



## The Offshore Wind Round-Up

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- A report states that Sea Girt residents are unhappy about transmission cables being run from Atlantic Shores South to the onshore electric grid located in that town. Details begins [on page 7](#)

### OIL SPILL RECOVERY PLAN

**Under what authority are these plans required?** The Bureau of Safety and Environmental Enforcement (“BSEE”), part of the U.S. Department of the Interior.

**Is an Oil Spill Recovery Plan only required for offshore wind farms?** No. Owners and operators of *all* offshore facilities that “handle, store or transport oil” must have an Oil Spill Recovery Plan.<sup>1</sup> BSEE is responsible for overseeing industry compliance with these regulations for all offshore operations that involve oil.

**When was this requirement created and why?** The BSEE’s authority comes from legislation passed in 1990 in response to the 1989 grounding of the tank vessel Exxon Valdez in Alaska.

**What function does the Oil Spill Recovery Plan serve?** From the BSEE website:

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<sup>1</sup> From the BSEE website: <https://www.bsee.gov/what-we-do/oil-spill-preparedness/preparedness-verification/oil-spill-response-plans>

“An OSRP [Oil Spill Recovery Plan] is an important contingency planning document. It contains numerous details including exercise and equipment testing procedures, spill response strategies and tactics, spill command and control procedures and emergency contact information.”

*Access the BSEE website by clicking on this link*

<https://www.bsee.gov/what-we-do/oil-spill-preparedness/preparedness>

## HOW DOES NEW JERSEY MAKE ELECTRICITY?

On August 2, *The New York Times* (“NYT”) published an article under the headline “How Does Your State Make Electricity” written by Nadja Popovich, a reporter and graphics editor at the NYT covering climate change, energy and the environment. She describes her background [here](#).

*From the introduction:*

“Natural gas surpassed coal as the country’s top source of power in 2016, and renewables like wind and solar have grown quickly to become major players in the U.S. power system.

But every state has its own story.... We charted how electricity generation has changed in every state so far, from 2001 to 2023, using data from the United States Energy Information Administration.”

*From the NJ section of the article: How New Jersey Made Electricity from 2001 to 2023*

“Nuclear was the top source of electricity generation in New Jersey until 2015, when natural gas surpassed it for the first time. Over the past decade, natural gas and nuclear energy have produced almost all of the state’s electricity, but solar has made inroads, supplying 7 percent of power last year.

In 2018, the state’s Oyster Creek nuclear plant, the oldest in the country at the time, closed down, partly because of competition from cheaper natural gas. That same year, the New Jersey Legislature approved new subsidies to keep the state’s remaining three nuclear plants profitable. The governor, Philip D. Murphy, said the plants provided crucial, emissions-free power that would not contribute to climate change and pointed to “the thousands of jobs they support.

New Jersey has a renewable energy standard that requires 35 percent of the electricity sold in the state to come from renewable sources by 2025, with that requirement increasing to 50 percent by 2030. To help reach those goals, the state wants to build wind farms off its coast, where there is considerable wind power potential. But proposed projects have stirred up fierce local opposition.

The state consumes more power than it produces within its borders and imports electricity from nearby states through the regional grid.”

Access the full NYT article by clicking on this link

[https://www.nytimes.com/interactive/2024/08/02/climate/electricity-generation-us-states.html?unlocked\\_article\\_code=1.D04.GY.F.xtq8MlZq38af&smid=em-share](https://www.nytimes.com/interactive/2024/08/02/climate/electricity-generation-us-states.html?unlocked_article_code=1.D04.GY.F.xtq8MlZq38af&smid=em-share)

## HOW PRODUCTIVE ARE OFFSHORE WIND FARMS?

**When it becomes fully operational**, Atlantic Shores South Project 1 and Project 2 combined are expected to produce more than 2,800 MW<sup>2</sup> of power, enough electricity to power more than 1,000,000 homes, according to the Atlantic Shores Offshore Wind website:

<https://atlanticshoreswind.com/>

This estimate is close to figures released by the U.S. Department of Energy (“DOE”), although neither source is precise. The DOE has repeatedly issued press releases with this statement: “Deploying 30 GW<sup>2</sup> of offshore wind [the declared federal goal by 2030] would provide enough power for 10 million homes.” *From the DOE website:* <https://www.energy.gov/articles/doe-releases>

If 30 GW of electricity provides power for 10,000,000 homes, then proportionately 2.8 GW of electricity could provide power for 933,333 homes.

