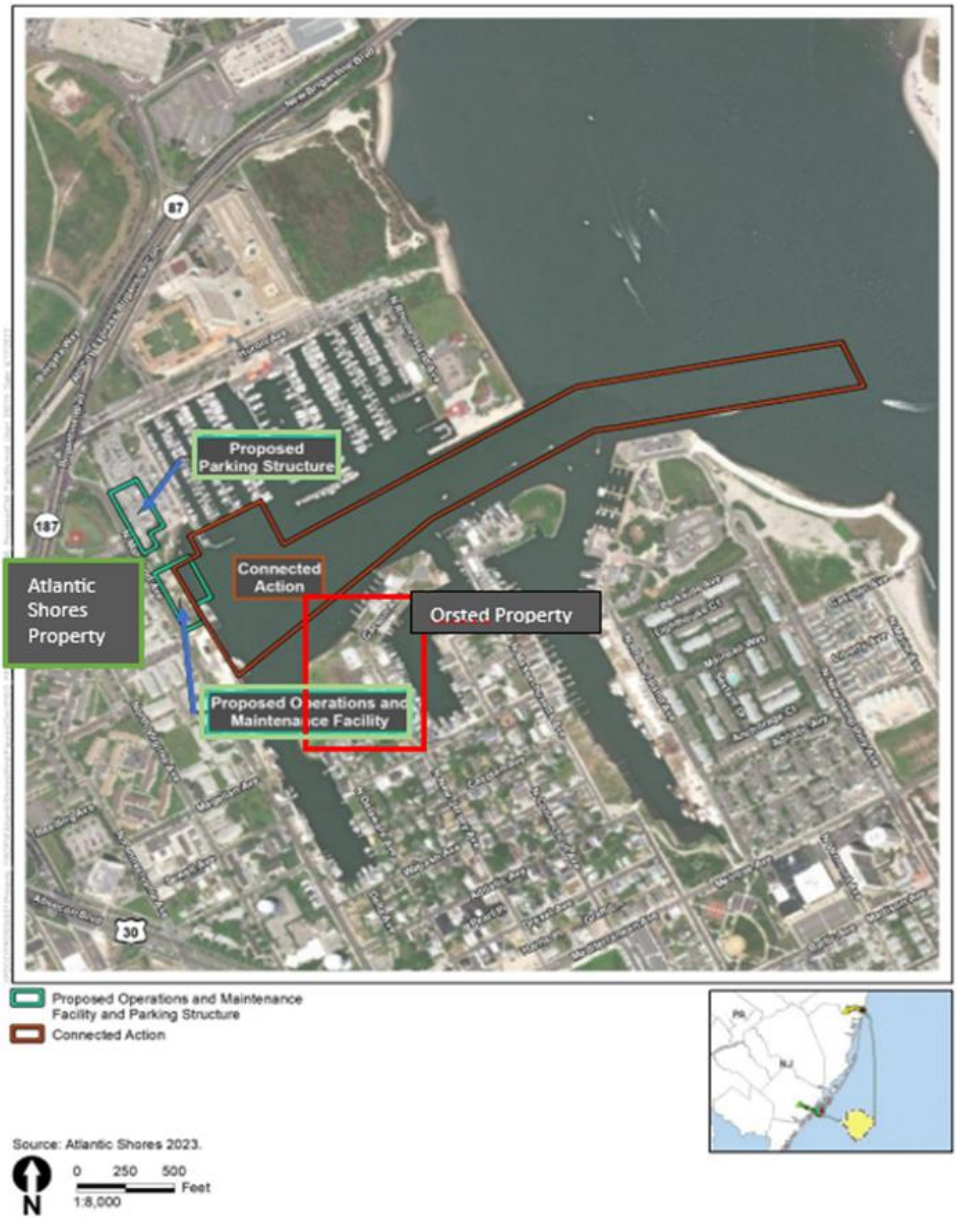


Figure 2.1-7. Proposed operations and maintenance facility

Are Ocean Wind and Atlantic Shores Wind Developers taking over Farley Marina? Customers of the Golden Nugget Casino and restaurants will have a great view of the industrialization of the marina.



