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# Atlantic Shores: Turbine Visibility Will Be Rare, Rutgers Study Says

Reply to Perceived Sea Horizon Eyesore

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By Gina G. Scala



VISUAL AID: A simulation of the North Brigantine Natural Area (pictured in the sign above) in the southern lease area of Atlantic Shores offshore wind projects doesn't tell the full shoreline visibility story, according to an expert. (Photo by Gina G. Scala)

In recent days, lawn signs showing a simulation of what a wind farm off LBI would look like are popping up all over the Island, pronouncing what many want from offshore wind developers and the federal government: Move the turbines 35 miles out to sea.

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The photo simulation on the law signs is from the North Brigantine Natural Area, located 9 miles from the wind farm to be located in the southern portion of the Atlantic Shores lease area. Shoreline visibility of wind turbines is at the forefront of concerns for many on the Island, as well as other coastal areas, but Perkins says the simulation in the photo doesn't tell the whole story because so much goes into determining visual impact.

"It's complicated. It's incredibly complicated," Perkins said. "A lot of information goes into visibility studies, and I would say probably one of the more important things, and I've been asked this question by judges all the time, where you can't see something, it cannot produce visual impact."

With that in mind, the very first step in any visibility impact assessment is to determine where the project can be seen from, he said, noting Atlantic Shores has developed a model that gets into the minutia of details. That coupled with an early partnership with Rutgers University for what Perkins called "groundbreaking work" to characterize visibility off the coast of New Jersey has yielded early results in a study determining visual impact of offshore wind turbines. Past studies included information using airport data while considering humidity and temperature in order to assess visibility prediction, he explained.

"What Rutgers is really doing is starting to validate some of that data in order to make it really applicable to offshore projects," said Perkins, Atlantic Shores' environmental design resource and visualization practice leader, in a recent online interview in which he focused on the two months with the most solid data.

Turbine visibility will not extend beyond the 12-mile mark for 73 percent of the month of April, according to early indications from the study, he said.

"That means turbines will not be seen from places like Beach Haven," Perkins said. "As we go to July, just considering one of the closest points to shore from the Atlantic Shores wind project is about 9.02 miles, during 68.6 percent of the month visibility would not extend to the nearest turbine.

"And oftentimes even when visibility extends past that 9-mile mark, 30 percent of the time, that doesn't mean all the turbines are visible," Perkins said. "It might mean a couple of rows are visible."

Studies like this, he said, help to educate people so they have an expectation of what they might see before projects like the one planned off the coast of LBI are permanent.

"Visibility is reflective light, and the opacity of the atmosphere changes the amount of reflective light that your eye sees. The atmosphere in an offshore environment is incredibly variable and there's a lot happening out there that can change minute-to-minute, day-to-day. I think ultimately that's the data

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Atlantic Shores is expected to start onshore construction of substations in 2024 and offshore construction by 2025. The project is a 50-50 partnership between Shell New Energies US LLC and EDF Renewables North America. It was formed in December 2018 to co-develop nearly 183,353 acres of leased sea area on the Outer Continental Shelf, located within the New Jersey Wind Energy Area. The proposed project, off Long Beach Island, would, as currently planned, place up to 200 Vesta-236 gearbox turbines standing 853 to 1,046 feet above sea level 9 to 20 miles offshore.

Last summer, the New Jersey Board of Public Utilities awarded Atlantic Shores Offshore Wind Project 1 the right to receive offshore renewable energy certificates for its 1,510-megawatts offshore wind project. That project is expected to power more than 700,000 homes from within its existing 183,000-acre lease area off the coast of New Jersey. The project calls for an array of 111 turbines to be built in the southernmost portion of the company's federal lease, 12 miles off Absecon Inlet.

In February, Atlantic Shores Offshore Wind Bight LLC, a wholly owned subsidiary of Atlantic Shores Wind LLC, was awarded 79,351 acres in the New York Bight, paying \$780 million for the lease area.

"Visibility is an emotional issue, and a lot of that emotion is centered around people not fully understanding exactly what to expect," Perkins said. "Offshore wind turbines are very similar in form and color to onshore turbines. But truly making sure people have a true understanding of what it is they are going to see from shore, that's my job."

He said the key to bridging the gap with individuals who are concerned about shoreline visibility is transparency, accuracy and honesty regarding any issue associated with visual impact. Still, Perkins acknowledged that within the industry itself, visual impact assessment has not always taken centerstage.

"But it happens to be my passion; it happens to be what I've invested my entire career in," he said, "and it's my job to convey to people how we created this, why it's accurate and why it depicts what they will see from their beaches once the project is completed."

His job also includes providing enough information to the federal government so it can fully assess the project visibility and visual impact, he said.

"For the past 22 years, I have been doing that in the offshore industry," he said. "The number one most important aspect of those visual impact assessments is conveying accurate data. We have a high degree of confidence that our visual simulations portray the project in an accurate position, accurate scale, and the federal government also requires us to show that project in the most conservative visibility case, which is what we have done in our most recent submissions to the Bureau of Ocean Energy Management."

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— Gina G. Scala

[ggscale@thesandpaper.net](mailto:ggscale@thesandpaper.net)

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