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## Department of Environmental Protection to Build Hydroelectric Facility to Harness Clean, Renewable Energy Potential of Gravity-Fed Water Supply System

**Each Day More than One Billion Gallons of Water Travels  
by Gravity from Protected Upstate Reservoirs to New York  
City**

**Hydroelectric Facility will Create a Clean, Affordable and  
Renewable Energy Supply While Reducing the City's  
Carbon Footprint**

**Photos, Maps and Renderings Can be Viewed on [DEP's  
Flickr Page](#)**

New York City Department of Environmental Protection (DEP) Commissioner Emily Lloyd today announced that the department will build a new hydroelectric facility at the City's Cannonsville Reservoir, located in Delaware County. The 14-megawatt facility will advance New York City's goal, outlined in PlaNYC, of developing affordable, clean and renewable energy supplies that support economic growth while reducing the City's overall carbon footprint. By capturing the natural force of the billions of gallons of water that are released from Cannonsville Reservoir each year, the hydroelectric facility will generate enough electricity to power roughly 6,000 homes and it will avoid the emission of 25,620 metric tons of greenhouse gases each year – the equivalent of removing 5,400 automobiles from the road. The facility is also expected to generate approximately \$2 million in revenue each year, depending on demand and the market price of electricity.

"The new hydroelectric facility at Cannonsville reservoir will utilize the natural

**More Information**

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power of New York City's water supply system, which conveys billions of gallons of water every year by the force of gravity alone," **DEP Commissioner Emily Lloyd** said. "By capturing more of that energy, New York City can generate clean and reliable electricity, improve air quality, and fight climate change by avoiding the emission of greenhouse gases."

"New York City is making significant strides to combat climate change and make our city more sustainable through the use of clean, renewable energy," said **Daniel Zarrilli, acting director of the Mayor's Office of Long-Term Planning and Sustainability**. "Building this hydroelectric facility will further reduce the carbon footprint of the City by offsetting a significant portion of the carbon emissions produced by upstate DEP facilities, moving the City further toward its carbon reduction goals."

"The New York Power Authority enthusiastically welcomes the future addition of the Department of Environmental Protection's new hydroelectric facility to expand the portfolio of clean renewable energy sources in New York State," said **Gil C. Quinones, New York Power Authority president and chief executive officer**. "The Power Authority has a long history of working with the Department of Environmental Protection to help reduce their carbon footprint, through various energy efficiency and other clean energy projects, and we support the development of this new generator, as it takes those efforts even further."

DEP maintains a system of 19 protected reservoirs and three controlled lakes that impound 580 billion gallons of water at full capacity. Built in the Catskill mountains, the reservoirs in the west-of-Hudson watershed lie well above sea level. To reach New York City and the more than 70 upstate communities that draw from the system, water is conveyed from the reservoirs through aqueducts where it travels upwards of 100 miles by the power of gravity alone. Water is also regularly released from the reservoirs into rivers to support recreation, aquatic habitats, and maintain flow targets necessary for downstream water utilities. As the water moves through the system it offers multiple opportunities for hydroelectric generation.

The Federal Energy Regulatory Commission recently issued DEP a license to build the hydroelectric facility at Cannonsville Reservoir and construction of the \$72 million plant could begin as early as 2016. The facility will comprise four hydroelectric turbines situated inside a 9,000-square-foot powerhouse. The turbines will generate an estimated 42,281 megawatt hours of electricity each year. It will utilize water that is released daily from Cannonsville Reservoir into the West Branch of the Delaware River. DEP releases water from its three reservoirs located on tributaries to the Delaware River, including Cannonsville Reservoir, according to a Flexible Flow Management Program that has been implemented by parties to the 1954 U.S. Supreme Court Decree that outlined rights and obligations related to the use of water in the Delaware River Basin. The amount of water released from New York City's Delaware System reservoirs is based on season, storage and other factors. This program of releases will also determine how much water goes through the hydroelectric facility.

DEP currently owns two other hydroelectric facilities. Both are located in the Town of Neversink in Sullivan County. The Neversink Tunnel Outlet, which has a capacity of 25 megawatts, generates energy from the water moving from Neversink Reservoir to Rondout Reservoir. The East Delaware Tunnel Outlet, which has a capacity of 18 megawatts, creates electricity from water as it moves from Pepacton Reservoir to Rondout Reservoir. Over the past five fiscal years, these two facilities have generated more than \$19 million in revenue for the City. The New York Power Authority (NYPA) and Brookfield Renewable Energy also operate two hydroelectric facilities that take advantage of the City's gravity-fed water supply system. NYPA's facility generates power from water as it moves from Ashokan Reservoir into the Catskill Aqueduct. Brookfield's facility generates energy at Rondout Reservoir by harnessing the flow of water that's delivered from Cannonsville Reservoir through the West Delaware Tunnel.

Located on the western edge of Delaware County, Cannonsville Reservoir was

formed by damming the West Branch of the Delaware River to store 95.7 billion gallons of water. Placed into service in 1964, Cannonsville Reservoir was the last of New York City's 19 reservoirs to be built. Water drawn from Cannonsville enters the West Delaware Tunnel and travels 44 miles to the upper end of the Rondout Reservoir. From there, it is carried in the 85-mile-long Delaware Aqueduct. Cannonsville Reservoir receives its water from a 455-square-mile drainage basin that includes parts of 17 towns in Delaware County.

Constructing and operating the facility will also have a positive impact in the Delaware watershed that surrounds Cannonsville Reservoir. The facility will help hold down electric costs upstate when it's operating by displacing an equivalent amount of generation from higher-cost, fossil-fuel fired sources. Such displacement not only reduces the emission of pollutants from burning fossil fuels, but also tends to reduce the overall wholesale market price of energy. The project is also expected to create approximately 60 construction jobs and as many as five full-time green jobs for those who will operate the plant.

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. DEP has nearly 6,000 employees, including almost 1,000 in the upstate watershed. 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](http://nyc.gov/dep), like us on Facebook at [facebook.com/nycwater](https://facebook.com/nycwater), or follow us on Twitter at [twitter.com/nycwater](https://twitter.com/nycwater).

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