GREENHOUSE GAS PROTOCOL

Background of GHG Protocol and the Global Protocol for Community-Scale Greenhouse Gas Emissions (GPC)

Wee Kean Fong
Project Manager, GHG Protocol City Project,
World Resources Institute

Core Partners:

WORLD RESOURCES INSTITUTE

C40 CITIES
CLIMATE LEADERSHIP GROUP

ICLEI
Local Governments for Sustainability

www.ghgprotocol.org/city-accounting

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Presentation outline

1. Background of the GHG Protocol
2. The GPC initiative
3. Why conducting city-scale GHG inventories?

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1. Background of the GHG Protocol

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The GHG Protocol

WORLD RESOURCES INSTITUTE

World Business Council for Sustainable Development

Launched in 1998.

"The foundation for sustainable climate strategies"

GHG Protocol standards are the most widely used accounting tools to measure, manage and report GHG emissions.

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Quick facts about GHG Protocol

- Standards: 4 Major Standards
- Tools: **25+**
- Tool downloads: **1000+** per month
- Newsletter subscribers: **8,500+**
- Registered website users: **55,000+**
- Programs based on GHGP: **50+** worldwide

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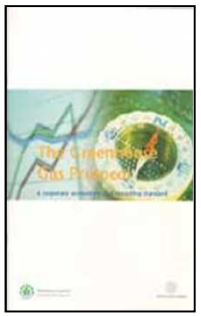
History of the GHG Protocol: 2001-2005



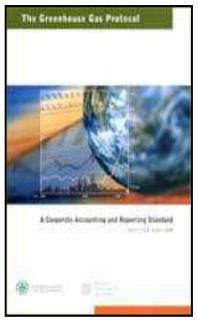
CARBON DISCLOSURE PROJECT

ISO International Organization for Standardization

2001 2002 2004 2005

CLIMATE LEADERS
U.S. Environmental Protection Agency

CALIFORNIA Climate ACTION Registry



defra
Department for Environment Food and Rural Affairs

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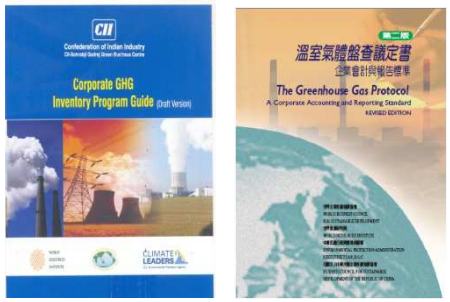
History of the GHG Protocol: 2006 Onwards

EO 13514

ghg management institute
Online training, networking, professionalizing

2007 2008 2009 2010

The Climate Registry



U.S. SECURITIES AND EXCHANGE COMMISSION · MCMXXXIV ·

Climate Disclosure Standards Board

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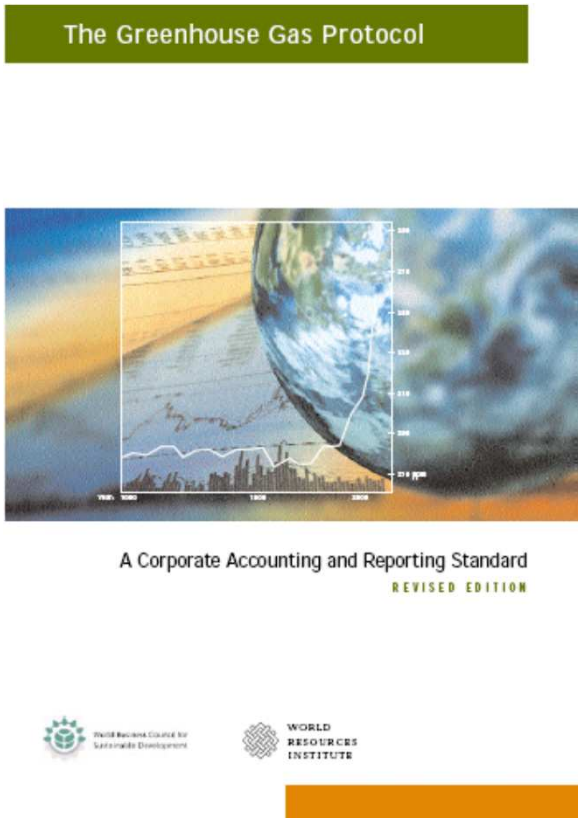
Global programs based on GHG Protocol



Government-led GHG Programs

- U.S. Department of Energy (1605b)
- UK Emissions Trading System
- U.S. EPA Climate Leaders Initiative
- METI, Japan
- Brazil GHG Program
- Mexico GHG Program
- EU Emissions Trading Scheme
- ISO 14064 Part 1

