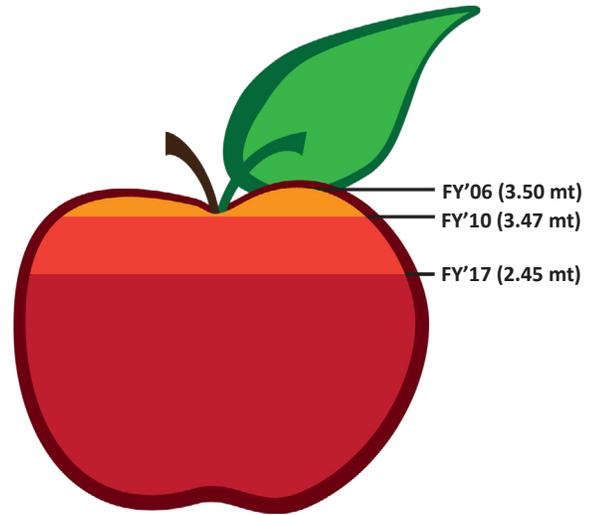


Energy Conservation Steering Committee ANNUAL UPDATE 2011

In October 2007, Mayor Michael R. Bloomberg issued Executive Order 109, which mandated the PlaNYC goal of reducing municipal greenhouse gas emissions 30 percent by 2017 (30x17). In 2009, the Department of Citywide Administrative Services (DCAS) Energy Management (DEM) group was named the implementation lead for the long-term plan to achieve the goal. Since then, DEM has made progress implementing the two major building energy efficiency program areas, which together account for more than half of expected reductions: 1) building retrofits, and 2) improvements to building operations and maintenance. Working closely with partner agencies, DEM has completed 130 building retrofits and has another 230 in the pipeline. DEM is moving aggressively on its comprehensive programmatic agenda, supported by the following programs:

- **Energy Cost Control & Conservation (EC3)** – EC3, which launched in Summer 2011, provides energy billing information and allows agencies to view energy cost and usage reports to track their budgets and consumption over time.
- **Benchmarking** – In August 2011, the City published benchmark results for 2,730 government buildings. These scores help the City target the best opportunities for GHG reductions and provide important feedback to agencies' planning teams and facility staff.
- **Sustainability Energy Property Tracking System (SEPTS)** – SEPTS, launched in April 2011, makes building information more accessible to City agencies. SEPTS centrally collects, tracks, and reports on information concerning the energy and environmental performance of City government buildings, capital projects, and other building characteristics.
- **Metering/monitoring** – The Energy Enterprise Metering System will soon allow the City to better monitor energy use. It will also inform operational decisions and support peak load management and smart networks across City buildings.
- **Training** – The City has trained 640 staff on best energy management practices last year and plans to train an additional 850 in 2012 as we roll out training program enhancements.
- **Outreach** – The City is engaging agency staff and the public through its social media presence on the internet. DEM's website and regular newsletters also provide additional energy management tools for agencies.

More information is available on these resources on Page Three. In addition to progress in making the City's existing building stock more efficient, DEM is working closely with other City partners to ensure that efforts to reduce emissions from the City's vehicle fleet, wastewater treatment plants, and street lighting are moving forward.