Google map of the locations of the Orsted (Ocean Wind 1, 2) and Shell Oil/EDF Renewables (Atlantic Shores) maintenance buildings and boat areas.

BOEM’s Environmental Impact Statement: Wind Turbine Visual Impact at Ocean Casino and other Atlantic City Tourism Locations.

The visual impact descriptions for the other coastal towns in Atlantic County are very similar to the example shown for Brigantine. The visualization for Ocean Casino Resort (AC04) is also a significant impact. “The factors that influenced the VTL, include a lack of compatibility, severe scale contrast, and dominance present by the Project relative to the ocean (water resources). Additionally, the panel members indicated the scale contrast would be severe for the land use and user activities associated with this Key Observation Point (KOP.)” There is no writeup for Jim Whelan Boardwalk Hall which is an historic site in Atlantic City, but based on the visual simulations, the view of the wind turbines will be significant and will have a major adverse on the beach goers experience. The impact for Lucy the Elephant (MC02), another historic property is classified as somewhat significant, only because it is blocked by the first inland row of built structures. According to the visual assessment, “The overlapping blades of the WTGs create a fence-like visual barrier along the horizon and their movement will attract viewer attention and make the WTGs a focus of this view.” There were no visual assessments for other locations in Margate, Ventnor and Longport. Additional visual impact assessments must be done for a variety of locations in Brigantine, Atlantic City, Margate, Ventnor, and Longport before any decision can proceed on the CZMA rules.

In other areas of the Construction and Operations Report (COP) other descriptions support the significant negative impact on the coastal experience.

“The “view is dominated by large array of WTGs...stacked one after the other, appearing like one massive turbine with multiple blades”

” Residences along the shoreline have a consistent view of the ocean that is industrialized”

“Viewers would have to turn away from the projects to eliminate it from their view”, and

“At night the ‘navigation lights would become the focus of viewer attention and could change the character of night time skies forever “.

In addition, the video here <https://vimeo.com/821315215> reveals the truth buried deep within the 4,000-page construction report proving beyond any doubt that the turbines, each the height of the Eifel Tower, will be clearly visible from the majority of New Jersey’s beaches and inland bays. Watch the video visual simulations for yourself.

Further Degradation of the Shore Experience and Adverse Impact to Tourism from Effects on Wind, Waves and Air Temperatures and Noise

ASOWNJ DEIS and COP do not adequately support with scientific evidence that the wind turbines starting 9.7 miles from the beach and the cumulative impact of other planned offshore wind projects will not adversely impact tourism because of reduced wind speed, waves and higher local air temperatures and increased noise as follows:

Reduced Wind Speed at the Shore

Small turbines, 7% reduction 6 miles downwind of wind complex. Large turbines, 26% reduction 9 miles downwind (same distance from shore to turbines here and fewer wind turbines

Wave Height Decreases with Wind Speed

Local Air Temperature Increase will be 1.1 degrees 28 miles downwind of moderate size turbines.

Airborne Wind Turbine Noise to Persons

Noise propagates more effectively over water than land, annoying at the beach and causing sleep disruption.

- Continual Turbine Operation Measurement Study:
 - o 1 operating turbine = 118 dBs/Vesta-236 15-megawatt turbine Specifications AND 7 turbines = 126.3 dB

- o Noise loss over 9 miles = 73 dB
 - o Net noise = 53.3 dB
 - o Night time noise level is 50 dB
 - o 3 dB difference doubles the noise intensity to the receiver
- Construction Pile Driving
 - o 137 dB, 10.7 dB higher than the 7-turbine array used above for operational noise example.
 - o Noise loss over 9 miles = 73 dB which results in a noise level at the shore of 64 dB, close to the daytime standard of 65 dB, or equal to the noise of a vacuum cleaner

Footnotes:

