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FEATURED

## Pilgrim closure could drive up carbon emissions

By Christian M. Wade Statehouse Reporter May 24, 2019



STEVEN SENNE/AP file photo/A company that manufactures giant containers used to store spent radioactive fuel has signed a deal to purchase the Pilgrim Nuclear Power Station in Plymouth, scheduled for shutdown May 31, 2019, for accelerated decommissioning. Steven Senne

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BOSTON — The pending closure of Pilgrim power plant will lead to an uptick in regional carbon emissions, according to environmental groups, who say the shutdown of the state's only nuclear plant increases the urgency to move toward wind, solar and other renewable energy sources.

The 47-year-old Plymouth facility will stop generating electricity on May 31. Entergy Corp. announced in 2015 that the problem-plagued facility is no longer financially viable amid falling revenues, increased costs and a difficult energy market.

The closure of the 690-megawatt power plant, which produces about 15 percent of New England's energy, will leave a gaping hole in the region's power system.

ISO New England, which operates the regional grid, plans to fill the void with 1,185 megawatts of new power expected to come online in the next few years. That includes the output of five new grid-scale solar power facilities and a new wind power project, which combined will be capable of producing 131 megawatts.

But most of the new electricity will come from three new power plants that burn both natural gas and oil, according to the grid operators.

That will likely lead to a short-term spike in greenhouse gas emissions until power generators can match typical energy needs with more renewable sources, according to Eric Wilkinson, director of energy policy at the Environmental League of Massachusetts.

Still, he said, it could be a lot worse.

"Because we've invested so much in energy efficiency and in solar, the impact is going to be a lot less than it otherwise would be," Wilkinson said.

There was a slight uptick in carbon emissions when the Vermont-Yankee nuclear power plant went offline in 2014, he said, but the increase has since been offset as New England states have added more renewables to the regional grid.

### **Carbon footprint**

Environmentalists worry that a rise in carbon emissions could roll back gains made by Massachusetts in recent years to reduce the greenhouse gases that scientists say are contributing to a warmer planet.

The state is required to reduce its carbon footprint by 25 percent of 1990s levels by 2020, and 80 percent by 2050, to comply with the Global Warming Solutions Act, a federal law the state adopted years ago. A 2016 ruling by the state Supreme Judicial Court mandated stepped-up efforts to hit those benchmarks.

For environmentalists, the concern is that so-called dual-fuel plants, like the ones being brought online to offset Pilgrim's closure, rely primarily on gas but are also capable of burning oil, which produces more emissions than other fuels. Nuclear, by comparison, has no related carbon emissions.

Last year, pipeline constraints pushed up the price of natural gas to levels that made oil a preferred fuel, and some plants shifted to oil-burning amid a two-week cold snap. During the 15-day period, power generators burned close to 2 million barrels of oil, more than they used in the previous two years, according to ISO New England.

Natural gas industry officials say solar and wind producers alone cannot provide enough energy to meet the state's demand.

"It will be a long time before there are adequate supplies of renewable energy to replace natural gas," said Tom Kiley, president and CEO of the Needham-based Northeast Gas Association. "So, in the interim, natural gas is going to continue to be an important fuel for the state and region."

Gov. Charlie Baker wants the state to pursue hydropower, solar and wind sources to meet energy needs and goals to reduce carbon emissions.

For example, a proposed \$2 billion, 84-turbine wind farm planned for federal waters off Martha's Vineyard will be capable of producing up 800 megawatts of electricity.

### **Natural gas in the mix**

But Baker, too, has acknowledged that natural gas will likely remain part of the mix during a transition from fossil fuels such as oil and coal.

Roughly half of New England's energy production came from natural gas last year, while a third came from nuclear power, according to ISO New England.

Hydropower, solar and other renewables accounted for roughly 19 percent of the energy sent to the grid in 2018.

To be sure, the state has been moving from fossil fuel burning power plants for years, though more because of economics than environmental policy.

The state's last and largest coal-fired plant — Brayton Point Power Station in Somerset — went dark last year. The Salem Harbor Power Station has shifted from burning coal to natural gas.

Industry attempts in recent years to expand the natural gas network have met fierce opposition from elected officials at all levels.

Environmentalists say the state needs to speed a transition to renewable energy and shouldn't expand its dependence on natural gas and oil-powered plants.

"We have the technology and resources to move more renewable energy onto the grid and offset the energy that Pilgrim was producing," said Ben Hellerstein, state director for Environment Massachusetts, which has pushed a plan for the state to get 100 percent of its energy from renewable sources by 2047. "The question is not whether renewables are ready to meet the demand, but how quickly are our political leaders will take advantage of the potential of solar and wind power."

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