

Data provided for the
CDP Cities 2013 Report

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New York City



Written by



In partnership with



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New York in Context **04**

New York in Focus **06**

Governance **08**

Risks & Adaptation **10**

Opportunities **18**

Emissions – Local Government **20**

Emissions – Community **32**

Strategy **40**

CDP, C40 and AECOM are proud to present results from our third consecutive year of climate change reporting for cities. It was an impressive year, with 110 cities reporting on their climate change data (a 50% increase from 2012), making this the largest and most comprehensive survey of cities and climate change published to date by CDP. City governments from Dallas to Hanoi to Ouagadougou participated, including over 80% of the membership of the C40 – a group of the world's largest cities dedicated to climate change leadership.

Approximately two thirds of reporting cities measure city-wide emissions. Together, these cities account for just over 1 billion tonnes of greenhouse gas emissions, putting them on par with Japan, the world's third largest economy and fourth largest emitter of greenhouse gas emissions. Over 70% of all reporting cities now have a plan for adapting to the effects of climate change. And cities reported over 1,000 individual actions designed to reduce emissions and adapt to a changing climate.

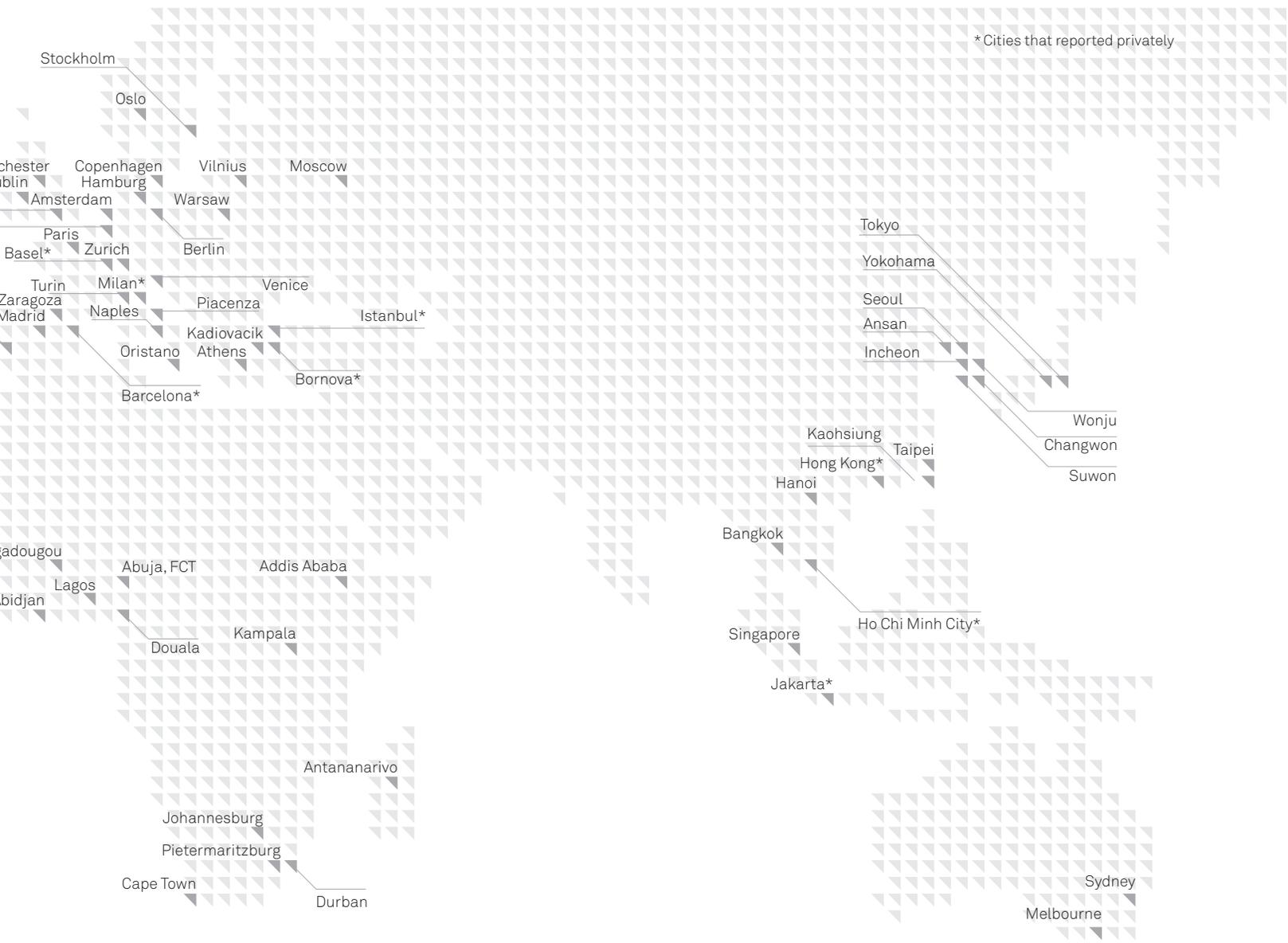
CDP salutes the hard work and dedication of the world's city governments in measuring and reporting these important pieces of data. With this report, we provide city governments the information and insights that we hope will assist their work in tackling climate change.

