

Preserve the Ocean

In response to the article in the June 2nd SandPaper regarding ALO's stance that supports offshore wind development, it should be understood that it is not necessary to construct offshore wind turbines to produce carbon free energy to reduce the impacts of climate change. Onshore alternatives exist that can make use of existing infrastructure and not impact our ocean resources. I urge ALO and other readers to look into these alternatives. While moving the turbines further offshore will reduce visible impacts, it does not resolve the issues associated with industrializing the ocean's resources. There will be environmental issues to be considered.

The Atlantic Shores project proposed off Long Beach Island could include some 200 massive wind turbines, standing 850 feet above sea level and only 9-10 miles off our beach, presenting a "wall" of turbines obstructing our view to the horizon. The impact on the environment, including that on the endangered right whale, has been documented by many writers to the SandPaper. In addition, NOAA and the National Marine Fisheries Service have established that Essential Fish Habitat (EFH) areas exist in that project area for sea and surf clams and sea bass. There is also concern about negative impacts on the horseshoe crab, which provides essential material for vaccine production. As also documented in the past by writers to the SandPaper, there is the potential negative impact on current unobstructed views, tourism, commercial and recreational fishing, higher costs for electricity, and reduced reliability resulting from an intermittent source of power.

So, what are the onshore alternatives. In regard to carbon free or reduced carbon technologies, there are many in addition to wind and solar that can fill the void, including: hydrogen as a fuel for power plants and for transportation; carbonless synthetic fuels; biomass; upgrading existing natural gas power plants to more efficient, combined cycle natural gas power plants; and carbon capture from gas, coal and oil plants and use of carbon captured for product manufacture, to name a few.

I note from an article that appeared in Mechanical Engineering Magazine in its June/July 2021 edition, "Bright Futures", that in regard to the state of readiness of hydrogen for power generation, that the "Long Ridge Energy Terminal, a 485 MW plant being built along the Ohio River and scheduled to begin production in Fall 2021, will use a blend of natural gas and 5% hydrogen, with the goal of using 100% hydrogen by 2030". From two to four similarly sized power plants could replace all of the power projected from the Atlantic Shores offshore wind project, without any use of the ocean's resources. Hydrogen is a carbonless fuel. Another option is to upgrade existing natural gas power plants to include combined cycle power generation, thereby increasing their efficiency and significantly reducing carbon emissions. The same article in Mechanical Engineering cites as an example the Lake Charles Power Station which is expected to emit around 40% less carbon dioxide than the single-cycle plant it

replaced. Hydrogen use and combined cycle gas plants are currently viable and can be put in place by 2035, or before, to reduce carbon emissions, while avoiding job disruptions and taking advantage of existing global infrastructure and competencies.

On the home front, New Jersey Natural Gas, our gas provider, is engaged in a green hydrogen project where hydrogen is blended into its existing natural gas system lowering overall carbon emissions of the gas delivered to its customers.

Biomass also is playing an increasing role to produce electricity while reducing carbon emissions. As an example, anaerobic digestion of food waste that is currently landfilled, is being used to generate electricity at net zero carbon emissions levels.

Use of these technologies offers secure, uninterrupted baseload power. They are not dependent on development of costly utility sized battery storage (not commercially available) used to store energy when the wind is not blowing or power is not needed.

As for wind, why not focus on land-based systems and avoid industrializing our oceans and negatively impacting its natural resources. Let's not forget offshore wind also requires construction of offshore electrical substations and installing power cables to bring the electricity to shore for connection to the grid. Those connections will impact Barnegat Bay and the undisturbed wetlands between Barnegat Bay and the point of connection.

Offshore wind has yet to be demonstrated in the U.S. on a large, utility scale and as noted above, its intermittent nature requires development of commercial sized energy storage to be effective. In addition, besides considering climate change, it is critical to address the environmental issues, such as threats to endangered species, impingement on essential fish habitat areas and associated costs to the local fishing and tourist industries resulting from industrializing the ocean with hundreds of wind turbines that stand at 850 feet above sea level, three times as tall as the Statue of Liberty. There is also the added environmental cost of transmitting the power to shore and connecting to the grid.

Let's move forward with a balanced, diverse approach to our energy needs and our needs to address climate change. Onshore wind and solar have a role as do the other technologies described above. Let's leave the natural resources of our oceans undisturbed by eliminating or significantly reducing dependence on offshore wind.

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