

Project Spotlight



A hauler in the process of delivering food waste to the Newtown Creek WWTP storage tank.

NEWTOWN CREEK CO-DIGESTION DEMONSTRATION PROJECT

The food waste co-digestion demonstration project at Newtown Creek WWTP, which is a public-private partnership between DEP and Waste Management, became operational this summer. Newtown Creek WWTP is now processing about 20 tons of organic materials per day, with the goal of ramping up to 250 tons per day by 2019. This project will maximize the recovery of resources from the City's waste streams by diverting a significant amount of organic waste from landfills, in order to support the City's goal of zero waste to landfill by 2030. Digestion of the added food waste is also expected to increase the production of biogas in DEP's digesters, which can be beneficially used on-site in boilers or to generate renewable electricity, or cleaned and injected into the gas distribution pipeline for use by local residents and businesses.

Spotlight on Safety

LEDs

Light emitting diode (LED) bulbs have been commonly used in traffic signals, flashlights, and for holiday season lighting. The technology has advanced significantly, and LED light bulbs are now available for lamps, recessed lighting, and other applications. LED bulbs use less than half of the energy of a compact fluorescent light (CFL) and a fraction of the energy used by an incandescent bulb. Because they last over 20 years, LEDs are also more cost-efficient.

LEDs offer some other big advantages over CFLs:

- They turn on immediately—no “warm up” delay
 - They work well in cold weather
 - They are more durable
- LEDs do not contain mercury or PCBs, which can result in the generation of less solid waste and potentially reduce DEP's generation of hazardous and universal waste. Thanks to all of these advantages, LEDs also improve the visibility and workplace safety at DEP facilities. Since 2014, at least 24 DEP facilities comprising over 90% of the agency's energy usage have upgraded to LED lighting.

- They are dimmable (and don't buzz)

At DEP, everyone is responsible for safety. If you or anyone on your team is concerned about your working conditions, it's okay to ask your supervisor or your bureau's EHS liaison how they can help. If you've still got questions, you can call the EHS Employee Concerns Hotline. It's DEP's responsibility to acknowledge and fix unsafe situations, procedures, and practices. With your help, we'll not only get the job done, we'll make it safer for ourselves, our coworkers, our families, and our city. CALL (800) 897-9677 OR SEND A MESSAGE THROUGH [PIPELINE](#). HELP IS ON THE WAY.

Commissioner's Corner: Energy Edition

This week's guest commentator is **Pam Elardo**, DEP's Deputy Commissioner for Wastewater Treatment, which houses the Office of Energy and Performance.

In 2014, Mayor de Blasio committed that New York City would continue its role as a global leader on sustainability by reducing greenhouse gas emissions (GHG) 80 percent by 2050 (“80x50”). The Mayor's Office has called on all City agencies and the public to help achieve this massive goal, and DEP is pleased to participate in this effort.

Our organization needs to use a tremendous amount of energy to fulfill our mission to provide safe drinking water and treat wastewater to protect the public and the environment. Since our initial GHG reduction efforts began in the mid-2000s, DEP has made significant inroads to start closing in on the 80x50 goal. These overall reductions occurred despite federal and state mandates requiring DEP to implement energy intensive processes and facilities to meet stringent environmental compliance requirements.

Thanks to all of DEP's Bureaus, we have had many successful projects to reduce our energy consumption and GHG. We have implemented many energy conservation measures (ECMs) such as LED lighting upgrades; installing higher-efficiency motors, pumps, and other equipment; beneficially utilizing more of our digester gas in boilers and engines; purchasing efficient and electric vehicles; and improving operations at every level to reduce energy use. Even so, we are still finding that there is much

more that we can do and are actively seeking to integrate ECMs into our state-of-good-repair (SOGR) projects.

Along with energy efficiency to drive down our consumption, we are also exploring and implementing technologies and projects to generate clean and renewable energy at our facilities. One shining example is the installation of a 1.25 megawatt (MW) solar array which supplies as much as a third of the electricity needed during daylight at the Port Richmond Wastewater Treatment Plant (WWTP). Two of our other WWTPs beneficially use their digester gas in a cogeneration engine that generates both heat and electricity, with a third cogen plant currently under construction, and most of the remaining WWTPs use their digester gas in their boilers. Furthermore, we have issued a feasibility study RFP for constructing a hydropower plant in Cannonville.

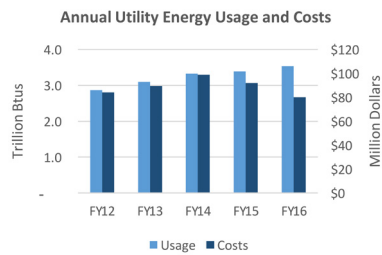
We are also forming public-private partnerships to help this effort, such as at Newtown Creek WWTP with Waste Management and National Grid, where DEP is accepting food waste (see Project Spotlight article) and will supply digester renewable biogas for scrubbing and injection into the natural gas distribution pipeline for the surrounding community.