Stoelinga et. al., “Estimating Long-Range External Wake Losses in Energy Yield and Operational Performance Assessments Using the WRF Wind Farm Parameterization”, ArcVera Renewables, 2022

References

Wake studies around a large offshore wind farm using satellite and airborne SAR M.B. Christiansena,* , C.B. Hasager a Risø National Laboratory, Wind Energy Department, Frederiksborgvej 399, P.O. Box 49, DK-4000 Roskilde, Denmark – merete.bruun.christiansen@risoe.dk

LETTERS, Micrometeorological impacts of offshore wind farms as seen in observations and simulations S K Siedersleben1, J K Lundquist2,3, A Platis4, J Bange4, K Bärffuss5, A Lampert5, B Cañadillas6, T Neumann6 and S Emeis1 1 Karlsruhe Institute of Technology, Institute of Meteorology and Climate Research, Atmospheric Environmental Research (IMK-IFU)

Johansson, Sound propagation Around Off-Shore Wind Turbines, 2003.

Offshore Airborne Sound Assessment Revolution Wind Offshore Wind Farm prepared for Revolution Wind, LLC 56 Exchange Terrace, Suite 300 Providence, RI 02903.

Misrepresentation of Turbine Visibility

Initial Visibility Modeling Study for Offshore Wind for New Jersey’s Atlantic Shores Offshore Wind Project.”, Rutgers University. The source of the incorrect statement that the turbines will be visible only under “very clear viewing conditions” is unclear, but past documents have referred to this study which concludes that the turbines wouldn’t be visible 59 percent of daylight time.

That study was done for Atlantic Shores and its corporate sponsor Electricity de France Renewables, in 2020, and is not available on the web nor is it in the EIS list of references. The study never defines what “visibility” means. It presents “visibility distances” but it never says what object is or is not visible. Obviously, the visibility of a one-thousand-foot-high turbine is something different than a small light source a distance away. It also discusses calculating a visible distance from air property measurements, but those estimates are only accurate to 10 miles. Subsequent discussions with Rutgers staff have confirmed that its results are not pertinent to the offshore wind turbines.

Misrepresentations of the Frequency of Days that Turbines Will Be Visible

The Atlantic Shores South Draft Environmental Impact Statement (DEIS) and the Construction and Operations Plan (COP) continue to incorrectly state the wind turbines will only being visible under rare, very

clear conditions, and will disappear from view under typical or more frequent conditions. These frequency representations of visibility are included throughout Appendix IIM-1 of the COP, and in Appendix H, Attachment H-1 of the draft EIS, claiming that the first rendition done from an observation point shows the turbines visible for rare very clear 32 mile “visibility” (5.2% of the time) and then disappearing as you go to 18 or 20 mile distance visibility, which it also says is still relatively rare (15 -20% of the time), with worse visibility conditions most of the time when the turbines would not be seen at all. To support this (page 99 of the COP Appendix) it refers to a “meteorological study of 2019” with no reference for that study given. It is not clear whether that “study” is the referenced Rutgers Visibility Report (which is now appendix H to the newly revised Appendix II M1 COP), or whether the Rutgers Visibility Report also used that same “study”. In either case all the misrepresentations of that Rutgers Report haven’t gone away-but are just relabeled and hidden.

The use of that 2019 meteorological data base “study” and the Rutgers Report to represent viewing conditions at the shore is seriously flawed. It is misleading and not appropriate for use in the DEIS. First, the definition of “visibility” in the Report is unknown (the authors are no longer at Rutgers and current Rutgers staff is unwilling to stand behind the Report), but apparently is based on airport visibility estimates from markers placed at limited distances from ground level receptors. It has nothing to do with humans viewing offshore wind turbines that are 1000+foot tall with very long rotating blades which provide a wide target. Those observed visibility estimates are apparently limited to 10 miles out (see page 5 of the Rutgers study), and the COP itself notes that such ground level receptors may not be representative.

Second, the visibility data used in the 2019 Report is from Atlantic City (AC) airport which is of course inland, and from the Ocean City municipal airport which is on the bay. Most (all?) of the data is looking over land that has no relevance to visibility conditions at the shore looking out to sea.