Non-government GHG Programs

- Carbon Disclosure Project (CDP)
- The Climate Registry
- Dow Jones Sustainability Index
- French REGES Protocol
- Global Reporting Initiative
- International Trade Associations (Aluminum, IPIECA, ICFPA, Cement, Iron and Steel)
- World Wildlife Fund Climate Savers

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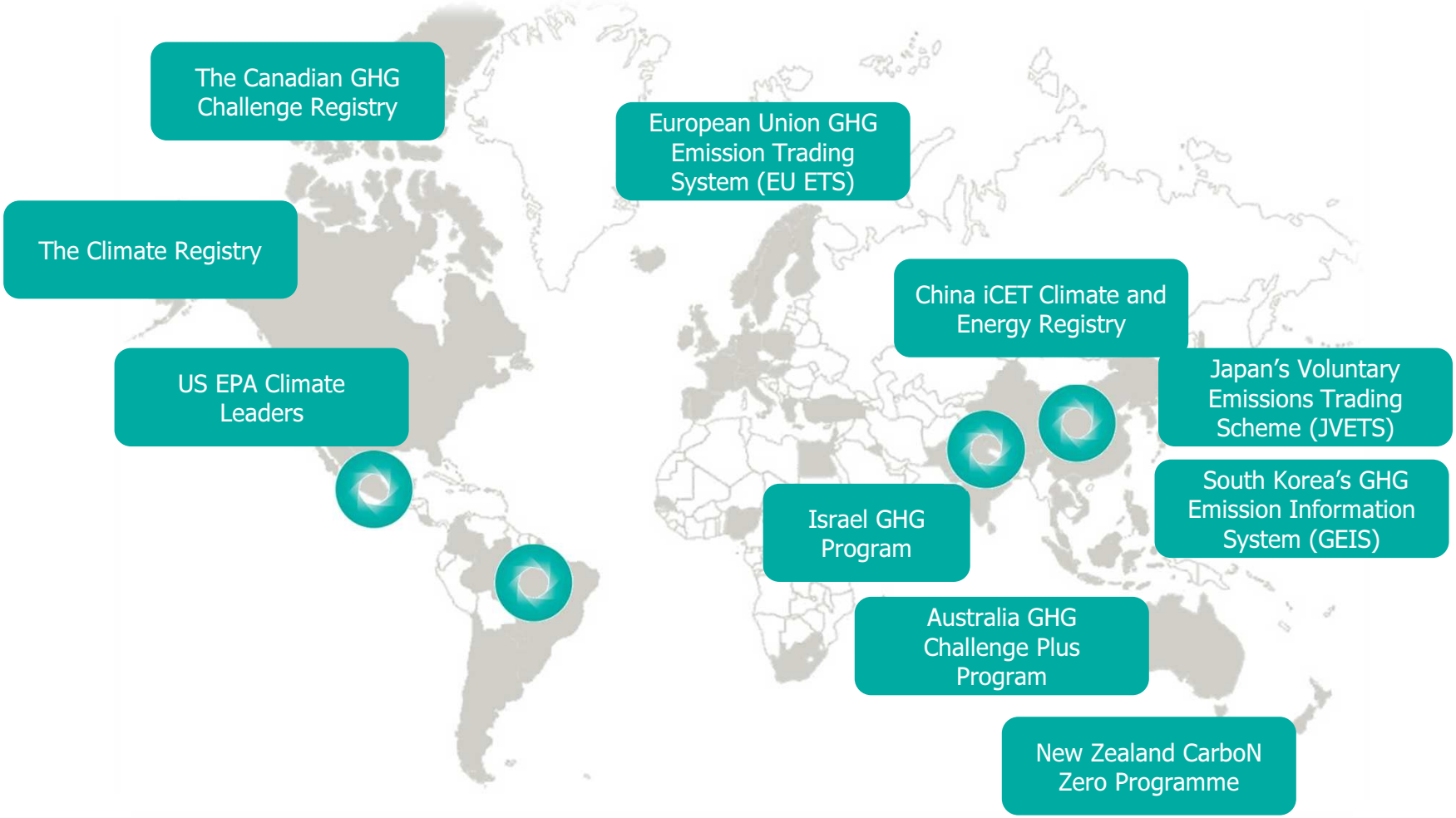
Widespread adoption of Corporate Standard



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Business use of GHG Protocol

The Carbon Disclosure Project represents investors with assets totalling

$41 trillion

It regularly surveys the world's largest companies using the GHG Protocol as the framework

72%

of Fortune 500 companies responded to the survey sent out by the Carbon Disclosure Project in 2008