The data presented here conveys information about every aspect of climate change measurement and management in New York.

This document contains the questionnaire data provided to CDP from New York City as part of its 2013 CDP submission.

To see all of the results for all participating cities, visit cdpcities2013.net

The graphics in this document are from the 2013 CDP Cities 2013 and Wealthier, Healthier Cities reports.



Total population of cities responding in 2013

296,471,000

New York
8,336,697
people

Where New York fits



27 cities
with **less than**
600,000 people

33 cities
with **600,000 to**
1,600,000 people

50 cities
with **greater than**
1,600,000 people

Year reported

2013

Area

790
km²

Population

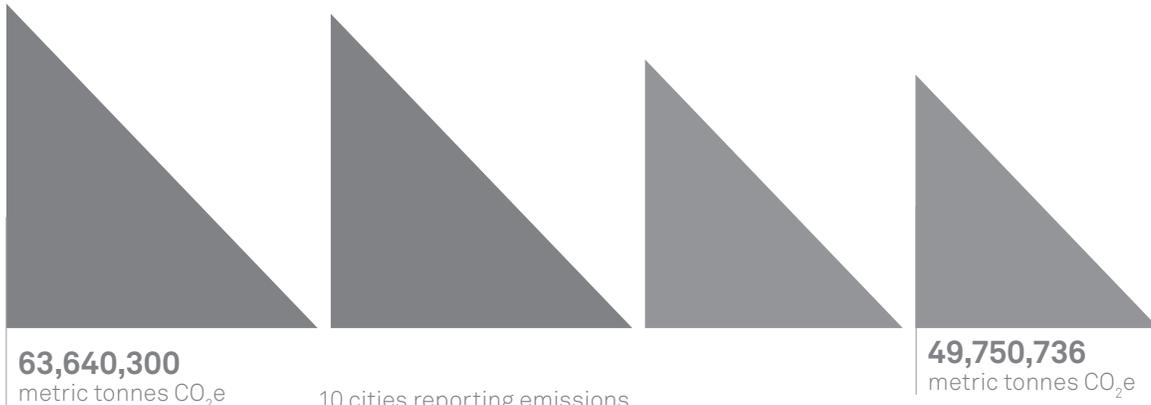
815,358

New York in focus

Inventory method

US Community Protocol for
Accounting and Reporting.

69 cities reporting emissions in 2013



36 cities reporting emissions of less than 10,000,000 metric tonnes CO₂e

1 Governance

The City of New York completes an annual greenhouse gas inventory, detailing progress it is making toward achieving its targeted greenhouse gas emissions reductions (30% below fiscal year 2006 levels by 2017 for government operations greenhouse gas emissions and 30% below 2005 levels by 2030 for community greenhouse gas emissions). Detailed analyses are also completed and reported in the annual PlaNYC Progress Report, which details the progress of specific greenhouse gas mitigation initiatives. The first update to PlaNYC was released in April 2011.

Governance

New York City does provide incentives for management of climate change issues, including the attainment of greenhouse gas (GHG) reduction targets.

Recognition (monetary)

Who Benefits: City agencies/departments

The Energy Incentive Alignment Program holds seven of the largest agencies to their electricity budget by allowing them to keep energy budget surpluses but also requiring them to pay back budget deficits to the central budget office.

2 Physical risks

Current and/or anticipated effects of climate change present significant physical risks to New York:

Seriousness

Low !!!

Medium !!!

High !!!

Timescale

Current



Short-term



Medium-term



Long-term



Risks & Adaptation

Increased risk of storm surges

Risk: **!!!** Timescale: **†** ----->

An increased risk of storm surges has the potential to seriously impact buildings; critical infrastructure, including water supply and treatment, energy generation and distribution, solid waste management, communications/telecommunications; natural systems; and human health.

Sea level rise

Risk: **!!!** Timescale: **†** ----->

Sea level rise has the potential to impact buildings; critical infrastructure, including water supply and treatment, energy generation and distribution, solid waste management, communications/telecommunications; natural systems; and human health.