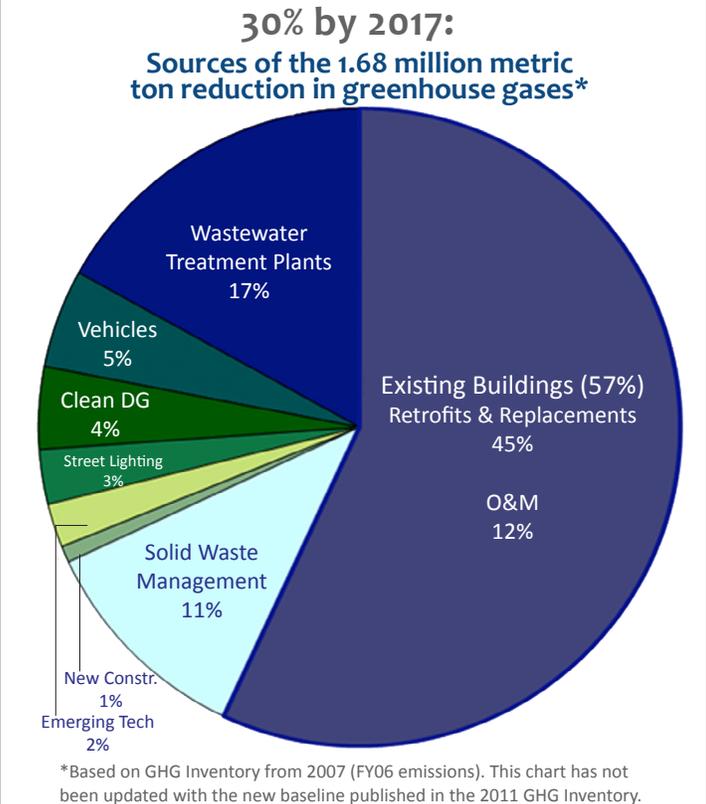
According to the City's 2011 GHG Inventory (based on 2010 data), City government emissions are on track to meet the goal to reduce emissions 30% by 2017; and our current investments into energy efficiency will help accelerate this decrease.

Message from DCAS Commissioner Handy

Even in the current economic crunch, DCAS Energy Management (DEM) and its City partners are showing that it is possible to do even more with less to cut the City's carbon footprint. We are finding that it is possible to lower energy costs and to reduce usage by more than 15% through simple, cheap strategies like changing temperature settings and properly maintaining equipment. Examples like this show that it is possible to make progress toward our climate action goals while freeing up much-needed funding for other critical City efforts. I would like to congratulate our colleagues across City government for their commitment to the 30x17 effort over the past several years. This collaboration is crucial. Throughout 2012, DCAS will continue to support our City partners in changing energy use behavior and in implementing cost-effective efficiency measures. Using the new tools and resources highlighted in this report, we aim to empower all City agencies to save energy costs, to cut emissions, and to operate as energy efficiently as possible in the coming year. Keep up the great work!