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Adoption by leading companies

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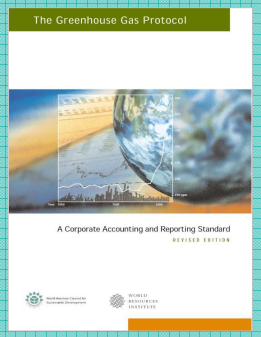
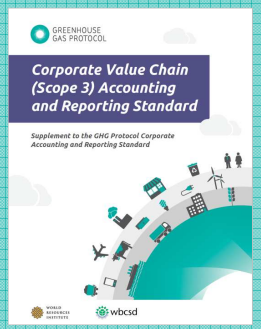
GHG Protocol standards

For Businesses

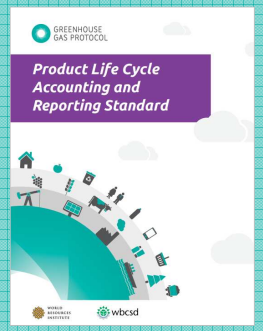
Corporate Standard



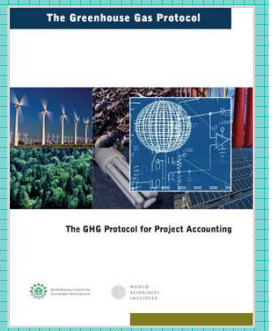
Scope 3 Standard



Product Standard

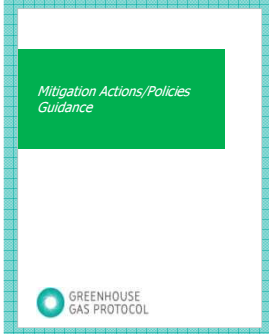


Project Protocol

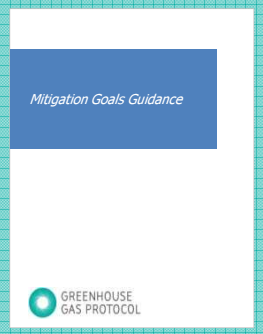


For Policymakers

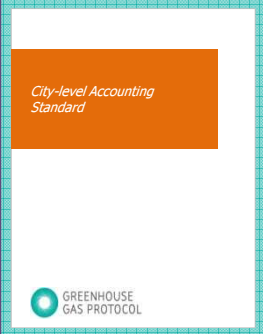
Mitigation Actions Standard



Mitigation Goals Standard



City Standard



Under Development

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2. The GPC Initiative

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Core Partners

WORLD RESOURCES INSTITUTE

C40 CITIES
CLIMATE LEADERSHIP GROUP

ICLEI
Local Governments for Sustainability

30 years experience in promoting sustainability worldwide

14 years of GHG accounting standard development experience

Represent **>60** largest cities from around the world committed to implementing meaningful and sustainable climate-related actions

Represent **>1200** local government members worldwide

Over **20** years experience in addressing urban sustainability issues

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Supporting Partners

THE WORLD BANK

UNEP

UN HABITAT
FOR A BETTER URBAN FUTURE

UN Environment Programme, UN Habitat, World Bank Recognize New Global Protocol for Urban GHG Emissions, Encourage its Use

SUBMITTED BY DAN HOORNWEG ON MON, 2012-05-14 14:54

In March this year, we posted a blog on the draft edition of a global protocol for city-scale GHG emissions, announced jointly by ICLEI – Local Governments for Sustainability, C40, and the World Resources Institute (WRI).

Yesterday, a pilot version of the protocol was released at the UNFCCC climate meetings in Bonn, Germany. And today, UNEP, UN-Habitat and the World Bank expressed appreciation to ICLEI – Local Governments for Sustainability, C40, and WRI for this accomplishment. To learn more about the significance of the protocol, read this news feature.

Moving forward, C40, ICLEI, and WRI will incorporate the pilot test's results and expand the protocol into a more comprehensive GHG accounting standard for community-scale emissions. This will enable local governments to account for how demand for goods and services as well as local innovative technologies can impact a GHG footprint.