Through these and future energy efficiency and renewable energy projects, DEP will increase the City's resiliency and sustainability. The City has a long way to go to meet its 80x50 goals, but DEP will strive toward excellence for our City and its people. Thank you for your commitment and hard work.

Energy Smart Competition

Sixteen locations in the Bureau of Water Supply are participating in an energy and demand reduction challenge this winter. The Competition will promote energy-conserving behavior changes at these facilities, with the intent that these creative, new operating procedures will continue sustainably in the future and be championed by facility staff, who are truly the underlying force of innovation and successful operations at all DEP facilities.

Utility Energy Use and Costs



For Fiscal Year 2016, DEP spent nearly \$80 million on 3.5 trillion British Thermal Units of electricity, natural gas, and steam, a 4% increase in usage and 13% decrease in cost this year versus last year. You may ask, “Why is there a decrease in cost when DEP used more energy?” The answer is mainly because of the

continued decrease in the price of natural gas, which DEP uses to heat many of its facilities and which the electric utility uses, in majority, to power its power plants. It is important to prepare for the likely augmentation of gas prices in the future, however, so DEP is committing to reduce its overall energy consumption wherever possible with smart operations, energy efficiency, and SOGR projects.

Energy Analyst of the Year



DCAS Commissioner Lisette Camilo (left), Deputy Commissioner Anthony Fiore (center), and awardee Mikael Amar (right).

Congratulations to **Mikael Amar** of the DEP Office of Energy and Performance, who was honored last month with the *energyNYC Energy Analyst of the Year Award for 2016* by DCAS.

ACE and ExCEL Energy Conservation

In order to achieve the ambitious goals set forth in the PlaNYC, OneNYC, and 80x50 plans, the Department of Citywide Administrative Services (DCAS) created the Accelerated Conservation and Efficiency (ACE) and the Expenses for Conservation and Efficiency Leadership (ExCEL) programs to fund capital and expense projects that will bring substantial energy and GHG reductions. DEP has been an important participant in the City’s energy reduction efforts while leveraging these funding sources. To date, DEP has received \$62 million in funding for 31 projects including LED lighting retrofits, HVAC efficiency upgrades, and cogeneration at both in-city and upstate facilities. These projects together will result in over 29,000 metric tons of carbon dioxide equivalent reductions and \$12 million savings on energy expenditures annually. In addition to the retrofits and new installations, the funding has also been utilized for energy and GHG studies, one of which is the SOGR-ECM Integration Study at the in-city WWTs. This study will evaluate existing and identify new ECMs, then prioritize energy projects around the SOGR needs to optimize operating costs and bring significant potential GHG reductions. The DEP Office of Energy and Performance will work with all of DEP’s Bureaus to prepare successful funding applications for continued financial support to meet the City’s and DEP’s energy and GHG targets.

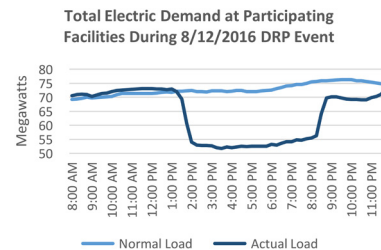
Innovative Applications of Solar



Solar array at Port Richmond WWT.

In September 2016, DEP and DCAS co-advertised a *Request for Information (RFI) Regarding Innovative Solar Photovoltaic Applications at WWTs*. The City will use the responses from this RFI to inform its solar policies and projects as it moves toward its goal of 100 MW of solar energy installed on City-owned properties by 2025. DEP will play an important role in helping the City to achieve this goal and is actively seeking opportunities to incorporate solar projects—such as on building roofs, over drinking water and wastewater treatment facilities, over parking lots, and on unused land—at both in-city and upstate facilities.

Electric Grid Reliability Program



Since 2013, DEP has actively and safely participated in the citywide and statewide Demand Response Programs (DRP). Through DRP, the electric utility calls upon enrolled resources to shed electric load during times of peak electricity usage, thereby mitigating the risk of brownouts and blackouts, as well as the need to call upon additional power plant resources which typically burn dirtier fuels. This summer, DEP met its overall reduction target without jeopardizing the processes at the Plants all seven times the agency was called upon. Thank you to the DEP facility operators who contribute to electric grid reliability and improved air quality through their efforts in DRP.

Innovative HVAC Technologies

Last month, the DEP Office of Energy and Performance hosted a webinar on innovative energy efficiency HVAC technologies. Three vendors presented their technologies—ranging from chemical additives or coatings to auxiliary systems or equipment that improve energy efficiency—to DEP’s project development, Plant operations, and contracting sections. In the coming months, DEP will be coordinating with various stakeholders to perform demonstration pilots of these technologies to test the actual energy savings generated by these technologies and their potential contribution to DEP’s energy conservation goals.

We welcome your feedback! To submit an announcement or suggestion, please email us at: newsletter@dep.nyc.gov.