More hot days

Risk: **!!!** Timescale: **†** ----->

More hot days have the potential to impact buildings; critical infrastructure, including water supply and treatment, energy generation and distribution, solid waste management, communications/telecommunications; natural systems; and human health.

Increased average annual rainfall

Risk: **!!!** Timescale: **†** ----->

Increased average annual rainfall has the potential to impact buildings; critical infrastructure, including water supply and treatment, energy generation and distribution, solid waste management, communications/telecommunications; natural systems; and human health.

Compounding factors may worsen the physical effects of climate change in New York.

New York City has 520 miles of coastline, which make it susceptible to effects of sea level rise and increased storm surges. The city also has aging infrastructure, which may be more vulnerable to climate change effects. Climate change effects may also impact New York City's vulnerable populations.

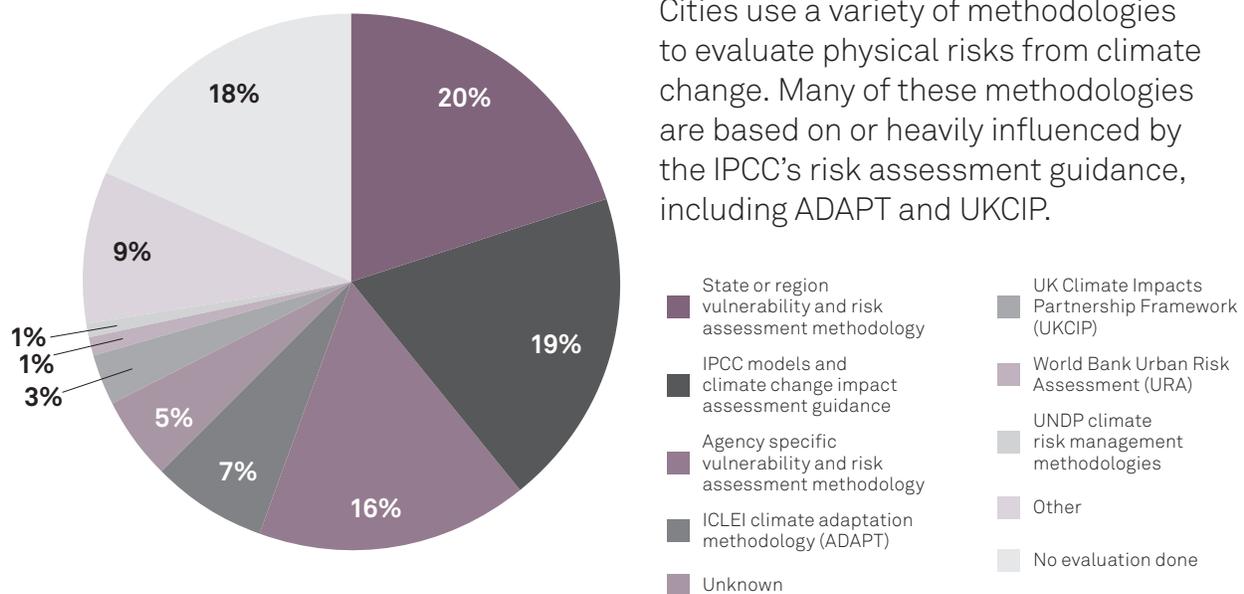
New York considers that the physical impacts of climate change could threaten the ability of businesses to operate successfully.

The ability of businesses to operate successfully could be impacted by climate change if business facilities were impacted by climate change effects such as sea level rise and exacerbated flooding from coastal storms, or if critical infrastructure components were impacted by sea level rise, coastal flooding, or increased temperatures (e.g. power-outages or transportation delays). Increased costs for energy and water may also impact businesses.

The City uses state or region vulnerability and risk assessment methodology to evaluate the physical risks to New York City.

Primary methodology used to evaluate physical risks

% of responses



3 Adaptation

New York has a plan for increasing its resilience to the expected physical effects of climate change.

