

CITY CLIMATE LEADERSHIP AWARDS

New York Climate Close-Up

Fast Facts

- In New York, GDP in 2012 was more than \$1.2 trillion, according to the Bureau of Economic Analysis. Statistics from the same source show GDP for the New York City metropolitan area (which includes cities and suburbs in neighboring states) at nearly \$1.4 trillion, or almost 20% higher than the GDP.
 - Approximately 20 million people live in the State of New York, with 40% of the state's population living in the New York City area.
 - New York State has set ambitious goals to reduce the impacts of climate change, including a plan to reduce GHG emissions by 30% by 2017. It has also committed to improving resilience to climate change in all of the state's communities.
 - New York State's first mitigation program focused specifically on CO₂ is already underway: the Regional Greenhouse Gas Initiative, a 10-state program under which CO₂ emissions from the energy sector are reduced through a cap-and-trade system.
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- New York City has the highest population density of any major city in the United States, with over 27,000 people per square mile.
 - The average commute for New Yorkers is just under 40 minutes, about 15 minutes longer than the national average.
 - New York City faces several climate-related risks: flooding, sea level rise, heavy downpours, heat waves and drought. The NYC Panel on Climate Change (NPCC) projects that NYC could see 1-2 and maybe 2.5 ft of sea level rise by the 2050s as well as triple the number of days above 90 degrees, making it on par with Birmingham, AL. NYC collaborated with Swiss-Re to perform some initial loss-modeling, which indicated that due to sea level rise, NYC is 17% more likely in the 2020s and 40% more likely in the 2050s to see a storm that causes \$19 billion in damages, as Superstorm Sandy did.

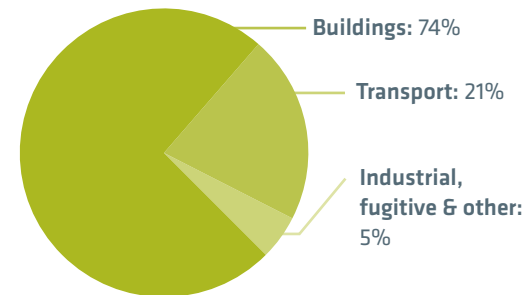
Population statistics



	2012	2020	2040
New York City	8.3 million	8.6 million	9.0 million
New York State	19.6 million	19.7 million	19.6 million

Sources: Census Bureau, <http://quickfacts.census.gov/qfd/states/36/3651000.html>; Cornell University, <http://pad.human.cornell.edu/counties/projections.cfm>; New York City, http://www.nyc.gov/html/dcp/pdf/census/projections_briefing_booklet_2010_2040.pdf

Sources of CO₂ (eq.) emissions



<http://c40.com/c40cities/new-york>

CO₂ (eq.) emissions



Annual CO₂ (eq.) emissions:
53.4 million tons

Emissions reduction target:
30% reduction by 2017, compared with 2005 emissions

Source: <http://c40.com/c40cities/new-york>

Adaptation & Resilience winner 2013: A Stronger, More Resilient New York

Summary

New York City won the 2013 C40 & Siemens' City Climate Leadership Awards' Adaptation & Resilience category for its comprehensive plan, A Stronger, More Resilient New York, which focuses on rebuilding the communities impacted by Hurricane Sandy and increasing the resiliency of infrastructure and buildings citywide, while addressing the risks of climate change more broadly. The 257 initiatives are bold proposals, many of which are already underway: 89% of initiatives are currently in progress or complete and \$10 billion in funding has been committed to support implementation.

Challenges

On October 29, 2012, Superstorm Sandy brought a 14-foot storm surge upon New York City, flooding roads, entire neighborhoods and utility facilities, paralyzing transportation networks and causing power outages. Forty-four people lost their lives and at least \$19 billion in damages were caused in the New York metropolitan area. A renewed determination to make the city more resilient in the face of severe weather events emerged from the devastation; however, soon after, the Special Initiative for Rebuilding and Resiliency (SIRR) was tasked with developing a rebuilding and climate adaptation plan, A Stronger, More Resilient New York. Understanding and planning for climate risks was a goal originally enshrined in PlaNYC when it was launched in 2007 by former C40 Chair and former New York City Mayor Michael R. Bloomberg. A Stronger, More Resilient New York builds on PlaNYC's framework and global leadership in sustainability and climate mitigation to tackle issues of adaptation and resiliency related to climate change impacts affecting New York City.

Actions

A Stronger, More Resilient New York – released only six months after Hurricane Sandy – is a plan that includes 257 initiatives to strengthen the coastline, upgrade buildings, protect City infrastructure and critical services, and make New York City neighborhoods safer and more vibrant. Modeling the extensive stakeholder engagement involved in the creation of PlaNYC, SIRR, a special task force convened to draft the plan, worked closely with state and national agencies, and sought extensive input from dozens of elected officials, hundreds of community groups, and more than 1,000 New Yorkers who participated in public workshops.