30x17 PROJECT UPDATES

EXISTING BUILDINGS: Retrofits & Replacements	<p>Since 2008, 130 retrofit projects and 78 energy audits have been completed. Those 78 audits have moved into design and construction and are among the more than 230 additional retrofit projects and 58 additional energy audits underway. In accordance with the Greener, Greater Buildings Plan, the City will conduct comprehensive energy audits, retro-commissioning, and retrofits in buildings larger than 50,000 square feet. These projects, including retrofit projects moving forward at the School Construction Authority, will total approximately 150-200 audits per year. Additionally, the City will pursue efficiencies in buildings smaller than 50,000 square feet through a small building retrofit program currently in development.</p>
EXISTING BUILDINGS: Operations & Maintenance (O&M)	<p>Following a successful pilot ending in 2010, the City recently completed the first year of the Energy Efficiency Operations & Maintenance Plan implementation. This first year focused on the seven largest agencies starting with 250 of their facilities that consume the most energy. Each of these agencies is now developing an agency-specific O&M Plan to identify additional savings potential. The second phase of the O&M program will reach even more facilities and generate additional savings.</p>
WASTEWATER TREATMENT PLANTS	<p>The greenhouse gas reduction strategy for wastewater treatment plants focuses on methane reduction and beneficial reuse projects as well as energy efficiency improvements to DEP's core operations. Projects completed since 2006 and projects underway will reduce DEP's carbon footprint by 236,310 metric tons of CO₂e per year.</p>
VEHICLES	<p>More than 26% of the City's fleet is currently hybrid or alternative fuel vehicles, including almost 400 electric vehicles. The City is implementing the Clean Fleet Transition Plan to ensure that vehicles are replaced with right-sized and efficient vehicles to further green the fleet. As part of this effort, the City introduced 70 additional electric vehicles to the fleet in 2011 and installed 70 more chargers through a U.S. Department of Energy grant to support the expansion of charging station infrastructure.</p>
CLEAN DISTRIBUTED GENERATION: Cogeneration Renewables	<p>Cogeneration or combined heat and power (CHP) uses clean fuel sources to produce both electricity and steam or hot water for on-site consumption. The City has several CHP projects underway. In 2011, the City broke ground on a 15 Megawatt CHP plant at Rikers Island. The City is working on a small CHP plant as part of DDC's new Police Academy project, and is finalizing feasibility studies to explore large-scale CHP at a complex of buildings and at a wastewater treatment plant.</p> <p>In early 2012, the City will award a contract for the City's first renewable energy power purchase agreement to buy the output of three megawatts (3MW) of solar photovoltaic (PV) on City rooftops. Additional American Recovery and Reinvestment Act (ARRA)-funded solar PV systems are in construction and will be operational by early 2012, six City funded solar thermal projects are in design, and the City continues to identify more opportunities as part of the energy audit and retrofit strategy. Lastly, in coordination with the Parks Department, DCAS is exploring the possible use of woodchips as a clean, renewable fuel source.</p>
STREET LIGHTING	<p>The City has achieved significant energy reductions from streetlights through the installation of 250,000 lower watt fixtures throughout the five boroughs. As a result, streetlight energy consumption has decreased by more than 25 percent since 2006, while still providing the level of lighting necessary to ensure safety and security.</p>
EMERGING TECHNOLOGIES	<p>The City continues to pilot new technologies in its buildings. For example, the City has a new 30-ton ice storage system up and running at an NYPD facility and is exploring the use of a new fuel cell technology. The City has also partnered with the City Council on the Municipal Entrepreneurial Testing System program which will allow startups to test energy efficiency enhancing products in city-owned buildings starting in early 2012.</p>
OTHER	<p>The City is on track to achieve expected GHG reductions from new construction thanks to Local Law 86 of 2005, which requires all new City capital construction work to be LEED-certified, and from solid waste due to implementation of the Department of Sanitation's Solid Waste Management Plan.</p>



PROGRAM HIGHLIGHTS: Projects that support agencies to meet 30x17

Energy Incentive Alignment Program

Historically, agencies have lacked a financial incentive to reduce energy consumption due to the fact that the City's energy bills are budgeted centrally. In the summer of 2011, the City introduced the Energy Incentive Alignment Program to motivate agencies to proactively conserve energy and reduce City energy costs through budgetary actions. Under this new program, which is currently running in seven of the largest City agencies, agencies will receive earned energy savings if actual energy costs are less than budgeted, and are responsible for covering costs if actual energy costs are greater than budgeted.

Operations & Maintenance

The City rolled out its Operations & Maintenance program in 2010 to seven of the largest agencies that together operate 75% of the City's real estate portfolio.

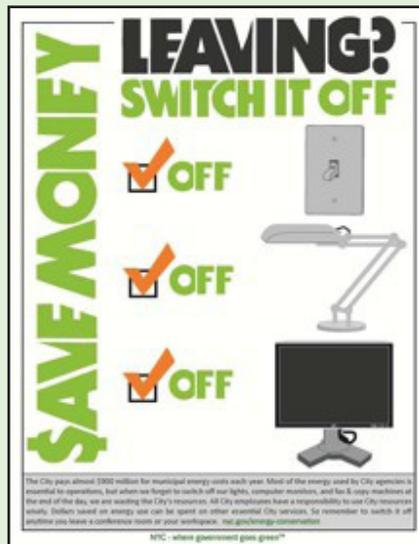
The roll out included hiring Energy Managers at the 7 agencies and providing more than \$10 million in funding for deferred maintenance work such as repairing steam traps, performing boiler tune ups, and calibrating control systems. The Energy Managers are creating agency specific O&M plans and performing energy consumption analysis to better inform funding decisions and raise energy awareness at their agencies. An additional \$7.5 million will fund repair work scheduled to be complete by April, 2012. By the end of FY12, DCAS and DoITT expect to deploy a CMMS which will enable agencies to better manage preventative maintenance tasks, inventories and budgets. Also throughout FY12 the City will roll out the O&M program to more agencies to support them in reducing energy use and GHG emissions through no and low cost measures.