Actions New York is taking to reduce the risk to infrastructure, citizens, and businesses from climate changes include the following:

Increased risk of storm surges

Community engagement/education

Projects or policies targeted at those most vulnerable

Crisis management including warning and evacuation systems

Crisis planning and practice exercises

Storm water capture systems

Tree planting and/or creation of green space

Building resilience and resistance measures

Sea level rise

Projects or policies targeted at those most vulnerable

Crisis management including warning and evacuation systems

Crisis planning and practice exercises

Storm water capture systems

Tree planting and/or creation of green space

Community engagement/education

More hot days

White roofs

Tree planting and/or creation of green space

Community engagement/education

Public health impacts

Air quality initiatives

Community engagement/education

Projects or policies targeted at those most vulnerable

Increased average annual rainfall

Storm water capture systems

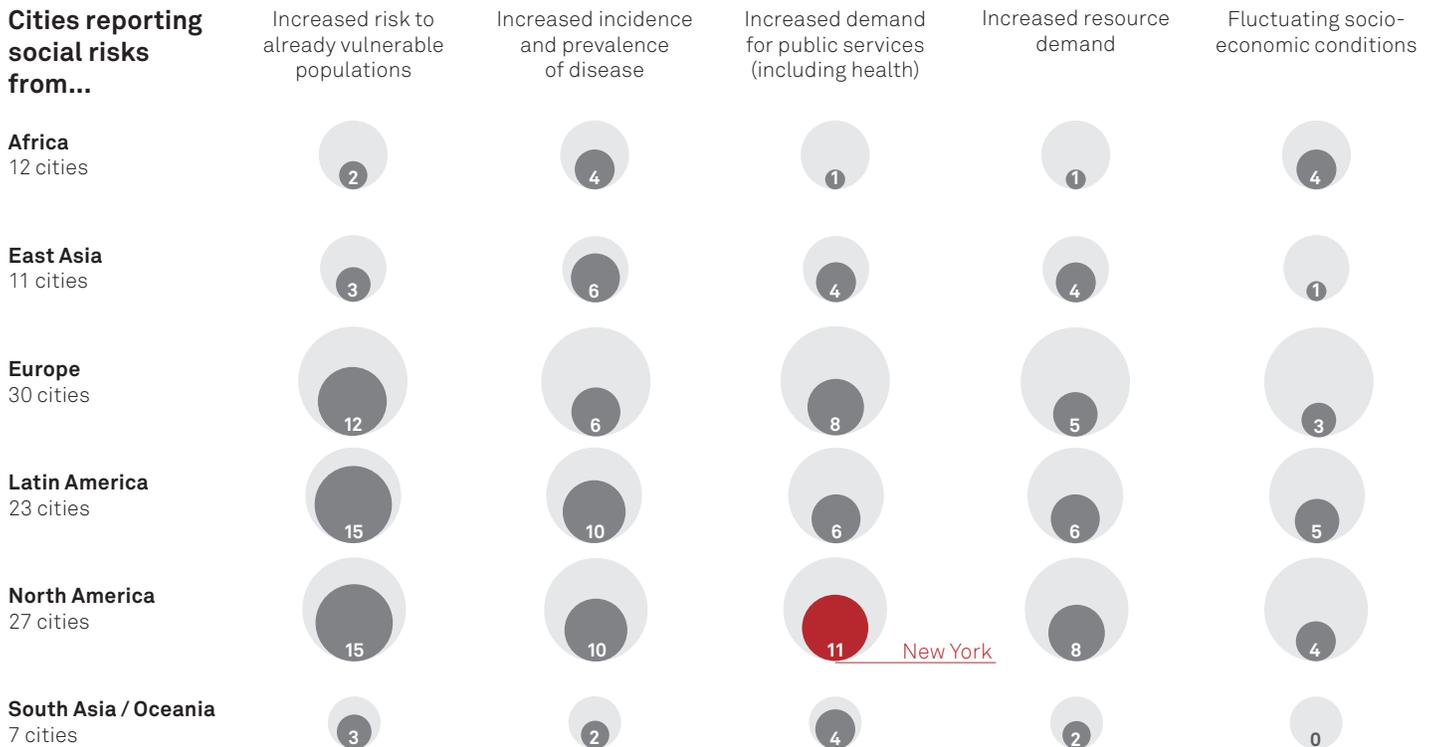
Tree planting and/or creation of green space

The City of New York has developed a comprehensive Continuity of Operations Plan to ensure core government services are delivered during disruptive events — including weather.

4 Social risks

New York faces social risks as a result of climate change.

Top five social risks
By region, # of cities



5 Opportunities

Climate change action presents economic opportunities for New York.

Opportunities

New York is positioning itself to take advantage of opportunities from taking climate change action.

Green jobs

The city's sustainability efforts are creating green jobs.

Development of new business industries (e.g. clean tech)

Energy efficiency initiatives will result in new clean tech businesses.

Infrastructure investments

The city is investing in infrastructure to increase its climate resilience.

Green Infrastructure

The city is expanding the use of green infrastructure to manage stormwater.

