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Department of Environmental Protection Invests \$30 Million to Significantly Reduce Greenhouse Gas Emissions from the Port Richmond Wastewater Treatment Plant

New Boilers, Exhaust System, and One of the City's Largest Rooftop Solar Arrays will Reduce Greenhouse Gas Emissions from Plant Operations by More Than 28,000 Metric Tons—the Equivalent of Removing Nearly 6,000 Cars From the Road

Achieving Net-Zero Energy Use at City Wastewater Treatment Plants is Key Initiative of OneNYC

Photos are Available on [DEP's Flickr Page](#)

New York City Department of Environmental Protection (DEP) Commissioner Emily Lloyd today announced that the installation of three new boilers, a new exhaust capture system and one of the largest rooftop solar arrays in the city, at the Port Richmond Wastewater Treatment Plant on Staten Island will reduce greenhouse gas emissions from plant operations by more than 28,000 metric tons. The new boilers use a combination of biogas and natural gas and replace equipment dating to the 1970's that ran on heating oil alone. Biogas is a byproduct of the wastewater treatment process. By capturing it and beneficially using it in the plant's operations, and discontinuing the use of dirtier heating oil, greenhouse gas emissions will be significantly reduced. In addition, earlier this year, in a partnership between DEP, the City's Department of Citywide Administrative Services and ConEdison Solutions, one of the city's largest

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rooftop solar arrays atop the Port Richmond facility was activated. The solar array will generate approximately 1.6 million kilowatt hours and will supply as much as 10 percent of the plant's power needs. Eliminating more than 28,000 metric tons of greenhouse gas emissions is the equivalent of removing 5,895 passenger vehicles from the road, providing a year's worth of electricity to 3,851 homes or planting 717,949 trees and allowing them to grow for 10 years. The work builds towards the OneNYC initiative of achieving net-zero energy use at the City's wastewater treatment plants by 2050.

"This \$30 million investment in new technology at the Port Richmond Wastewater Treatment Plant will significantly reduce pollution and result in cleaner air for New York City," said **DEP Commissioner Emily Lloyd**. "Our wastewater treatment plants require a tremendous amount of electricity in order to protect public health and the environment, and we're focused on not only reducing their demand for electricity, but also capturing and maximizing their potential for energy production."

"DEP has long found innovative approaches to improve NYC's water and environment, and Commissioner Lloyd has come up with another winner," said **Nilda Mesa, Director of the Mayor's Office of Sustainability**. "Using the byproducts of wastewater treatment to provide energy to fuel the same plant, and shave off even more of the energy load with a sizable solar array, makes a significant contribution to NYC's air quality as well as reduces energy and cost over the long run, while bringing down greenhouse gas emissions."

"ConEdison Solutions is proud to help the New York City Department of Environmental Protection promote sustainability through this ambitious solar installation," said **Michael N. Perna of ConEdison Solutions**. "Throughout New York City, both public-sector and private-sector entities are learning how to utilize renewable power as a money-saving and energy-saving asset. With these significant improvements at the Port Richmond Wastewater Treatment Plant, DEP is setting an outstanding example for other facilities throughout the region."

Council Member Costa Constantinides, Chair of the Council Environmental Protection Committee, said, "I am proud that upgrades at the Port Richmond Wastewater Treatment Plant will not only significantly reduce greenhouse gas emissions, but also convert waste and byproduct of the sewage treatment process into energy used by the plant. The upgrades will allow the capture of biogas for use in boilers, ending reliance on dirtier heating oil at the plant. The plant will also feature one of the city's largest solar arrays that'll generate 10 percent of the plant's power. I commend Commissioner Emily Lloyd for her leadership as we move our city closer toward our goal of reducing carbon emissions by 80 percent by 2050."

"The announcement today by DEP Commissioner Emily Lloyd that new boilers and a solar array have been installed at the Port Richmond Wastewater Treatment Plant brings our city another step closer to realizing our goals for clean air and environmental sustainability," said **Council Member Deborah Rose**. "This \$30 million project is an investment that will pay dividends for our children and grandchildren, who will inherit a cleaner and greener city as a result. I commend the Administration's leadership on this issue as we all work together to make our city a pioneer in green practices."

In September 2014, New York City committed to the goal of achieving an 80 percent reduction in greenhouse gas emissions from 2005 levels by 2050 (80x50). With buildings comprising nearly three-quarters of New York City's overall emissions, the City committed to retrofitting all public buildings with any significant energy use by 2025, and supporting many private buildings to do the same. In addition, in order to reduce emissions from City government operations, an initiative was put in place to achieve net-zero energy use at the City's wastewater treatment plants by 2050.

DEP operates 14 wastewater treatment plants throughout the city that clean and disinfect approximately 1.3 billion gallons of wastewater to Federal Clean Water Act standards every day. This work requires an enormous amount of electricity,

making DEP the third largest public energy user in New York City. At the plants, the wastewater undergoes five major physical and biological processes that closely duplicate how water is purified in nature. One of the byproducts of these processes is biogas. Biogas is mostly composed of methane, which is also the main component of natural gas. By capturing the biogas byproduct of the wastewater treatment process and using it to heat the plant, and discontinuing the use of heating oil, greenhouse gas emissions will be significantly reduced. The installation of the new boilers and exhaust capture system cost approximately \$30 million.

Prior to the installation of the solar array, upgrades to the 200,000 square foot roof of the Port Richmond Facility were completed and, as part of this process, the City's largest cool roof was installed. The cool roof reduces the amount of energy absorbed by the roof and reflects more light back to the solar panels, increasing their output. The solar panels will generate approximately 1.6 million kilowatt hours and will supply as much as 10 percent of the plant's power needs. The solar array was built through an innovative public-private partnership. At no upfront capital cost to the City, Con Edison Solutions owns and will maintain the solar array, and the City can purchase the electricity.

The Port Richmond Wastewater Treatment Plant is located on the North Shore of Staten Island. It went into service in 1953 and serves a population of about 200,000 residents. The Plant has the capacity to receive, clean and disinfect up to 60 million gallons of wastewater a day and serves a drainage area of 9,665 acres on the Island.

DEP manages New York City's water supply, providing more than one billion gallons of water each day to more than nine million residents, including eight million in New York City. The water is delivered from a watershed that extends more than 125 miles from the city, comprising 19 reservoirs and three controlled lakes. Approximately 7,000 miles of water mains, tunnels and aqueducts bring water to homes and businesses throughout the five boroughs, and 7,500 miles of sewer lines and 96 pump stations take wastewater to 14 in-city treatment plants. In addition, DEP has a robust capital program, with nearly \$14 billion in investments planned over the next 10 years that will create up to 3,000 construction-related jobs per year. This capital program is responsible for critical projects like City Water Tunnel No. 3; the Staten Island Bluebelt program, an ecologically sound and cost-effective stormwater management system; the city's Watershed Protection Program, which protects sensitive lands upstate near the city's reservoirs in order to maintain their high water quality; and the installation of more than 820,000 Automated Meter Reading devices, which will allow customers to track their daily water use, more easily manage their accounts and be alerted to potential leaks on their properties. For more information, visit nyc.gov/dep, like us on [Facebook](#), or follow us on [Twitter](#).

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