



Environmental Protection

Departments of Citywide Administrative Services and Environmental Protection Announce Innovative Pilot Program to Triple Solar Generation on City Buildings, Support Green Energy and Reduce Carbon Emissions

Installation of Solar Panels to Produce More than 2 Million Kilowatt Hours of Electricity Annually – Enough to Power 245 Residential Homes

Project Advances City’s PlaNYC Initiatives and Will Result in Greenhouse Gas Emission Reductions of 1,636 Metric Tons a Year

The Departments of Citywide Administrative Services and Environmental Protection today announced an innovative solar power public-private partnership to reduce the City’s carbon footprint, improve air quality, and increase the reliability of the electricity grid, particularly during the hottest months of the year.

Tangent Energy Solutions, a private energy services company, will install solar arrays totaling more than 1.85 megawatts on the roofs of four City buildings in Staten Island and the Bronx. Together, the solar installations will produce more than 2 million kilowatt hours of electricity annually – enough to power 245 residential homes – decrease greenhouse gas emissions by 1,636 metric tons a year and help City government reach its PlaNYC goal of reducing municipal greenhouse gas emissions by 30 percent by 2017. Under the program, which comes with no upfront capital cost, the City will not be responsible for purchasing, owning, installing or maintaining the system, and can purchase the electricity generated from it. As a result, the City is set to save more than \$8 million compared to the cost of installing the solar systems through its capital construction program, and the four projects will help bring more than 40 new green jobs to the city and pave the way for more similar projects – both public and private.

“Fostering public-private partnerships like the one we are announcing today with Tangent Energy Solutions are the key to scaling-up renewable energy investments in New York City,” said Deputy Mayor Cas Holloway. “As part of PlaNYC, Mayor Bloomberg committed to reduce City government’s municipal greenhouse gas emissions 30 percent by 2017, and the nearly 2 megawatts of solar power we are installing on City buildings here in Staten Island and the Bronx will reduce greenhouse gas emissions by

nearly 1,700 metric tons every year and create 40 new green jobs. That's good for the environment, good for New Yorkers and great for the City."

"DCAS is proud to be bringing the goals of PlaNYC to light with this solar power purchase agreement, which will more than triple the amount of solar installations on City buildings," said Edna Wells Handy, Commissioner of the Department of Citywide Administrative Services. "I'd like to thank my colleagues at the Departments of Environmental Protection, Transportation and Education for working with DCAS to strengthen renewable energy in New York City."

"By reducing our energy costs and carbon emissions, this project builds on DEP's longstanding efforts to use wastewater treatment plants to generate power," said Department of Environmental Protection Commissioner Carter Strickland. "As one of the largest energy users in the city, and with new treatment requirements projected to increase our power needs, DEP is committed to investing in renewable energy projects at our facilities to advance the City's sustainability plan and keep rates affordable for our customers."

"Our school buildings consume 25 percent of the energy use of all the City's government buildings, and this new program with DCAS to install solar panels at Herbert Lehman and John F. Kennedy High School Campuses will help to reduce our carbon footprint," said Chancellor Dennis M. Walcott. "Energy conservation is a top priority as we use less electricity, increase recycling and preserve our natural resources for future generations."

"The solar investments we're making today will deliver energy and cost savings for decades" said Department of Transportation Commissioner Janette Sadik-Khan. "The solar panels we installed at the Staten Island Ferry terminal build on our work to improve the sustainability of our operations along with recycled asphalt, clean fuel for our ferryboats and expanded the use of LED lights in our facilities."

"New York City is an opinion leader in many areas and this project adds sensible renewable energy to that long list," said Dean W. Musser, Tangent Energy's President and CEO. "Tangent Energy and our project partners are proud to be a part of this initiative and hope that it serves as an example to other cities seeking a more sustainable future."

"We commend Mayor Bloomberg and his administration for having the vision and commitment to bring more solar projects to New York City," said Robert Schimmenti, Con Edison's Vice President of Engineering and Planning. "We encourage all our customers to consider taking advantage of this clean, renewable source of energy to save money and help keep New York a clean, sustainable city for future generations."

In the past several years, the City has pursued a portfolio of initiatives to enhance its energy infrastructure and better manage its energy use, including issuing PlaNYC, a comprehensive agenda for long-term growth and sustainability. Renewable energy and distributed generation is a key component of the City's energy strategy to improve the long-term reliability, air quality and emissions and costs of our energy system. In the long run, managing peak demand of electricity and natural gas through greater market penetration of renewables like solar and geothermal, as well as developing aggressive energy efficiency and demand response measures can both defer the need for capital spending in constrained areas. In addition to achieving a 30 percent reduction in municipal greenhouse gas emissions for City government by 2017, New York City – as a whole – is more than halfway towards achieving the PlaNYC goal of a 30 percent reduction in greenhouse gasses citywide by 2030. Achieving this goal would bring New York City's emissions to 45 million metric tons of carbon dioxide per year, compared to 64 million in 2005. The City has already seen tremendous growth in solar photovoltaic energy within the five boroughs. In 2007, New York City only had 1 megawatt of solar energy in operation – compared to 14 megawatts of solar power currently.

In the first phase of the solar project, a solar panel array will be installed on the 200,000 square foot roof at the Department of Environmental Protection's Port Richmond Waste Water Treatment Facility on Staten Island. 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 – enough energy to power 169 residential homes. The Port Richmond Wastewater Treatment Plant will house the largest of the four facilities, and will be one of the largest solar arrays in the city. In Fall 2012, upgrades to the 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.

Since 2002, the Department of Environmental Protection has invested more than \$10 billion in upgrades to the City's wastewater treatment plants and as a result, New York's waterways are cleaner than they have been in more than a century. The Department treats roughly 1.3 billion gallons of wastewater each day at the City's 14 plants. However, wastewater treatment consumes an enormous amount of electricity making the Department the third largest public energy user in New York City. The Department of Environmental Protection will also invest more than \$450 million over the next seven years to reduce the agency's energy use by more than 10 percent and reduce carbon emissions by more than 56,000 metric tons, the equivalent of removing 11,600 passenger vehicles from the road or planting 1.4 million trees that grow for 10 years. Projects include upgrading equipment, such as engines and boilers, as well as recycling digester gas and using it to power some of the wastewater treatment plants' systems. The Department of Environmental Protection has also completed energy audits for all 14 treatment plants and

to date, 104 energy conservation measures have been identified that have the potential to reduce the Department's annual energy consumption by 72 million kilowatt hours and save ratepayers nearly \$29 million in energy costs each year.

In addition to the Port Richmond Wastewater Treatment Facility, the three additional solar projects will provide clean, renewable electricity later this year to the Port Richmond Wastewater Treatment Facility, the Staten Island Ferry Maintenance Facility, and the Herbert Lehman and John F. Kennedy High Schools in the Bronx. These new systems will effectively triple the amount of solar energy generated on City buildings and further ensure the City meets its PlaNYC initiatives of expanding renewable energy and reducing carbon emissions.

About Tangent Energy Solutions

Tangent is a venture-backed company founded in 2009 by a management team that has been providing commercially successful energy innovations for 30 years. Along with installing, operating and maintaining the solar facilities, Tangent Energy will also provide a proprietary technology platform that monitors the solar asset.