The result of this collaboration is a detailed action plan with implementation already underway to rebuild and strengthen impacted neighborhoods; reinforce coastal protection measures; make the city's buildings more resilient to flood and storms; revamp insurance options for home and business owners; and strengthen healthcare, telecommunications, power and other critical infrastructure systems. Key examples of projects and policies in the plan that address future climate risks include:

- Conducting feasibility studies of ambitious coastal protection projects that could not only protect New York from future storms, but transform how NYC waterfront is used
- City planning programs to strengthen underutilized local economic, social, and cultural assets
- A portfolio of coastal defenses that range from short-term initiatives like beach nourishment, to major capital projects like storm surge barriers and armored levees

- Design and construction of “integrated flood protection” systems that incorporate a variety of temporary and permanent features to protect the diverse and dense urban waterfronts of the city
- Higher standards for new construction and retrofits in the floodplain as well as retrofits for existing buildings, including public housing complexes, which serve vulnerable populations and represent some of the densest population areas in the floodplain
- Enhanced critical services like protection for healthcare facilities and expanded transportation options in impacted communities
- Reducing flood insurance rates for different resilience measures

Projected Outcomes

The post-Sandy approach is innovative in that it engaged the entire city in a rapid, but very detailed, assessment and dramatically revises New York City's relationship to its coastlines. It is a vanguard example of making opportunity out of disaster and looking at ways New York City can evolve by addressing climate change. FEMA reports that for every \$1 spent on mitigation, \$4 is saved in recovery and repair costs, so this comprehensive plan could save New York City untold billions in protection from future risk.

In detail

Developing the Plan and public engagement

In developing A Stronger, More Resilient New York, the City administration worked hard to ensure that communities both help to shape and implement the plan. The Special Initiative for Rebuilding and Resiliency (SIRR) consulted elected officials, community leaders and the general public in areas directly affected by Superstorm Sandy. It also engaged with citywide organizations with interests in resiliency and sustainability.

The input of local stakeholders helped to shape an understanding of Sandy's impact on communities, the risks they face in relation to climate change and approaches to address risks.

The stakeholders engaged in developing the Plan included

- 30+ City, State and Federal Agencies
- 65+ elected offices and 19 community boards
- 320+ organizations including businesses, community, environmental, faith based and labor organizations
- 1,000+ New Yorkers attending meetings or public workshops

11 public workshops were held in areas affected and community resiliency and rebuilding plans prepared in five areas most affected. As an example three workshops were held in the Brooklyn / Queens Waterfront area which helped shape several clear priorities for the area including:

- Addressing the major expense of repairs and resiliency for low-rise buildings

- Understanding the tremendous hurdles attached properties face in meeting FEMA guidelines
- Providing flood protection from inland water bodies
- Mitigating street and property flooding, combined sewer overflow events
- Addressing the particular risks of industrial properties; and
- Increasing transportation redundancy

A Stronger, More Resilient New York and Its Area Action Plans

A Stronger, More Resilient New York's 257 initiatives set a new global standard for comprehensive long-term planning for climate change. The plan is divided into two main parts: a section on improving citywide systems and infrastructure, in which there are 15 sub-categories, and a section on rebuilding five communities that were the most severely impacted by Superstorm Sandy.

In the report's first section, the City focuses on three layers of defense to improve resiliency to climate change. The first layer is enhancing the City's coastal defenses, nourishing beaches and dunes, elevating and constructing drainage systems, and installing wave attenuation systems, among other actions. The second layer of defense targets the city's building stock, designing public incentives for retrofitting the 68,200 buildings in the floodplain. The third layer is protecting the City's critical infrastructure, most notably its energy networks. As part of the third layer, the City will work with consumers to reduce energy demand and increase energy options, thus diminishing consumers' burden on energy systems.



In detail

In the report's second section, the City highlights rebuilding actions to be taken in the five communities most impacted by Superstorm Sandy: the 683,000 people and 42,000 businesses residing in the Brooklyn-Queens Waterfront, the East and South Shores of Staten Island, South Queens, Southern Brooklyn, and Southern Manhattan. For example, in Southern Manhattan, a multilayered plan provides opportunities to retrofit the area's most vulnerable building stock and focuses investments in protecting areas with business and historic importance. The plan also seeks to protect Southern Manhattan's transmission and distribution substations, which are critical to the City's electric system.

As of December 2013, 97% of the short-term milestones from A Stronger, More Resilient New York had been met or were near completion, with funding secured for \$10 billion of the plan's estimated \$19.5 billion cost. Among the first actions were the nourishment of City beaches; the launching of business loan and grant programs; and the amendment of several building codes to increase resiliency standards. The new Office of Recovery and Resiliency will report directly to the Mayor's Senior Advisor for Recovery. The Director of the Office of Recovery and Resiliency will be responsible for ensuring the rest of the plan is realized.





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