



Best Practice: NYC Greener, Greater Buildings Plan

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CITY: NEW YORK CITY

**POLICY AREAS: BUILDINGS ADMINISTRATION;
CLIMATE CHANGE; ENERGY**

BEST PRACTICE

Introduced on Earth Day 2009 by Mayor Michael R. Bloomberg and New York City Council Speaker Christine Quinn, the **Greener, Greater Buildings Plan** is New York City's comprehensive plan to require ongoing efficiency improvements in existing large buildings, which consume nearly half of the city's energy. The Plan is part of PlaNYC, our city's roadmap to creating a greener, more sustainable city.

ISSUE

In most cities, carbon emissions come primarily from cars and traffic, but in New York City 75% come from buildings. In addition, 85% of the buildings that exist today will be in use in 2030. So reducing energy use in our one million existing buildings is critical to meeting the goals of PlaNYC.

GOALS AND OBJECTIVES

The Greener, Greater Buildings Plan will result in a 4.75% reduction in the city's total greenhouse gas emissions, save New Yorkers \$700 million in annual energy costs, and create over 17,800 construction and building related jobs. The Plan is the largest single advance the City can take to meet our goal of reducing citywide greenhouse gas emissions 30% by 2030.

IMPLEMENTATION

Working with the New York City Council and its Speaker, Christine Quinn, we developed legislation to ensure that existing buildings take cost-effective steps to become more efficient. On December 9, 2009, the City Council passed the four legislative components of the Greener, Greater Buildings Plan, which are outlined below.

New York City Energy Code

Currently, New York is one of 42 U.S. states using the standard energy code known as the International Energy Conservation Code (IECC). However, the New York State Energy Code includes a loophole that allows buildings to perpetuate non-compliant systems if they perform renovations on less than half of a given building system. This legislation creates a New York City energy code that requires all buildings to comply fully with the IECC for those portions of a system being renovated. This means that any time a renovation takes place in one of the City's one million buildings work must conform to a set of easily applied standards, which will lead our buildings to greater energy efficiency. The New York City Energy Code went into effect on July 1, 2010.

Benchmarking

This legislation requires a benchmarking standard for all private buildings greater than 50,000 square feet or public buildings greater than 10,000 square feet. Benchmarking is the practice of evaluating a building's energy efficiency so a building owner can see how efficiently their buildings function and enable prospective buyers and tenants to better assess the value of a building. Benchmarking provides the basis for empowering building owners to take steps towards minimizing energy use and maximizing the economic benefits of energy conservation. Building owners will be required to use a free online tool provided by the Environmental Protection Agency (EPA) to track buildings' annual energy and water consumption.

All City-government owned buildings greater than 10,000 square feet have now been benchmarked as required by the legislation.

Best Practice: NYC Greener, Greater Buildings Plan

Lighting Upgrades and Sub-metering

In New York City, lighting accounts for approximately 20 percent of the energy used in buildings and produces roughly 20 percent of a building's carbon emissions. The legislation requires that lighting systems in commercial buildings over 50,000 square feet be upgraded to meet the requirements of the New York City Energy Conservation Code. Over the past few decades, there have been rapid improvements in lighting technology, which have resulted in a dramatic reduction of energy use. The bill also requires that large commercial buildings sub-meter electricity usage in certain large tenant spaces and that building owners provide these tenants with a monthly statement showing electric consumption and the amount charged for electricity. This addresses the majority of electricity use that takes place in tenant-controlled spaces.

Audits and Retro-Commissioning

This legislation requires existing buildings over 50,000 square feet to undergo an energy audit and undertake retro-commissioning measures (e.g., properly calibrating heating and cooling systems, cleaning and repairing ventilation systems) once every ten years. This bill would apply to all classes of buildings over 50,000 square feet and cover nearly half of the built square footage of New York City. The bill contains exemptions for buildings that face severe financial hardship. To lead by example, City buildings will also perform any building retrofits (capital improvements) that pay for themselves within 7 years.

In addition to the legislation, the Greener, Greater Buildings Plan includes two other PlaNYC initiatives:

- A workforce development working group of real estate, labor, and other representatives that identify the skills needed to ensure that sufficient training opportunities exist to fill the estimated 17,880 construction and building-related jobs the legislation will create. The working group, now called Amalgamated Green, has been meeting over the summer to review what trainings are necessary to implement the legislation.
- An innovative financing program that uses Federal stimulus money to provide loans for property owners to pay the upfront costs for the efficiency upgrades eventually pay for themselves. In September, the U.S. Department of Energy approved the City's application to use the legal maximum \$16 million, of its energy efficiency community block grant funds for this purpose. In November, the City received an additional \$21 million in Federal stimulus funding for energy efficiency financing.

Detailed information on each of the components of the Plan can be found at
http://www.nyc.gov/html/planyc2030/html/plan/buildings_plan.shtml

COST

The City is leveraging \$16 million in federal stimulus funding to create a pilot revolving loan fund to finance energy efficiency improvements in private buildings. In addition, the City has allocated approximately \$80 million annually, approximately 10% of its annual energy bill, to reduce the municipal government's greenhouse gas emissions by 30% by 2017.

RESULTS AND EVALUATION

The Plan will result in a 4.75% reduction of the city's total greenhouse gas emissions, save New Yorkers \$700 million in annual energy costs, and create over 17,800 construction and building related jobs. The city's carbon emissions are tracked annually in our [Inventory of New York City Greenhouse Gas Emissions](#). In addition, progress on all PlaNYC initiatives is tracked in an annual progress report.

TIMELINE

The New York City Energy Code went into effect on July 1, 2010. Benchmarking of covered buildings' energy and water consumption will be phased in between 2011 and 2013. Required lighting upgrades in covered buildings and sub-metering in covered tenant spaces must be completed by 2025. Audits and retro-commissioning requirements will begin in 2013.



Best Practice: NYC Greener, Greater Buildings Plan

LEGISLATION

The four bills passed as part of the Plan include:

- Int. No. 564-A: Legislation that creates a New York City Energy Code which existing buildings will have to meet whenever they make renovations;
- Int. No. 476-A: Legislation that requires large buildings owners to make an annual benchmark analysis of energy consumption so owners, tenants, and potential tenants can compare buildings' energy consumption;
- Int. No. 973-A: Legislation that requires large commercial buildings (over 50,000 square feet) to upgrade their lighting and sub-meter tenant spaces over 10,000 square feet; and
- Int. No. 967-A: Legislation that requires large private buildings to conduct energy audits once every decade and implement energy efficient maintenance practices. Also, all city-owned buildings over 10,000 square feet will be required to conduct audits and complete energy retrofits that pay for themselves within 7 years.

LESSONS LEARNED

The largest obstacle to meeting our greenhouse gas emissions goal was achieving continuous energy efficiency improvements in existing buildings. By working with a variety of stakeholders, including building owners and managers; labor unions; environmental organizations; affordable housing advocates; technical experts; and city, state, and federal agencies, we were able to create a plan that received broad support and will reduce the city's carbon emissions while producing energy savings for building owners and tenants. As we continue to implement the Greener, Greater Buildings Plan, we will identify new lessons from this effort.

TRANSFERABILITY

The Greener, Greater Buildings Plan is the first comprehensive and mandatory effort to reduce emissions from large buildings in the United States. Other cities could adopt the Plan, or relevant elements, to increase energy efficiency and reduce emissions.

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Facts and figures in this report were provided by the highlighted city agency to New York City Global Partners.