Cities that report climate change presents an economic opportunity

and % of cities



No
4 cities
(4%)

Yes
98 cities
(91%)

New York

Don't know
6 cities
(6%)

LGO Methodology

New York is reporting a GHG measurement inventory for a period of one year.

Sat 01 Jul 2011 – Sat 31 Dec 2011

Boundary typology used for New York's GHG emissions inventory:

Companies, entities or departments over which operational control is exercised.

Emissions – Local Government

New York has used the following major sources of emissions in the municipal GHG emissions inventory:

Buildings

Landfills

Municipal vehicle fleet

Street lighting and traffic signals

Waste Collection

Wastewater treatment

Water supply

The primary protocol used for calculating GHG emissions is the Local Government Operations Protocol (ICLEI/The Climate Registry/California Climate Action Registry/California Air Resources Board).

New York City used the Local Government Operations Protocol (LGOP) for its local government operations inventory. The City elected to report additional sources of emissions associated from the transportation of residential solid waste to landfill and other disposal facilities outside the city, although as a contracted service this is not required by the LGOP. Additionally, New York City uses custom emissions coefficients for greenhouse gas emissions from electricity and steam.

Fuel consumption for New York's local government this year:

Natural gas

12,264,775

gigajoules

Residual fuel oil

2,584,925

gigajoules

Distillate fuel oil No 2

2,512,925

gigajoules

Distillate fuel oil No 4

1,195,213

gigajoules

Diesel/Gas oil

4,423,801

gigajoules

LGO Energy Data

Motor gasoline (petrol)

1,723,787**gigajoules**

Propane

105,174**gigajoules**

Jet kerosene

26,567**gigajoules**

Biodiesels

84,234**gigajoules**

Biogasoline

599**gigajoules**

Kerosene

4**gigajoules**

Electricity and heat consumption
purchased by New York's local government
this year:

Electricity

15,419,431
gigajoules

Steam

2,267,840
gigajoules

LGO GHG Emissions Data

Total (Scope 1 + 2) emissions for
New York:

3,295,720

metric tonnes CO₂e

Breakdown of New York's
GHG emissions by scope:

Scopes are a common categorization method. Scope 1: All direct GHG emissions (with the exception of direct CO₂ emissions from biogenic sources). Scope 2: Indirect GHG emissions associated with the consumption of purchased or acquired electricity, steam, heating, or cooling.

Total Scope 1 activity

1,892,389

metric tonnes CO₂e

Total Scope 2 activity

1,403,332

metric tonnes CO₂e

New York measures Scope 3 emissions.

Employee commute

189,618
metric tonnes CO₂e

Employee generated solid waste

170,055
metric tonnes CO₂e

Breakdown of emissions by department,
facility, greenhouse gas, etc.

Buildings, Scope 1

983,052

metric tonnes CO₂e

Buildings, Scope 2

1,128,670

metric tonnes CO₂e

Transportation, Scope 1

422,289

metric tonnes CO₂e

Streetlights and traffic signals, Scope 2

64,422

metric tonnes CO₂e

Wastewater treatment, Scope 1

77,516

metric tonnes CO₂e

Wastewater treatment, Scope 2

196,272

metric tonnes CO₂e

Water supply, Scope 1

11,046

metric tonnes CO₂e

Water supply, Scope 2

13,967

metric tonnes CO₂e

Solid waste facilities, Scope 1

92,969

metric tonnes CO₂e

HFCs - municipal fleet, Scope 1

10,638

metric tonnes CO₂e

Emissions have decreased from last year.

A number of factors combined to result in a reduction of emissions of 2.4% from 2010 levels. A less carbon-intensive electricity supply resulting from lower natural gas prices was the principal driver, followed by a reduction in the number of employees, milder weather, improved wastewater treatment operations, increased landfill methane capture, and improved efficiency of solid waste transportation.

LGO External Verification

The GHG emissions data New York is currently reporting has been externally verified or audited in part or in whole.

The government inventory was audited in 2012 by a consultant to evaluate consistency of application of the LGOP and to make recommendations for any future methodology improvements. The consultant found that the government inventory is completed in accordance with guidance outlined in the LGOP.

C Date and boundary

New York is reporting a GHG measurement inventory for a period of one year.

Sat 01 Jan 2011 – Sat 31 Dec 2011

Boundary typology used for New York's GHG emissions inventory:

Geopolitical Boundary

Physical areas over which local government has jurisdictional control.

C GHG emissions data

New York has used the US Community Protocol for Accounting and Reporting.