**Opinions** about the reach of offshore wind energy production vary greatly. Some opine that the power generated would be minimal and hardly make a dent in the world’s increasing demand for electrical power. Others see it making a far greater contribution with the potential to not only provide another power source, but also to reduce the amount of greenhouse gases produced by the consumption of fossil fuels, which contributes to climate change.

**How much energy** offshore wind farms are capable of producing is exactly the question addressed by the International Energy Agency (“IEA”) <sup>3</sup> in its report published November 2019:

“Offshore wind is in a category of its own, as the only variable baseload power generation technology. New offshore wind projects have capacity factors<sup>4</sup> of 40%-50%,”

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<sup>2</sup> MW = megawatt; GW = gigawatt. 1,000 MW = 1 GW

<sup>3</sup> The U.S. Department of Energy explains the International Energy Agency as follows: [It] is an international energy forum comprised of 29 industrialized countries under the Organization for Economic Development and Cooperation (OECD). Established in 1974, in the wake of the 1973-1974 oil crisis, to help its members respond to major oil supply disruptions, it continues to fulfill this role today.

The IEA’s energy analyses, international data collection, and coordinated collective emergency response capabilities are unique and highly regarded. <https://www.energy.gov/ia/international-energy-agency>

<sup>4</sup> *From the glossary on the website of the U.S. Energy Information Administration:* The capacity factor is ratio of the electrical energy produced by a generating unit compared to the electrical energy that could have been produced at continuous full power operation during the same period. [It is expressed as a percentage.] [https://www.eia.gov/tools/glossary/index.php?id=Capacity\\_factor](https://www.eia.gov/tools/glossary/index.php?id=Capacity_factor)

as larger turbines and other technology improvements are helping to make the most of available wind resources.

At these levels, offshore wind matches the capacity factors of efficient gas-fired power plants, coal-fired power plants in some regions, exceeds those of onshore wind and is about double those of solar PV.”<sup>5</sup>

*Access the full IEA report by clicking on this link*  
<https://www.iea.org/reports/offshore-wind-outlook-2019>

■ **That was also the question** four researchers from the Department of Marine & Coastal Sciences at Rutgers were looking to answer, specifically about the **Atlantic Shores Offshore Wind** projects.

Presented at the IEEE<sup>6</sup> International Geoscience and Remote Sensing Symposium, their research titled “Does Prominent Coastal Upwelling along New Jersey Lead to Increases in Offshore Wind Turbine Power Production?” was published September 2023 by IEEE.

*From the abstract:*

“From an oceanographic perspective, New Jersey is a relatively unique wind farm location in that it frequently experiences the phenomenon known as **coastal upwelling**. Upwelling, which brings colder water from depth to the surface, is a result of persistent southwesterly winds along New Jersey's coastline in the summer months. Coastal upwelling can occur along **any coast with an alongshore wind**, however large temperature shifts (2 to 3°C) are a defining characteristic of upwelling in the Mid-Atlantic Bight due to the presence of the **subsurface cold pool**.

To investigate the effects of upwelling, wind speed data at various altitudes from a floating LiDAR buoy (Atlantic Shores Offshore Wind Buoy 4) were examined across the upwelling season to understand the atmospheric and oceanic conditions **within the Atlantic Shores Offshore Wind Lease Area**.

Daily images of **sea surface temperature** from the A VHRR satellite were used to determine which days in the chosen timeframe experienced large sea surface temperature shifts associated with coastal upwelling.

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<sup>5</sup> From the website of the Office of Efficiency & Renewal Energy, part of the U.S. Department of Energy: Solar photovoltaic (PV) uses materials and devices to convert sunlight into electrical energy.  
<https://www.energy.gov/eere/solar/solar-photovoltaic-technology-basics>

<sup>6</sup> From the IEEE website: Founded in 1963, IEEE is the Institute of Electrical and Electronic Engineers, the world's largest technical professional organization dedicated to advancing technology for the benefit of humanity. It has over 460,000 members in 190 countries, with more than 66% from outside the United States <https://www.ieee.org/>

In total, this methodology yielded a total of **39 upwelling days (43.8 %)** and 50 non-upwelling days (56.2 %).