I didn't make it to Bonn for the release event but Anthony Bigio from the World Bank's Urban Anchor was there. Check out the World Bank's press release below:

May 15—Two UN agencies and the World Bank today expressed appreciation at the launch of a pilot version of a Global Protocol for Community-scale Greenhouse Gas Emissions, designed to harmonize emissions measurement and reporting process for the world's cities. The protocol was released at the UNFCCC climate meetings in Bonn by C40 Cities Climate Leadership Groupand ICLEI – Local Governments for Sustainability, with input from the World Resources Institute.

http://blogs.worldbank.org/sustainablecities/ghg-protocol

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Funders

CATERPILLAR®

Ministry of Foreign Affairs of the Netherlands

UN HABITAT
FOR A BETTER URBAN FUTURE

MINISTRY OF FOREIGN AFFAIRS OF DENMARK
DANIDA | INTERNATIONAL DEVELOPMENT COOPERATION

United Technologies

USAID
FROM THE AMERICAN PEOPLE

GREENHOUSE GAS PROTOCOL

The GPC Pilot Version 1.0

Pilot Version 1.0 – May 2012

GLOBAL PROTOCOL
FOR COMMUNITY-SCALE
GREENHOUSE GAS EMISSIONS
(GPC)

Pilot Version 1.0 – May 2012

C40 CITIES · ICLEI Local Governments for Sustainability · WORLD RESOURCES INSTITUTE

Global Protocol for Community-Scale GHG Emissions (GPC)

Photo credit: ICLEI

The "**GPC Pilot Version 1.0**" was released on May 14, 2012

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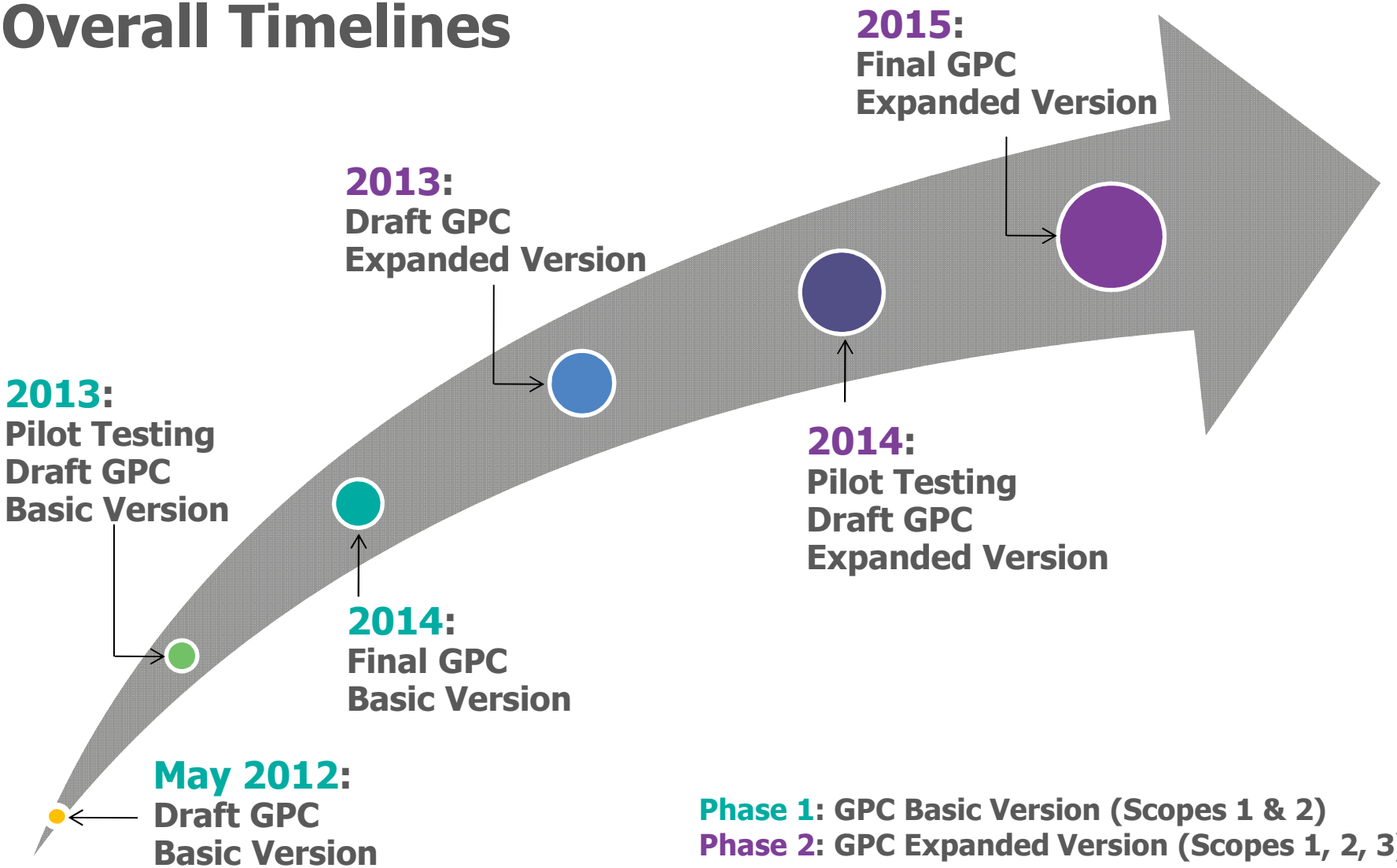
Overall Timelines



Phase 1: GPC Basic Version (Scopes 1 & 2)
Phase 2: GPC Expanded Version (Scopes 1, 2, 3)

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Pilot Projects

30+ Cities

May-October 2013

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3. Why conducting city-scale GHG inventories?

