

Alert



The **Alert** newsletter provides monthly updates on transportation and air quality planning activities within the Delaware Valley.

November 2023

Clean Energy Project Updates

Mid-Atlantic Clean Hydrogen Hub Begins Award Negotiations with Department of Energy

On October 13, the United States Department of Energy (DOE) [announced](#) it would begin negotiating awards with seven proposed Regional Clean Hydrogen Hubs (H2Hubs), including one in the Philadelphia region, as part of the \$7 billion H2Hubs grant program. The H2Hubs program aims to support the decarbonization of the energy, industrial, and transportation sectors by providing federal funds and market stability to regional public-private partnerships that will kickstart the deployment of clean and affordable hydrogen at a commercial scale.

In Southeastern Pennsylvania, Southern New Jersey, and Delaware, the [Mid-Atlantic Clean Hydrogen Hub](#) (MACH2) submitted an application for \$750 million in federal funds to establish a network of clean hydrogen producers, consumers, and transportation infrastructure that will have a production capacity of 271 metric tons per day by 2032. Although the full concept proposal has not been publicly released, the [Philadelphia Inquirer](#) reports that a key aspect of the plan is to repurpose former refinery locations and existing petroleum pipelines to minimize disruptions to communities and the environment.

MACH2 is backed by a large consortium of government agencies, private companies, labor organizations, and educational institutions, including PSE&G, PBF energy, Dupont, Air Liquide, and the AFL-CIO state federations of Pennsylvania and Delaware. The City of Philadelphia and SEPTA have expressed interest in using hydrogen to power trash trucks and transit buses, and local universities, including Drexel, the University of Pennsylvania, Rowan, and the University of Delaware, have announced plans to support research and workforce development.

The H2Hubs that are in current negotiations with DOE were selected from a pool of 80 applications submitted from across the country. The \$7 billion in federal funding they are seeking will be matched by approximately \$40 billion in investments from the applicants themselves. The negotiation process is expected to conclude in early 2024, and some MACH2 projects may begin construction by the end of that year. However, it could take a decade to fully build out the entire set of projects.

[According to DOE](#), hydrogen is a versatile energy carrier that can be used to store energy from intermittent renewable sources and power zero-emissions vehicles. There are several methods of producing hydrogen that vary in their carbon intensity. Electrolysis, which uses electricity to split water into hydrogen and oxygen, is currently the most developed means of producing clean hydrogen. Since electrolysis releases no carbon, it can be as clean as its source of electricity. When hydrogen is produced using renewable sources such as wind or solar, it is labeled green hydrogen, while hydrogen produced using nuclear power is referred to as pink hydrogen. Green and pink hydrogen are generally considered clean in contrast to hydrogen produced using fossil fuel-based processes, such as steam-methane reforming. Other production methods, including using direct solar water splitting and the biological processes of bacteria and algae, are being explored but are currently not as developed as electrolysis.



Save the Date

Friday

December 1, 2023

US EPA Diesel Emissions Reduction Act

Applications Due

Information is available at:
epa.gov/grants/2022-2023-diesel-emissions-reduction-act-dera-national-grants

Friday

December 15, 2023

PA DEP Alternative Fuels Incentive Grant

Applications Due

Information is available at:
dep.pa.gov/Citizens/GrantsLoansRebates/Alternative-Fuels-Incentive-Grant

Developer Suddenly Backs Out of New Jersey's First Offshore Wind Farm

In a move that took many by surprise, Danish energy developer Ørsted announced late Halloween night that it would cease development of Ocean Wind 1 and 2, two major wind farm projects off the coast of southern New Jersey. In a [statement](#) the company cited “significant adverse developments from supply chain challenges, leading to delays in the project schedule, and rising interest rates” as the reason for its decision.

With the capacity to power approximately 500,000 homes, Ocean Wind 1, a joint venture between Ørsted and New Jersey electric utility PSE&G, was on track to become one of the largest offshore wind farms in the United States. The completion of Ocean Wind 1 and the similarly sized Ocean Wind 2 were key aspects of New Jersey Governor Phil Murphy's plan to transition the state to 100 percent clean energy by 2050. The governor immediately [criticized the company's decision](#). “Today's decision by Orsted to abandon its commitments to New Jersey is outrageous and calls into question the company's credibility and competence,” he stated. “As recently as several weeks ago, the company made public statements regarding the viability and progress of the Ocean Wind 1 project. In recognition of the challenges inherent in large and complex projects, my Administration in partnership with legislative leadership insisted upon important protections that ensure New Jersey will receive \$300 million to support the offshore wind sector should Orsted's New Jersey projects fail to proceed. I have directed my Administration to review all legal rights and remedies and to take all necessary steps to ensure that Orsted fully and immediately honors its obligations.”

While Ocean Wind 2 was still in the planning and permitting stage, Ocean Wind 1 already had its construction and operations plan approved by the federal [Bureau of Ocean Energy Management](#) (BOEM) in September and was beginning construction when the company made its announcement. According to [scoping documents](#) submitted to BOEM, the project was to involve installing up to 98 wind turbines 15 to 27 miles off the coast of Atlantic and Cape May Counties. Electricity would be transmitted from the turbines to the mainland via three offshore substations connected to two onshore points by cables buried under the seabed. In order to minimize the need for new transmission infrastructure, the two onshore connection points were to be located on the site of inactive power stations with existing connections to the electric grid. One cable was to make landfall in Upper Township, Cape May County on the site of the BL England Generating Station, a former coal-burning power plant that was decommissioned in 2019 and is in the process of being demolished. The other onshore connection point was to be located on the site of the Oyster Creek Nuclear Power Station in Ocean County, which was decommissioned in 2018.

While the progress of Ocean Wind 1 was praised by environmentalists and others who saw the growth of offshore wind as an opportunity to reduce reliance on fossil fuels while growing the state's economy, the project ran into increasing opposition as it came closer to fruition. Some residents of the Jersey Shore expressed concerns that the turbines would be unsightly and could affect tourism in the region, and local groups sprang up to organize opposition to the project. Some of these groups amplified [unfounded claims](#) about the environmental impacts of offshore wind turbines, particularly on whale mortality. These talking points mirrored those used by opponents of wind energy elsewhere and led to [scrutiny](#) about some of the groups' connections to the fossil fuel industry.

Despite the setback, Governor Murphy, who signed an [executive order](#) last year setting a goal for the state to produce 11,000 megawatts of offshore wind power by 2040, has reiterated his commitment to positioning New Jersey as a leader in the nation's relatively young offshore wind energy industry. One project off New Jersey's coast, [Atlantic Shores](#), is still in development and aims to begin construction in 2024. The CEO of Atlantic Shores told the [Philadelphia Inquirer](#), “Atlantic Shores remains committed to delivering safe, reliable, renewable power and establishing a thriving domestic offshore wind industry anchored in New Jersey.” According to the U.S. Department of Energy's 2023 [Offshore Wind Market Report](#), the United States currently has only two operational offshore wind projects with a combined capacity of 42 megawatts. However, the industry could see massive growth in coming years as 932 megawatts of capacity are under construction, and numerous projects with the combined potential to generate over 50,000 megawatts are in various stages of the development pipeline.



DVRPC, 8th Floor
190 N Independence Mall West
Philadelphia, PA 19106-1520
215.592.1800 | dvrpc.org | airqualitypartnership.org
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