

Copenhagen Climate Sustainability Forum • December 4, 2009
Workshop 3 - Mitigation Options for Sustainable Urban Lifestyles & Livelihoods

Responding to Climate Change in New York City

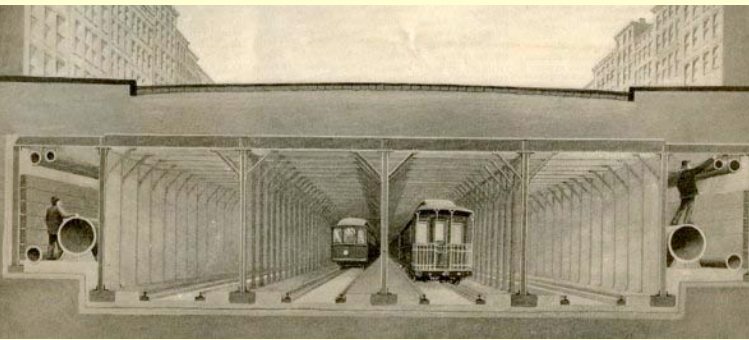


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New Yorkers already use less energy and have lower CO2 emissions than other Americans

- Dense, multiple-family buildings create energy and resource efficiency
- Relatively low personal car ownership due to high garage/parking costs in central city areas
- Street congestion makes driving slow and difficult
- Walking is encouraged by sidewalks and short distances between residences and services
- Mass transit system based on 100 year old subway lines and extensive bus system

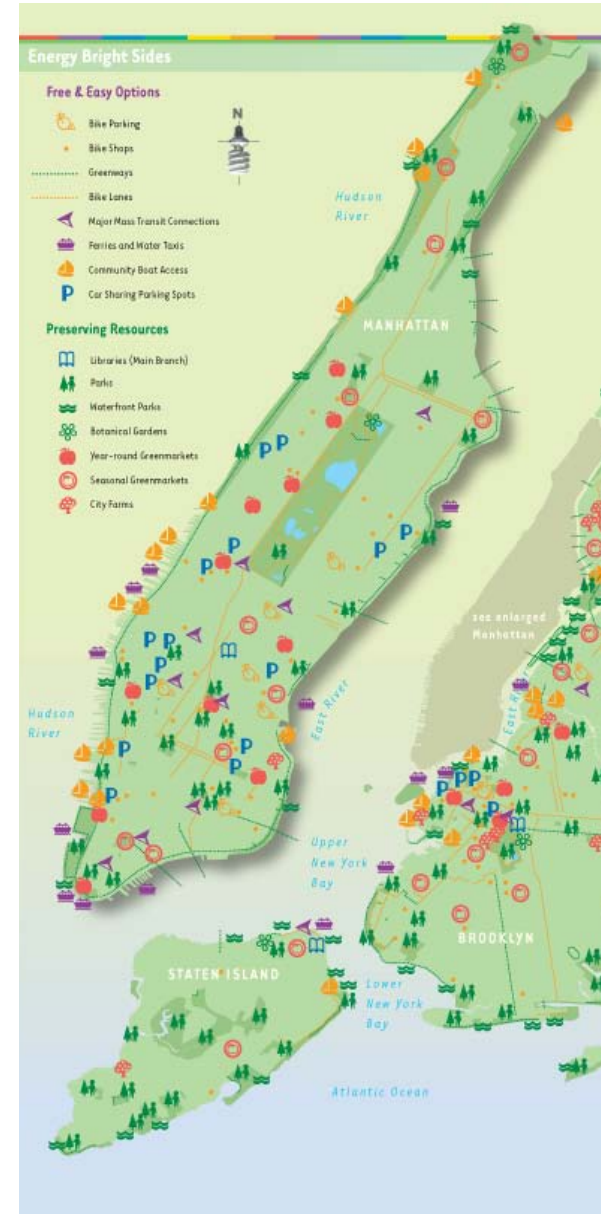
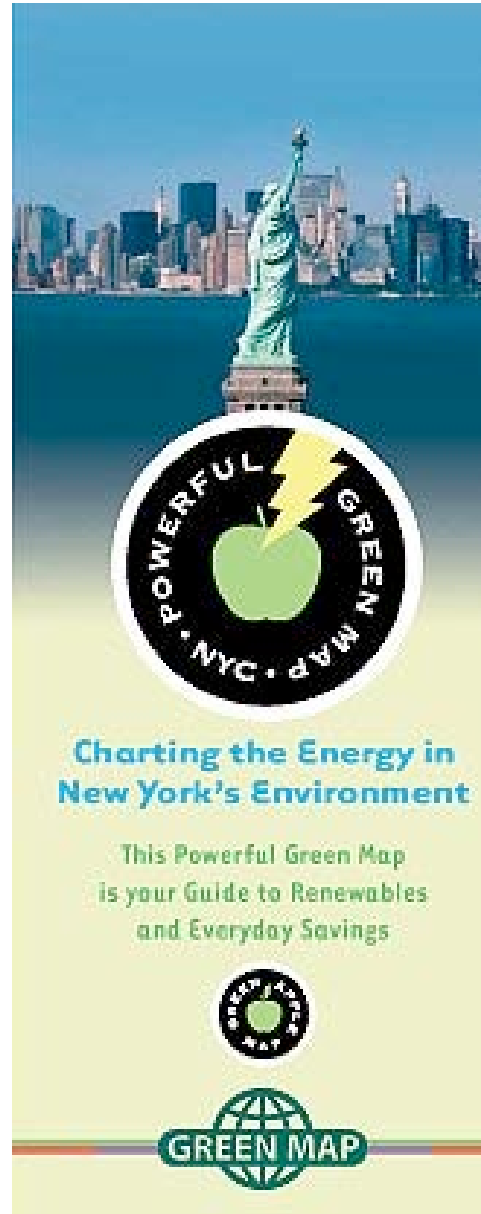