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Why conducting GHG inventories?

- Benchmarking
- Low-carbon planning
- MRV
- Financing
- Cross-learning between cities

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Benchmarking

Country / City	GHG Emissions (tCO2e/capita)	
Argentina	**7.64**	2000
Buenos Aires	3.83	1
Australia	**25.75**	2007
Sydney	20.3	2006, 2
Bangladesh	**0.37**	1994
Dhaka	0.63	1
Belgium	**12.36**	2007
Brussels	**7.5**	2005, 3
Brazil	**4.16**	1994
Rio de Janeiro	**2.1**	1998, 3, i
São Paulo	**1.4**	2000, 3, i
Canada	**22.65**	2007
Calgary	**17.7**	2003, 3
Toronto (City of Toronto)	9.5	2004, 4
Toronto (Metropolitan Area)	**11.6**	2005, 5, i
Vancouver	4.9	2006, 6
China	**3.40**	1994
Beijing	**10.8**	2006, 7, i
Shanghai	**12.9**	2006, 7, i
Tianjin	**12.2**	2006, 7, i
Chongqing	3.7	2006, 8
Czech Republic	**14.59**	2007
Prague	**9.4**	2005, 5, i
Finland	**14.81**	2007
Helsinki	**7.0**	2005, 3

Country / City	GHG Emissions (tCO2e/capita)	
France	**8.68**	2007
Île-de-France (Region incl. Paris)	**5.2**	2005, 3, †
Germany	**11.62**	2007
Frankfurt	**13.7**	2005, 3
Hamburg	**9.7**	2005, 3
Stuttgart	**16.0**	2005, 3
Greece	**11.78**	2007
Athens	**10.4**	2005, 3
India	**1.33**	1994
Ahmedabad	1.20	1
Delhi	1.50	2000, 9
Kolkata	1.10	2000, 9
Italy	**9.31**	2007
Bologna (Province)	**11.1**	2005, 3
Naples (Province)	**4.0**	2005, 3
Turin	**9.7**	2005, 3
Veneto (Province)	**10.0**	2005, 3
Japan	**10.76**	2007
Tokyo	**4.89**	2006, 3, i
Jordan	**4.04**	2000
Amman	**3.7**	2008, 10, i
Mexico	**5.53**	2002
Mexico City (City)	4.25	2007, 11
Mexico City (Metropolitan Area)	2.84	2007, 11
Nepal	**1.48**	1994
Kathmandu	0.12	1

Country / City	GHG Emissions (tCO2e/capita)	
Norway	**11.69**	2007
Oslo	**3.5**	2005, 3
Portugal	**7.71**	2007
Porto	**7.3**	2005, 3
Republic of Korea	**11.46**	2001
Seoul	4.1	2006, 3
Singapore	**7.86**	1994
Slovenia	**10.27**	2007
Ljubljana	**9.5**	2005, 3
South Africa	**9.92**	1994
Cape Town	**7.6**	2005, 5, i
Spain	**9.86**	2007
Barcelona	**4.2**	2006, 5, i
Madrid	**6.9**	2005, 3
Sri Lanka	**1.61**	1995
Colombo	1.54	1
Kurunegala	9.63	1
Sweden	**7.15**	2007
Stockholm	**3.6**	2005, 3
Switzerland	**6.79**	2007
Geneva	**7.8**	2005, 5, i
The Netherlands	**12.67**	2007
Rotterdam	**29.8**	2005, 3

Source of data: http://www.unep.org/urban_environment/PDFs/Representative-GHGBaselines.pdf