To investigate the relationship between upwelling and power generation, this study compared the power production estimates between the upwelling and non-upwelling days. Power estimates were made using the **power curve** for a 15 MW wind turbine.

The **results** of the independent sample t-tests revealed that wind speeds and power production estimations were significantly greater at all times of day during upwelling conditions ( $P < 0.05$  for all comparisons). There is a need to **examine the effects** of the oceanic conditions on wind characteristics because the ocean and atmosphere interact dynamically.

The results of this analysis are **novel** in the aspect that few (if any) studies have looked at the effects of upwelling on wind characteristics in the context of power generation.

*Access the full abstract by clicking on this link*

<https://ieeexplore.ieee.org/document/10337109>

## STATEMENTS IN A LETTER TO THE EDITOR

**Many were puzzled** by a statement contained in a letter to the editor published in the July 31 issue of *The Sandpaper* from a writer in Long Beach Township: “Our new ocean view will consist of a wall of 2,421 towering turbines, each standing 1,048 feet tall (the size of the Eiffel Tower).”

- **Are there 2,421 turbines in the Atlantic Shores offshore wind farm?** No. When all three projects under development in the Atlantic Shores offshore wind area are completed, there will be 357. Atlantic Shores South, comprised of Project 1 and Project 2, will have a total of 200 wind turbines.<sup>7</sup> Atlantic Shores North, the third and final project within the Atlantic Shores leased area, is scheduled to have an additional 157.<sup>8</sup>
- **Does each wind turbine stand 1,048 feet tall?** Yes. Atlantic Shores announced in October 2022 that it planned to use the Vestas V236-15MW, which is 1,048.8' at maximum tip height,<sup>7</sup> which is the distance from the water surface to the tip of the top blade in a vertical position.

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<sup>7</sup> Source: Atlantic Shores South Construction and Operations Plan, Executive Summary, Table E-1, page E-5 <https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/Atlantic-Shores-South-Volume-I-Project-Description-05-01-2024.pdf>

<sup>8</sup> Source: Atlantic Shores North Construction and Operations Plan, Executive Summary, Table E-1, page E-1, <https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/new-jersey/Atlantic-Shores-North-OCS-A-0549-COP-Volume-I-03-01-2024.pdf>

The blades on the Vestas V236-15MW are 379' long (115.5 meters),<sup>9</sup> **not** 3,300 feet long as stated in a letter to the editor published August 14 in *The Sandpaper*.

The Eiffel Tower's base is 17' tall, the tower itself is 984' and the 82' TV antenna on top gives this structure a total height of 1,083 feet.<sup>10</sup>

- **How close together are the turbines going to be? Is it a "wall"?** It is not. The turbines are arranged in a grid pattern with distance between them. Turbines are placed along rows running east-northeast to west-southwest spaced one nautical mile (1.15 land mile) apart. Turbines positioned along rows running north to south are spaced 0.6 nautical miles (0.7 land miles) apart.<sup>11</sup>

## WILL FUTURE CLEAN ENERGY PRODUCTION BE DOMINATED BY OFFSHORE WIND?

■ **On-going research** has not discovered any credible source that establishes that only one source of electricity will supply all power in the future.

■ On the contrary, the statement on the website of the U.S. Department of the Interior ("DOI") is **compatible with other credible reporting** because it identifies a multi-source approach to achieve 100% of power from clean energy sources.

*From the DOI website:*

In April 2024, the Department announced it has permitted more than 25 gigawatts of clean energy projects – surpassing a major milestone ahead of 2025 – enough clean energy to power more than 12 million homes across the country. This includes solar, wind and geothermal projects, as well as gen-tie lines on public lands that are essential for connecting clean electricity projects on both federal and non-federal land to the grid.

*Access the full article by clicking this link*

<https://www.doi.gov/priorities/clean-energy-future>

■ In October 2023, the International Energy Agency ("IEA")<sup>3</sup> published its *World Energy Outlook*, which **projects the percentage of power** from a variety of clean energy sources by 2030, based on *current* policies of governments around the world.