Emissions – Community

Information reported to CDP is consistent with New York City’s greenhouse gas inventory published in December 2012. At time of publication of this protocol, the ICLEI U.S. Community Protocol for Accounting and Reporting of Greenhouse Gas Emissions was still in draft form. However, the City used the guidance of this draft document, where applicable, and any deviation from this standard was noted in this report. Of note is the recommended inclusion of scope 3 emissions from solid waste deposited in landfills outside of the city’s geopolitical border, which is included in the city’s total GHG emissions estimates. New York City also used custom emissions coefficients for electricity and steam.

Total (Scope 1 + 2) emissions for
New York:

53,358,868

metric tonnes CO₂e

Breakdown of New York's
GHG emissions by scope:

Scopes are a common categorization method. Scope 1: All direct GHG emissions (with the exception of direct CO₂ emissions from biogenic sources). Scope 2: Indirect GHG emissions associated with the consumption of purchased or acquired electricity, steam, heating, or cooling.

Total Scope 1 activity

34,380,300

metric tonnes CO₂e

Total Scope 2 activity

17,011,705

metric tonnes CO₂e

Breakdown of these emissions by end user, economic sector, IPCC sector, GHG or any other classification system used:

Buildings

39,419,470
metric tonnes CO₂e

Transportation

10,993,191
metric tonnes CO₂e

Streetlights and traffic signals

66,463
metric tonnes CO₂e

Fugitive and process emissions

2,879,744
metric tonnes CO₂e

Total amount of fuel consumed in
New York during the reporting year:

Residual fuel oil

38,848,781
gigajoules

Distillate fuel oil No 4

13,614,402
gigajoules

Distillate fuel oil No 2

82,640,880
gigajoules

Diesel/Gas oil

22,749,575
gigajoules

Motor gasoline (petrol)

126,637,010
gigajoules

Natural Gas

273,153,437
gigajoules

Electricity and heat that has been consumed by New York during the reporting year:

Electricity

187,803,119

gigajoules

Steam

24,805,576

gigajoules

New York measures Scope 3 emissions.

CH₄ from solid waste exported to landfills outside of city

1,966,863
metric tonnes CO₂e

These emissions are included in the total figure for scope 1+2 emissions, per the US community protocol.

Aviation emissions

15,045,713
metric tonnes CO₂e

Included emissions from all planes departing from New York City's airports within the city boundary.

A number of factors combined to reduce the city's community GHG emissions 3.3% below 2010 levels in 2011. Less carbon-intensive electricity supply resulting from lower natural gas prices was the principal driver, followed by milder weather, reduced vehicle use, and reduced solid waste generation.