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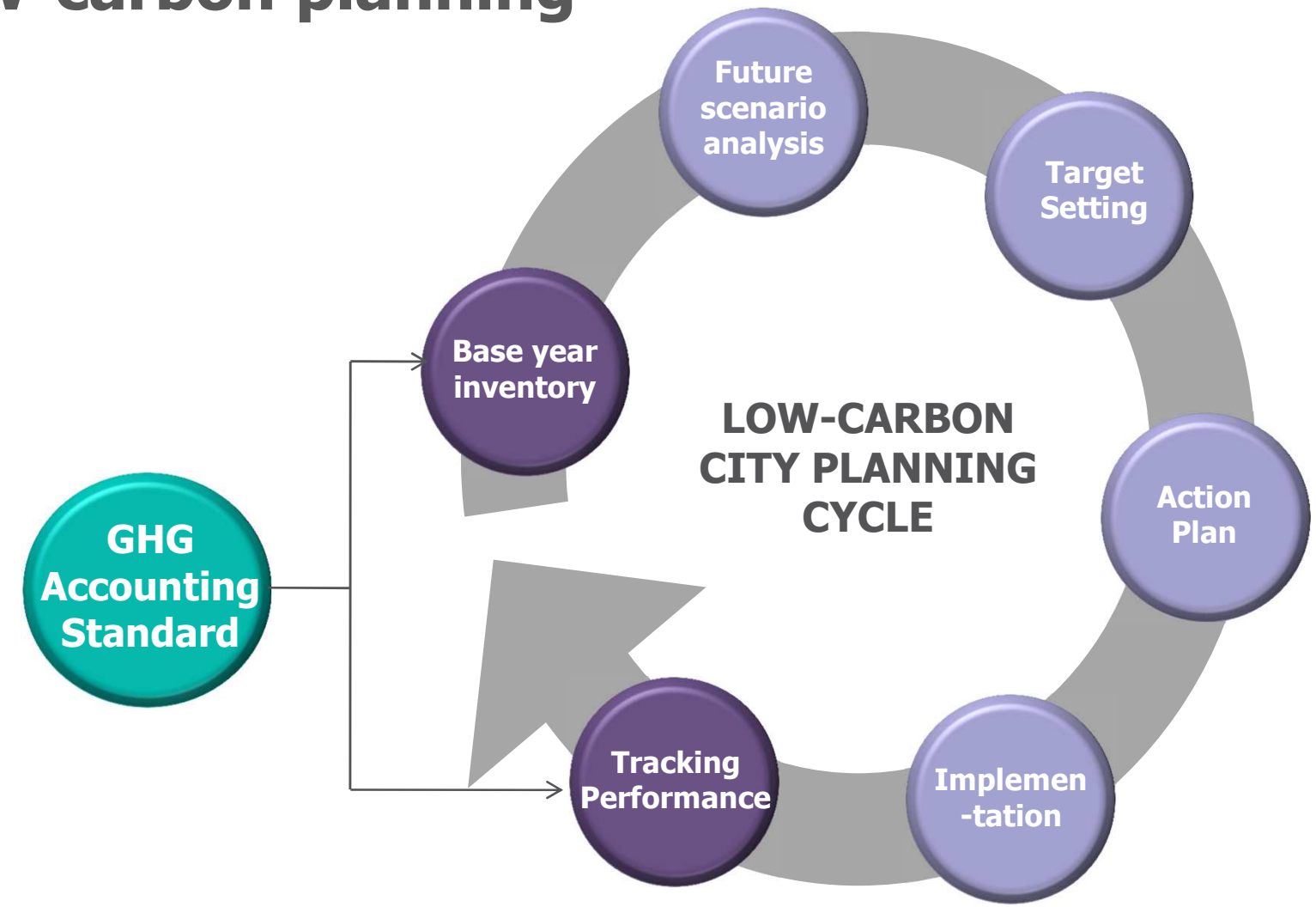
Low-carbon planning



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MRV

RIO PREFEITURA

Lei Nº 14.933, De 5 De Junho De 2009
Institui a Política de Mudança do Clima no Município de São Paulo

- **Reduce citywide GHG emissions by 30% of 2005 levels by 2012**
- **Complete a GHG inventory every 4 years**

PREFEITURA DA CIDADE DE SÃO PAULO

Lei Nº 5248, De 27 De Janeiro De 2011
Institui A Política Municipal Sobre Mudança Do Clima E Desenvolvimento Sustentável, Dispõe Sobre O Estabelecimento De Metas De Redução De Emissões Antrópicas De Gases De Efeito Estufa Para O Município Do Rio De Janeiro E Dá Outras Providências

- **To avoid 20% of 2005 GHG emissions by 2020**
- **Complete a GHG inventory every 4 years**

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Financing

THE WORLD BANK
Working for a World Free of Poverty

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PRESS RELEASE

City of Rio and World Bank Launch Ground-Breaking Program for Low Carbon City Development

June 18, 2012

Like | Tweet | SHARE

The Rio de Janeiro Low Carbon City Development Program is a business model for green, sustainable cities worldwide

RIO DE JANEIRO, June 18, 2012 – The City of Rio de Janeiro and the World Bank launched today during the Rio+20 Summit a ground-breaking, city-level program to put into action the city's goals for low-carbon development.