Benchmarking

On August 1, 2011 the City published results of the second round of energy benchmarking for all its facilities larger than 10,000 square feet - 2,730 buildings in all. The results show that City buildings, on average, are performing at or better than the national average in terms of energy consumption. The benchmark scores help the City target the best opportunities for GHG reductions in City-owned and -operated buildings, track energy efficiency progress over time, and they provide important feedback to agencies' planning teams, budget groups, and facility staff. DCAS is currently working with partner agencies to ensure that the benchmarking data is as accurate as possible.

Training

The City is building upon the success of its existing energy management training program with a five-component enhancement plan. In addition to the continuation of the Building Operator Certification (BOC) and Certified Energy Manager (CEM) programs, the City is developing a short video on Sustainable Energy Use to educate all City employees about the simple, important steps they should take to reduce energy use and costs in City facilities. To better prepare building operators for the BOC and CEM courses, our partners at the City University of New York (CUNY) are developing math and Excel prep courses specific to energy management. Our CUNY partners are also looking into ways to make the BOC course more accessible to City staff by transitioning some of the content to an online "blended" learning format.



Outreach

In early 2011 the City launched a comprehensive new energy management website with one-stop access to up-to-date energy news, energy management tools, informative case studies, and helpful outreach materials like the "Leaving? Switch it Off" poster. Hundreds of followers on Twitter and Facebook also receive frequent updates about project kick-offs, retrofit completions, and other interesting energy-related news. Learn more online at:

nyc.gov/energy-conservation, or on [facebook.com/energyNYC](https://www.facebook.com/energyNYC) and twitter.com/energy_NYC.

SEPTS

In April 2011, the City deployed the first phase of the Sustainability Energy and Property Tracking System (SEPTS), a database that centrally collects, tracks, and reports on information concerning the energy and environmental performance of City government buildings and capital projects. SEPTS is the result of collaboration between DCAS and DoITT with the support of DOE, SCA, DDC, OMB, and the Mayor's Office. The system integrates and builds on multiple existing databases, improving data to support many operational functions. Phase 2 of SEPTS, which is currently under development, will facilitate tracking and compliance for the City's new sustainability- and building-related laws; allow DCAS Asset Management to more efficiently collect agency occupancy information and space requests; automate building benchmarking and reporting; create a consistent format for building data across City agencies; coordinate agencies' project selection and implementation; implement Computerized Maintenance Management Systems (CMMS) in four City agencies, and make it easier for agencies to collect, update, and verify building and project data.

Metering & Monitoring

As part of the City's Energy Efficiency Metering System pilot in FY11, 125 advanced meters were installed in 48 agency facilities. Utility data will be collected by meters installed by DDC and stored on the DoITT secure NYCWINS wireless network. The procurement process will begin for Enterprise software in early 2012. A Client Dashboard Design focus group will build out the dashboard research previously conducted by Department of Education to deliver a robust and intuitive user experience.

EC3

In early 2011, the City rolled out the Energy Cost, Control & Conservation system (EC3), a new searchable online platform for tracking energy cost and usage from utility billings. EC3 replaces the City's 30-year-old mainframe system that had more limited capabilities, and in particular did not display information at the whole-building level. EC3 allows users to download energy usage and billing data at the meter, facility, agency, and citywide levels into multiple formats for detailed analysis. Monthly reports are now generated automatically by the system and are e-mailed directly to agencies for review. One of the reports encourages energy conservation by enabling agencies to track their increases or decreases in energy usage in comparison with other agencies.