The DEIS and COP do not clearly state how that meteorological data is then converted to visible/not visible (or “obscured”) judgments. The newly revised COP mentions the use of Forecast Systems Laboratory (FSL) predictive models with the above mentioned (but suspect) airport data to predict visibility ranges. The Rutgers study reports comparing the FSL model predictions to on land observed visibility using only one day of data (July 19, 2019) – see page 5. The FSL model is used for weather forecasting, and it is not clear how they apply here. Again, how do they define “visibility”, how far out in distance do their predictions extend, and how applicable are they for massive offshore structures?

The COP also mentions an Epsilon Associates study (also new to this version of the COP) which apparently takes the 2019-year hourly Rutgers RUWRF temperature, humidity, and dew point data, somehow applies them to the entire geographic area being considered, and then calculates “visibility” over the entire geographic area being considered and over the entire year. That is apparently the source of all the visibility frequency estimates included in the DEIS and the COP. The COP does not say what modeling formulae are used, nor where they came from (e.g., the Rutgers Study, an FSL model, Epsilon’s own model, a combination). In any case there is apparently no observational support involving offshore “visibility” to confirm the modeling formulae used. This is a serious flaw in the DEIS and another reason why the visibility frequency predictions should not be used in the DEIS.

Note that COP claims that the single year of 2019 data is a representative year but does not provide the data to support that claim. The Rutgers Report suggests otherwise.

Misrepresentation and problems with the methodology are confirmed when you look at the actual renditions. They say these are done for rarer, clearer conditions when “visibility” is 32, 20, or 18 miles, using the 2019 data. But for observation points within visible range of the turbines the renditions themselves look cloudy, overcast and as pointed out above some are for just before sunrise. Experience on the beach says the opposite, that most of the summer daylight hours have much better visibility than are shown in the renditions.

Samples of Contradictions and Unsupported Claims in the DEIS and the COP including the Rutgers Study

DEIS Page 3-6.9 – 36 includes some general comments on factors that may affect visual clarity. It concludes with a paragraph on the percentages of time the structures would be visible at different distances (e.g. at 8.7 miles over 50% of the year). Those percentages are lifted from the newly revised (May 2023) portion of the AS COP Vol II Appendix II M1. “Over 50%” is consistent but understates the Rutgers Study itself (p.8) - which quantifies that as 60% of the year for over 10 miles and 70% for over 8 miles. The paragraph then refers to Fig 3.6.9 – 7 KOPS Obscured Visibility Comparison for estimating the percentage of the time each month the various KOPS would be “obscured” during the course of the 2019 year saying those figures come from “meteorological data”. That table is also lifted from the newly revised COP. “Obscured” is not defined but evidently interpreted by BOEM as meaning “not visible”. As mentioned previously neither the DEIS nor the referenced COP clearly describes the source of that data, how it was derived, and how it was used to predict “visibility”. Fig 3.6.9-7 itself is unclear in that the y axis is labeled “% in 2019” and it is not totally clear whether that means % of “obscured” time over the entire month (daytime only?) as the title would suggest, or % “visible” which BOEM’s numbers mentioned earlier in the paragraph would suggest? The over 50% of the time visible at 8.7 miles statement that BOEM and the COP make is not consistent with what this figure would suggest. As discussed previously, Fig 3.6.9- 7 is based on unsupported data and should be removed from the DEIS, as should any references to specific estimates of % of time “visible” and “not visible”.

Also see H-19 of the DEIS which claims without support that “due to coastal meteorological conditions...visibility would be reduced 3 out of 4-5 days”. Presumably that is referring to the simulations provided, but it is certainly not apparent what would constitute a “reduced visibility” day (how much in reduced visibility and for what proportion of the day). And it is not apparent how such calculations could be made since the simulations themselves are not completely “clear” and some in fact show significant visual impairment from atmospheric conditions. That comment should be removed from the DEIS or supported with defensible facts.