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<sup>9</sup> From Vestas website: <https://www.vestas.com/en/energy-solutions/offshore-wind-turbines/V236-15MW>

<sup>10</sup> Source: Encyclopedia Britannica <https://www.britannica.com/topic/Eiffel-Tower-Paris-France>

<sup>11</sup> Source: Atlantic Shores South Construction and Operations Plans, Introduction, page 1-6 [https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/Atlantic-Shores-South\\_Volume\\_I\\_Project\\_Description\\_05-01-2024.pdf](https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/Atlantic-Shores-South_Volume_I_Project_Description_05-01-2024.pdf)

*From the report:*

“An energy system in 2030 in which clean technologies play a significantly greater role than today includes almost 10 times as many electric cars on the road worldwide; solar PV<sup>5</sup> generating more electricity than the entire US power system does currently; renewables’ share of the global electricity mix nearing 50%, up from around 30% today; heat pumps and other electric heating systems outselling fossil fuel boilers globally; and three times as much investment going into new offshore wind projects than into new coal- and gas-fired power plants.”

*Access the full report by clicking this link*

<https://www.iea.org/news/the-energy-world-is-set-to-change-significantly-by-2030-based-on-today-s-policy-settings-alone>

## TOURISM ECONOMICS REPORT

An article in the August 21 issue of *The Sandpaper* included reporting on a study conducted by Tourism Economics, an Oxford Economics company based in England with regional headquarters in Philadelphia and offices in five other countries.

This report, commissioned by Long Beach Township (“LBT”) in support of legal action initiated to halt the Atlantic Shores Offshore Wind projects, is available on the website of the law firm representing LBT in its lawsuit. A press release dated April 24, 2024 on the law firm’s website refers to the report, although the report itself is undated.

*Access the full report by clicking on this link*

<https://www.pashmanstein.com/assets/htmldocuments/TE - Wind Turbine Visitation EI Report Final 03-26-2024.pdf>

## POWER TRANSMISSION CABLES IN SEA GIRT NJ

On August 15, the *Asbury Park Press* published an article with the headline “Sea Girt residents plan to fight offshore wind cables in the community: Not on my watch”.

*From the article:*

- “[Atlantic Shores South] plans to run its power cables to the onshore electric grid through Atlantic City and the Army National Guard property in Sea Girt. After making landfall in Sea Girt, the cable lines would then run to the Larrabee electrical substation in Howell.
- The power cable routes were selected to avoid underwater obstructions, utilities, navigation channels and anchor areas, Atlantic Shores personnel wrote in their development plans to the federal agency.

- But Sea Girt residents and their neighbors worry the cables will bring health and safety risks into their communities.
- New Jersey does not regulate electromagnetic fields, or EMFs, which are generated to some degree by all electronic devices. Cell phones, microwaves and radio antennas are common sources of this kind of radiation, according to the New Jersey Department of Environmental Protection.
- However, EMFs of **transmission** lines are regulated in New Jersey, where EMFs are measured at the edge of the power utility's right of way, according to an Atlantic Shores Offshore Wind's electromagnetic field report to the Bureau of Ocean Energy Management.”

Access the full Asbury Park Press article by clicking on this link  
<https://www.app.com/story/news/local/land-environment/2024/08/15/offshore-wind-nj-sea-girt>

## THE ROUND-UPS

**---** *This Offshore Wind Round-Up was prepared by a group of writers and researchers from Long Beach Island, New Jersey. The first Round-Up first appeared in May 2022 and it has been published every month except two since its debut.*

**---** *Round-Ups endeavor to periodically provide a **review of recent research efforts** in which the effects of offshore wind farms have been studied. In addition, they occasionally offer factual, **clarifying information**, in response to readers’ questions and suggestions.*

**---** *Research included in Round-Ups points you in the direction of the science and assumes **no point of view** one way or the other about the presence of offshore wind farms off our shore. Likewise, clarifications are provided without editorial comment; they are there for you to consider so you can **draw your own conclusions**.*

**---** *Questions about the content of Round-Ups and **suggestions** for future topics can be directed to [RoundUpLBI@gmail.com](mailto:RoundUpLBI@gmail.com). The Round-Up research and writing team welcomes questions and comments.*

**---** *Round-Ups are **distributed** to the voting representatives of the eleven member organizations of the Joint Council of Taxpayers Associations of LBI (JCTA). The board members of each member association collectively make their own decisions about how and when this information will be distributed to its members and/or the community. Most often, taxpayer associations use their regular communication platforms, such as newsletters, website postings and/or social media, to make Round-Ups **available to the public**.*