CASE STUDIES OF AGENCY EFFORTS TOWARDS 30X17

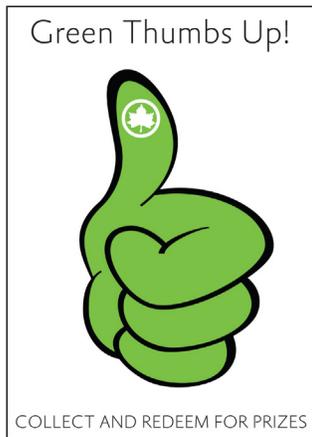
Green Gurus at Parks



Green Gurus meet to discuss Parks internal sustainability efforts

decreasing waste output, and helping Parks meet its goal of reducing the agency's carbon footprint and making NYC a more livable city. Having a decentralized network of point people allows for more targeted outreach at the agency's diverse facilities.

To reduce agency energy use, Gurus started a "Tune-Up Ticket" campaign to facilitate conversations about energy-efficient behavior with their colleagues and reward actions such as unplugging equipment and turning out lights. Green Gurus use a "Sustainability Tune-Up" checklist to come up with simple actions to improve green practices at their facilities. The Gurus also schedule walk-throughs with the Energy Manager and facilities staff to identify simple, energy-savings improvements. The agency will use DCAS-funded Kill-A-Watt meters, which provide real-time electricity use information, to make energy reduction more tangible for staff. Bi-monthly Green Guru meetings allow the team to share best practices and learn new strategies for encouraging sustainability where they work.



The Department of Parks and Recreation has established a network of 28 Green Gurus based at 15 agency facilities across the five boroughs to promote sustainable practices such as reducing energy consumption,

Training 1,000 School Facility Staff

With the largest real estate portfolio of any City agency and therefore the greatest opportunity to realize energy savings and carbon emission reductions, the DOE's Division of School Facilities (DSF) understands the importance of training its staff in sustainable building operations in order to achieve the 30 x 17 goal. In partnership with CUNY, DEM, and the Custodial Engineer Union, DSF offers Building Operator Certification (BOC) training to 1,050 school employees including Custodian Engineers, Building Managers and the DSF management team. The program kicked off in October 2010 and will reach 350 trainees per cohort in each of 3 training cycles through September 2012.



A cohort of Department of Education Custodian Engineers in BOC Training, February 2011, Long Island City DSF Headquarters.

The BOC training program includes comprehensive study of heating and ventilation systems, lighting and electricity, energy data, benchmarking, analytics and a range of other topics. After these topics are covered in class and in assigned reading material, project work requires participants to map indoor environmental quality problem conditions, perform lighting surveys for classrooms and entire floors, prioritize electric loads, inventory mechanical equipment and develop a preventative maintenance schedule. Ultimately, by the end of their 90-hour training experience, participating facility professionals have developed comprehensive energy improvement projects for their schools. DSF Chief Executive John Shea believes that even more than the hundreds of millions of dollars that DCAS will invest in energy efficiency retrofits at City schools, it will be the building operators who make a real, consistent difference in energy efficiency and indoor air quality through improved building operations and maintenance practices.

CHARGING AHEAD



In 2011 the Department of Sanitation introduced 21 Chevy Volts to its fleet.

So much has been accomplished over the past several years and the City has already seen significant energy cost savings at the facility level and reductions in Citywide greenhouse gas emissions. We will maintain this momentum over the next year by moving forward with energy efficiency upgrades for our small buildings portfolio; by rolling out the Energy Enterprise Metering System to set the foundation for better operations and a smarter grid; and by connecting a record number of solar installations across the City. We will continue to accelerate our audit and retrofit program. We will charge ahead in increasing the number of electric and alternative fuel vehicles in our fleets. We will give agencies the resources and tools they need to take us to the next level of climate change action. As a result, New York City government operations will be better, faster, cheaper, and greener.