The AS COP concludes that from the Epsilon study during the tourist season (it uses the months of May, June, and August - but leaves out July, rather than using June, July and August) “no turbines would be visible during more than 80% of the daylight hours” – which does not fit our lived experience. It also appears inconsistent with the Rutgers Study (pages 2 and 6) which reports visibility greater than 20 miles at 23% for the months of July and August. The COP further concludes, that in January (their highest visibility month)

“visibility is only expected to occur 50% of the daylight hours” – which is contrary to Fig 3.6.9-7 and the prior BOEM visibility comment that came from the AS COP that reports visibility as over 50% of the year.

The Rutgers Study itself contains such apparent contradictions and misleading methodology. For example, it says that the visibility from the lease area would be greater than 10 miles 41% of the year (pages 2 and 7), and greater than 10 miles from the shore toward the lease area 60% of the daytime hours over the year (70% of the time greater than 8 miles) – page 8. Both statements may be reconcilable, but they show the difficulty it trying to use the work to predict visibility. The Rutgers Study itself mentions a bias in their modeling which understates the “observed visibility” and says that estimating visibility from the shore requires averaging on shore and off shore numbers. It is not clear in the Rutgers study itself when that bias and averaging is included in their reported results, nor is it clear whether/when those are factored into the COP numbers.

Since we are not reviewing the COP itself, we will not go into the other inconsistencies and flaws. But if Agencies are relying on its results it should satisfy itself on its methodology and accuracy. In particular we mention the “Rutgers Study” that is Attachment H to this newly revised section of the AS COP. The use of that study to predict “visibility” for offshore wind projects is not supported by the science. The methodology is not clear, its results are inconsistent, and even the study itself warns of conclusions that are not supported by the data (page 9). Included in our references is a detailed critique of the “Rutgers Study” that we sent to Rutgers V7. It identifies a host of shortcomings in the study that essentially make it worthless for the application for which it is being used in the COP, i.e., to predict visibility at various offshore distances and conditions. The response from Rutgers (the authors are no longer affiliated with Rutgers) was that this was not a Rutgers sponsored study and they would not reply to our questions or concerns. They acknowledged our concern for the potential misuse of their basic meteorological data (temperature, humidity, dew point) which they make available to the general public.

Nighttime Visibility Issues: DEIS Page 3-6.9 – 32 (and repeated elsewhere) describes the effects of project lighting. Clarification is needed on navigation lighting vs aircraft hazard warning lighting, including the heights, required illumination, and impact of the required navigation lighting for WTGs and the OSSs and whether or not that is covered by the proposed ADLS system. As written, it appears the navigation lighting will also be part of the proposed system, but that is not likely as ship traffic must also be warned. It is not clear that if ADLS is used that the estimated frequency numbers also include military aircraft operations and not just civilian. Since ADLS is proposed, but apparently not yet approved by the FAA, how is this relevant to a decision now? Will it be a license requirement?

The BOEM concludes on page 3.6.8–29 that the impact of the visible turbines on recreation and tourism would have minor adverse to minor beneficial effects. The absurdity of this conclusion is found in the contradictions in the DEIS itself. As presented in I.5.C, this is contradicted by other statements in the Visible Impact Appendix, and the COP. The cumulative visible wind turbine Table 3.6.9–17 shows that the number of visible turbines from Atlantic City, Beach Haven and North Brigantine will start at 205 and increase to over 700 as other projects in the area come online. The BOEM’s own University of Delaware and the North Carolina state University study cited above showed that the reaction of persons surveyed viewing a much smaller number of turbines with the same line of sight as the turbines here evoked a response of over 50% less ocean view rentals and a 24% reduction in tourism. Yet the DEIS scores this is minor. In addition, it’s discussion of the

impacts of alternative D on recreation and tourism on page 3.6.8–30 confirms that these alternatives are not real because it admits that even that alternative designed to reduce surface occupancy has no effect on the overall visible impact. Considering conflicts of interest and past misleading representations, the DEIS cannot rely on the applicant to do an objective analysis.