Certified according to ISO standards, the **Rio de Janeiro Low Carbon City Development**

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pdacamara@worldbank.org

http://www.worldbank.org/en/news/press-release/2012/06/18/rio-world-bank-launch-ground-breaking-program-low-carbon-city-development

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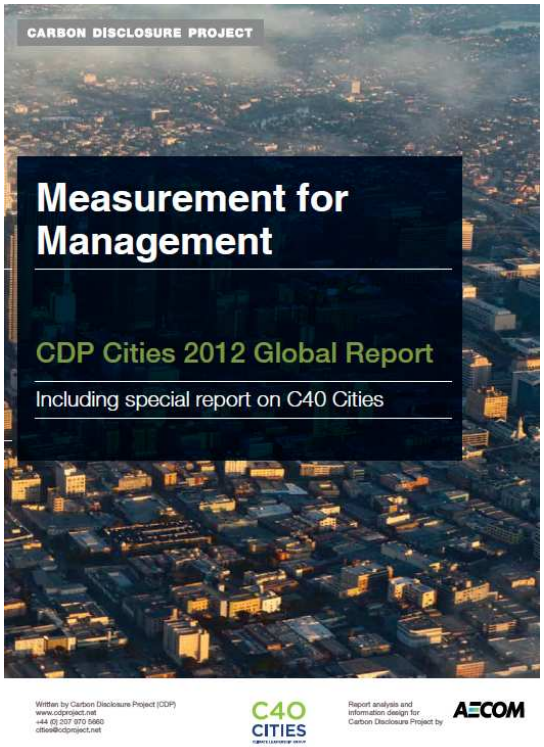
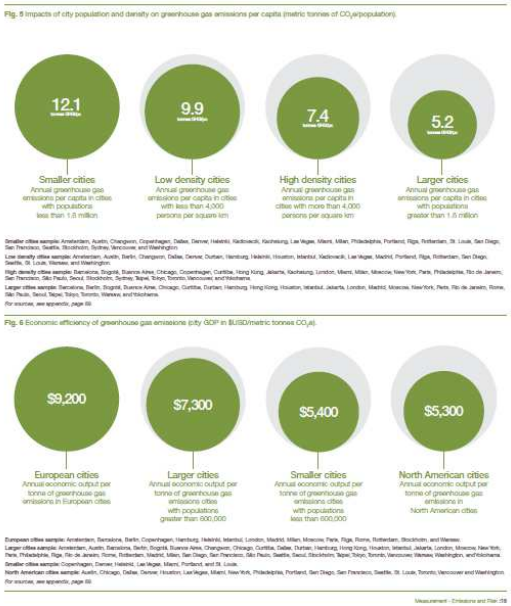
Cross learning between cities





Source: Measurement for Management: CDP Cities 2012 Global Report. CDP.

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Case studies

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Case Study 1: New York City

30%

below 2005 level by 2030

*80% by 2050

Boundary

- Scope 1 + Scope 2

Gases

- CO2, CH4, N2O, SF6, HFCs, PFCs

Source of graphic: plaNYC Update April 2006.