The NYC subway system was designed and built over 100 years ago. This drawing is from Scientific American magazine, May 25, 1901.



But because there are so many people living in New York City, the metropolitan area has a large aggregate carbon footprint.

However, the density of the city and the diversity of its population make it a unique center for creative ideas and innovation.



Many people do recognize the dangers of climate change and are pressing for strong action to limit US greenhouse gases.



350 supporters rally in front of the Brooklyn Bridge. This was one of over 5,200 events happening around the world as part of the 350.org International Day of Climate Action on October 24, 2009.

www.350.org

Photo: www.flickr.com/photos/350org/4039738959/

Even without leadership from the federal government in Washington, DC, the city government and citizens of New York have already been taking actions to reduce their greenhouse gas emissions.



More people are riding bikes to work and the city has opened 141 miles of new bike lanes.

[Photo: www.nyc.gov/html/planyc2030/downloads/pdf/planyc_progress_report_2009.pdf](http://www.nyc.gov/html/planyc2030/downloads/pdf/planyc_progress_report_2009.pdf)

Buildings account for over 70 percent of the greenhouse gas emissions in New York City. Many new buildings are being designed as models for energy conservation and efficiency, and incentives are being provided for retrofits and weatherization programs to upgrade older buildings.



4 Times Square, Manhattan



580 Sterling Place, Brooklyn

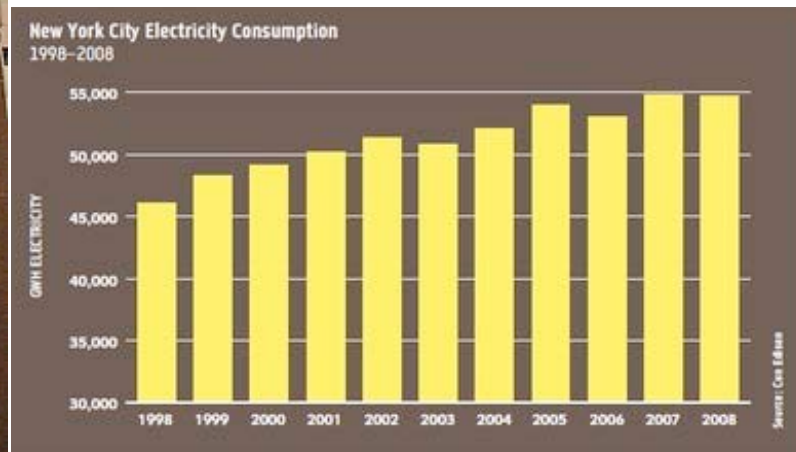
An energy saving retrofit of New York's famous Empire State Building is providing an innovative and replicable model for energy conservation in New York's older buildings.



A team of experts identified economically viable projects to reduce energy use by nearly 40 percent, including:

- Addition of insulation for windows and behind radiators
- Greater use of natural daylight and occupancy sensors for electric lights
- Replacement of air conditioning units and chillers
- Upgrade of building temperature and ventilation controls
- Sub-metering of electricity for building tenants
- Web-based tenant energy management systems

<http://www.rmi.org/rmi/Press+Releases>



Source: Con Edison

Solar panels and other renewable energy technologies are beginning to be used to provide electricity that is produced locally and to reduce greenhouse gas emissions from power plants.

Stillwell Avenue Terminal above-ground subway train terminal at New York City's Coney Island has a solar glass train shed that covers the Platforms. Designed by Kiss + Cathcart architects, it is the world's largest building-integrated photovoltaic thin film structure.

<http://kisscathcart.com/stillwell/construction.html>



White roofs are getting attention as a simple way to cool the city and reduce air conditioning costs by reflecting rather than absorbing the sun's heat. Green roofs absorb the sun's energy but reduce heat transfer through the roof, and also absorb some rainwater to avoid overburdening the city's ineffective sewer system.



A green roof at David and Joyce Dinkins Gardens, a building offering affordable housing in Harlem.



Former Vice President Al Gore and New York City Mayor Michael Bloomberg paint the rooftop of the YMCA in Queens.