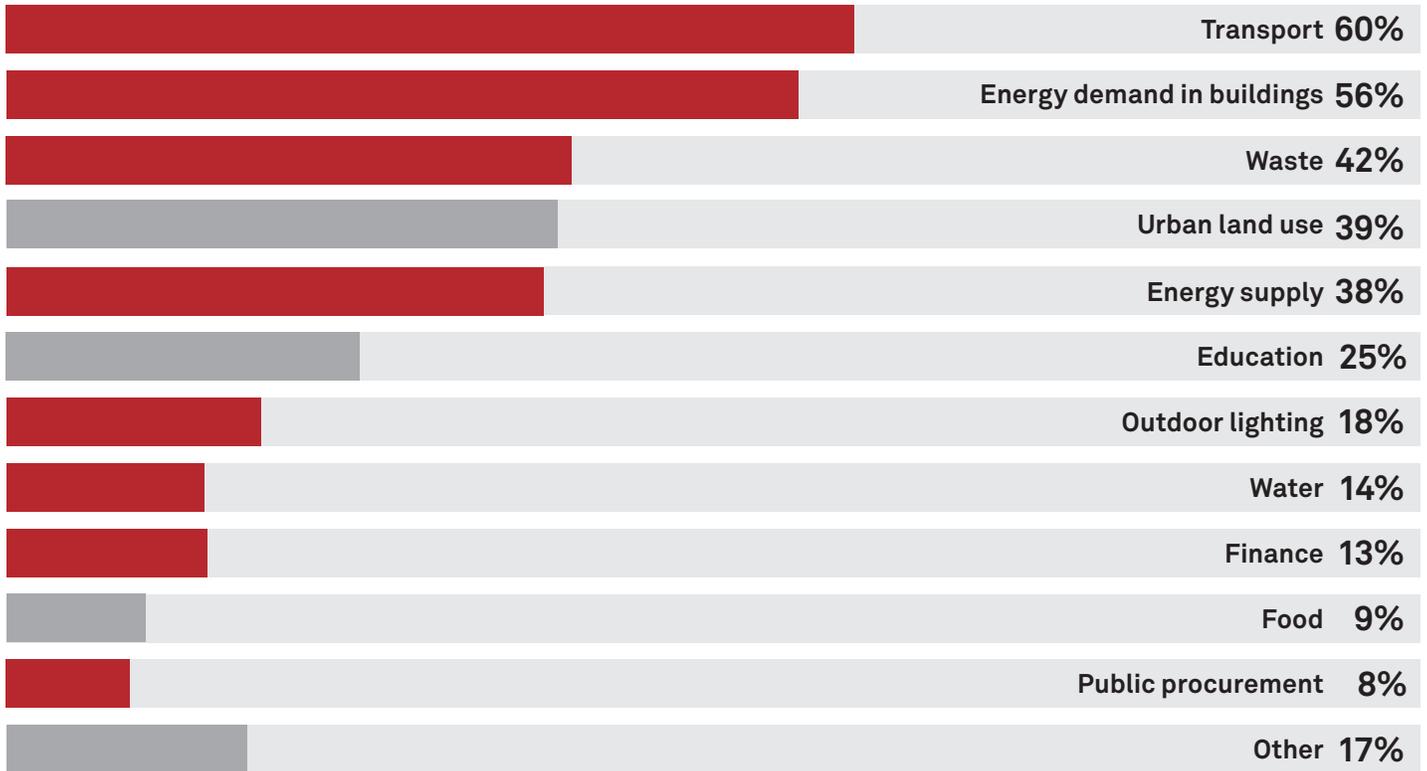
C External verification

The GHG emissions data New York is currently reporting has been externally verified or audited in part or in whole.

The government inventory was audited in 2012 by a consultant to evaluate consistency of application of the U.S. Community Protocol and to make recommendations for any future methodology improvements. The consultant found that the government inventory is completed in accordance with guidance outlined in the U.S. Community Protocol.

Cities reporting city-wide reduction activities

By category, % of cities



Strategy

6 Local government operations – GHG emissions reduction

New York has a GHG emissions reduction target in place for local government operations.

New York's local government operations GHG emissions reduction target in detail:

Baseline year

2005

Percentage reduction target

30%

All sources included in the City's inventory

All sources included in the City's inventory

Target date

2017

Activities undertaken to reduce
New York's emissions in its government
operations:

(Emissions reduction is annual reduction
below baseline)

Energy Demand in Buildings

Building performance rating and reporting

Switching to low carbon fuels

Building codes and standards

Not Yet Calculated

Energy efficiency/retrofit measures

741,000

metric tonnes CO₂e

Outdoor Lighting

LED / CFL / other luminaire technologies

52,000

metric tonnes CO₂e

Transport

Improve fuel economy and reduce CO₂ from motorized vehicles

89,000

metric tonnes CO₂e

Water

Methane recovery for reuse

32,000

metric tonnes CO₂e

Waste

Improve the efficiency of long-haul transport

270,000

metric tonnes CO₂e

Landfill gas capture

35,000

metric tonnes CO₂e

7 Community – GHG emissions reduction

New York has a GHG emissions reduction target in place for its community.

New York's GHG emissions reduction target in detail:

Baseline year

2005

Baseline emissions

63,623,769

metric tonnes CO₂e

Percentage reduction target

30%

GHG sources to which the target applies

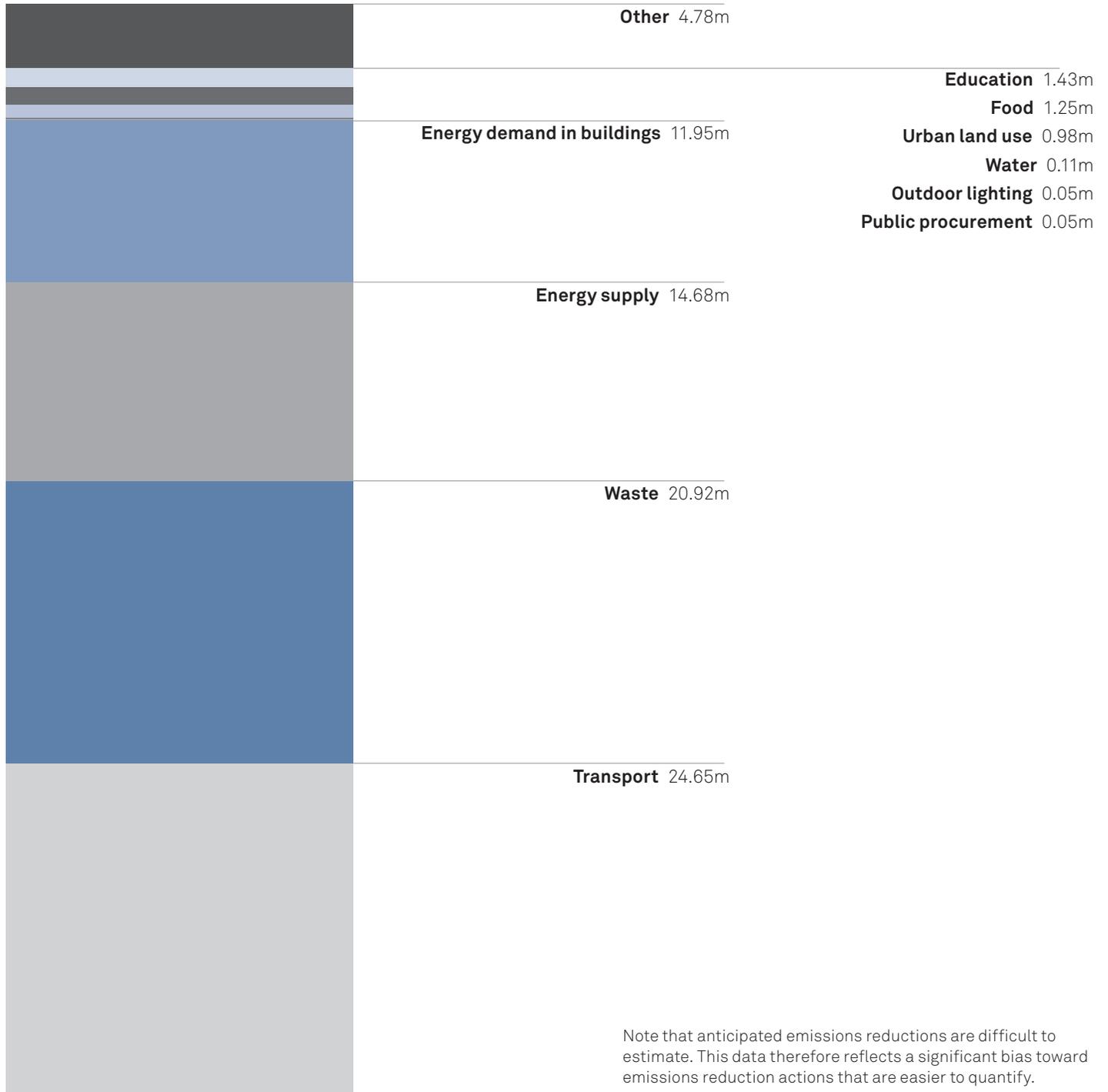
All sources included in City's inventory

Target date

2030

Anticipated lifetime emissions reductions reported by cities

By category (millions metric tonnes CO₂e)



Note that anticipated emissions reductions are difficult to estimate. This data therefore reflects a significant bias toward emissions reduction actions that are easier to quantify.

New York is currently undertaking the following activities to reduce emissions city-wide:

Energy Demand in Buildings

Building codes and standards

Building performance rating and reporting

Financing mechanisms for retrofit

Renewable on-Site energy generation

Switching to low-carbon fuels

Urban Land Use

Brownfield redevelopment programs

Transit oriented development

Greenspace and/or bio-diversity preservation and expansion

Water

Methane recovery for reuse

Water metering and billing

Energy Supply

Low or zero carbon energy supply generation

Outdoor Lighting

LED / CFL / other luminaire technologies

Transport

Infrastructure for non-motorized transport

Improve bus transit times

Waste

Landfill gas capture

Recycling or composting collections and/or facilities

Waste prevention policies or programs

Waste to energy

8 Planning

The City has issued a request for proposals for a private firm to develop a pilot waste to clean energy facility as part of its effort to double the amount of solid waste diverted from landfills.

New York incorporates desired GHG emissions into the masterplanning for the city.

Many initiatives in New York City's comprehensive sustainability plan, PlaNYC, contribute toward achieving the city's 30% GHG reduction target.

9 Water

New York foresees substantive risks to its water supply in the short or long term.

Risks to New York's water supply as well as timescale:

Timescale



Declining water quality

Timescale: 

This is related to more intense precipitation

The City is conducting research to identify sources of problem substances so we can develop watershed protection or remediation programs to reduce these sources. The City is also refining the operational management of flows to optimize the water that travels to the distribution system for New York City. This is mainly accomplished through numerous modeling runs for different scenarios that provide guidance for decisions on flow rates and treatment to keep water quality within regulatory limits. In 2008 the New York City Department of Environmental Protection released its Climate Change Program Assessment and Action Plan, outlining its climate adaptation strategies.



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