City gardens have sprouted up on rooftops and vacant lots.



<http://www.notbored.org/chico-green.jpg>

Rooftop Farms has built a 6,000 square foot organic vegetable farm in Greenpoint, Brooklyn, and sells the produce to local customers. It has sixteen four-foot beds irrigated by rainwater.

<http://rooftopfarms.org/>

The city has widely expanded the number of green market locations so that more people can buy fresh fruits and vegetables from nearby farms.



Residents are working with the city government to plant trees and green the streets under the **MillionTreesNYC** program.



Trees absorb carbon dioxide and reduce the urban heat island effect caused by too much concrete and steel.

They also provide shade and make the city much more pleasant for residents.

MillionTreesNYC, launched by New York City Parks & Recreation and the New York Restoration Project, is a collaboration of many partners, including:

- Community-based and non-profit groups
- City, state, and federal agencies
- Corporations and small businesses
- Developers, architects, and landscape architects
- Private-property owners

www.milliontrees.org

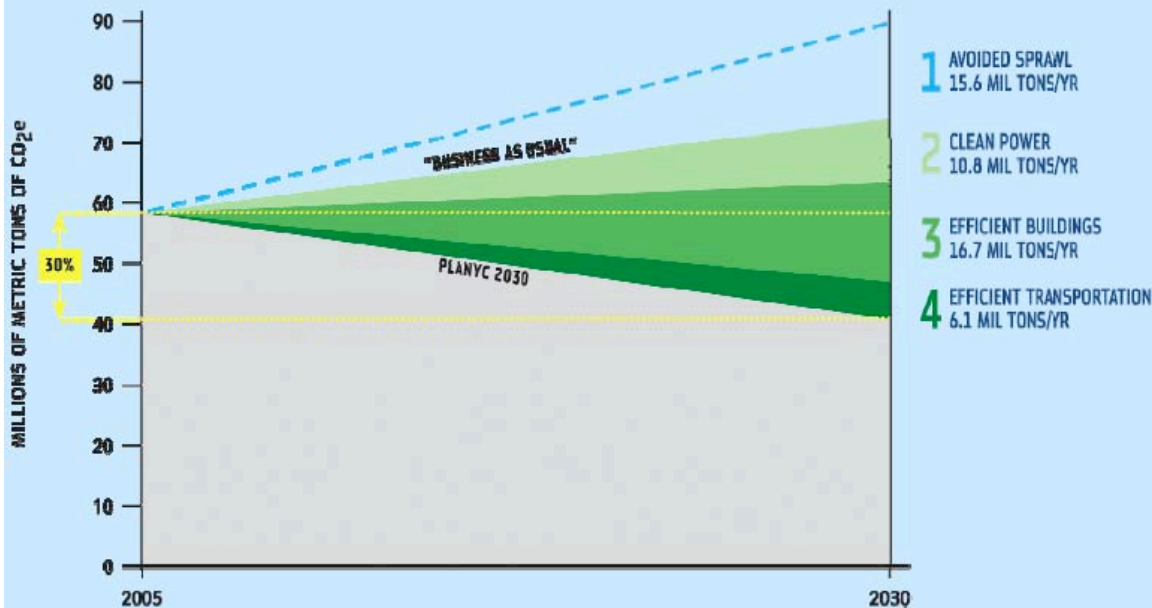
In 2007, Mayor Bloomberg introduced **PlaNYC**, an ambitious, 30-year plan for the city that included a target of 30% reduction in global warming emissions.

PlaNYC is a roadmap to achieve 10 goals:

- 1** Create enough housing for our growing population
- 2** Ensure all New Yorkers have parks within a 10-minute walk
- 3** Clean up all contaminated land in New York City
- 4** Develop water network back-up systems
- 5** Open 90% of our waterways and protect natural areas
- 6** Improve travel times by adding transit capacity for millions
- 7** Achieve “State Of Good Repair” on our transportation system
- 8** Upgrade our energy infrastructure to provide clean energy
- 9** Achieve the cleanest air of any big city in America
- 10** Reduce global warming emissions by 30%

New York City conducted a greenhouse gas inventory as the basis for a mitigation plan.

Projected GHG Reductions in PlaNYC



New York joined the Cities for Climate Protection Campaign, started by ICLEI, the International Council for Local Environmental Initiatives in partnership with the UN Environment Programme.

The campaign involves communities throughout the world in a coordinated effort to quantify and reduce their local greenhouse gas emissions.

PlaNYC committed the city government to reduce the carbon footprint of their operations by 30 percent over ten years.

More than 14 universities have accepted Mayor Bloomberg's challenge to inventory their greenhouse gas emissions and match the city government's target.

These commitments are more aggressive than the overall citywide goal of reducing greenhouse gas emissions by 30 percent by 2030.



Low Memorial Library at Columbia University, New York City

New York City is uniquely influential, in part because it hosts the United Nations.

If New York City can become a showcase for sustainable development, it could potentially help spread information and examples of effective climate action to other cities in the US and around the world.