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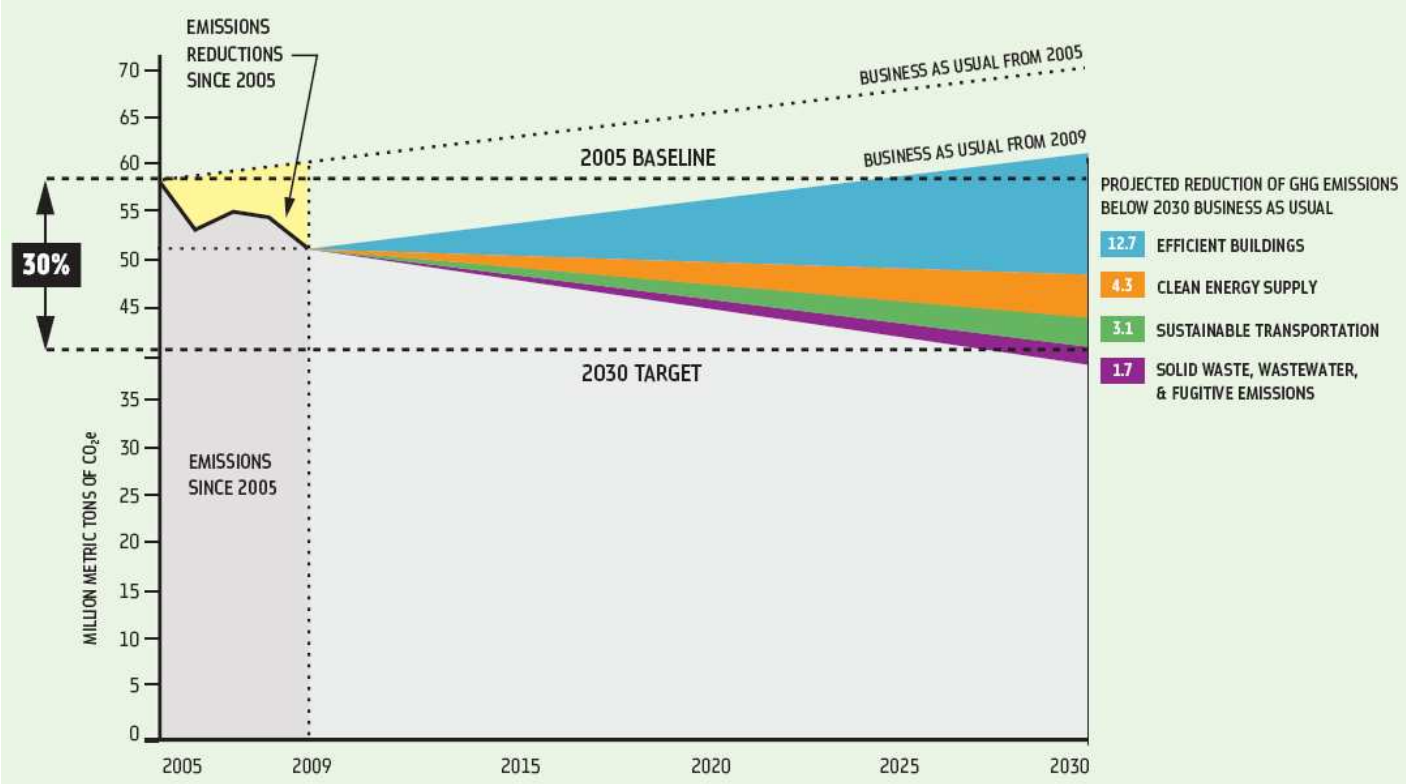
Low-carbon planning



Benchmarking, Projection, Target setting

Source : PlaNYC 2007, and PlaNYC Update, April 2011.

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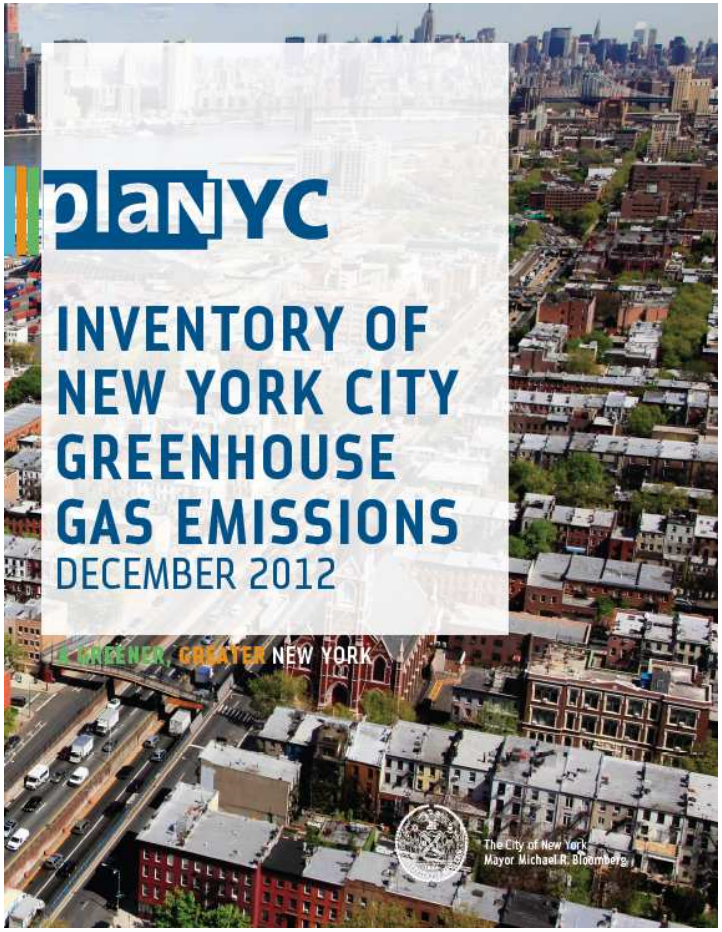
Information disclosure



- **Annual GHG inventory report**
- **Annual progress report**

Source of graphic: Inventory of New York City GHG Emissions December 2012

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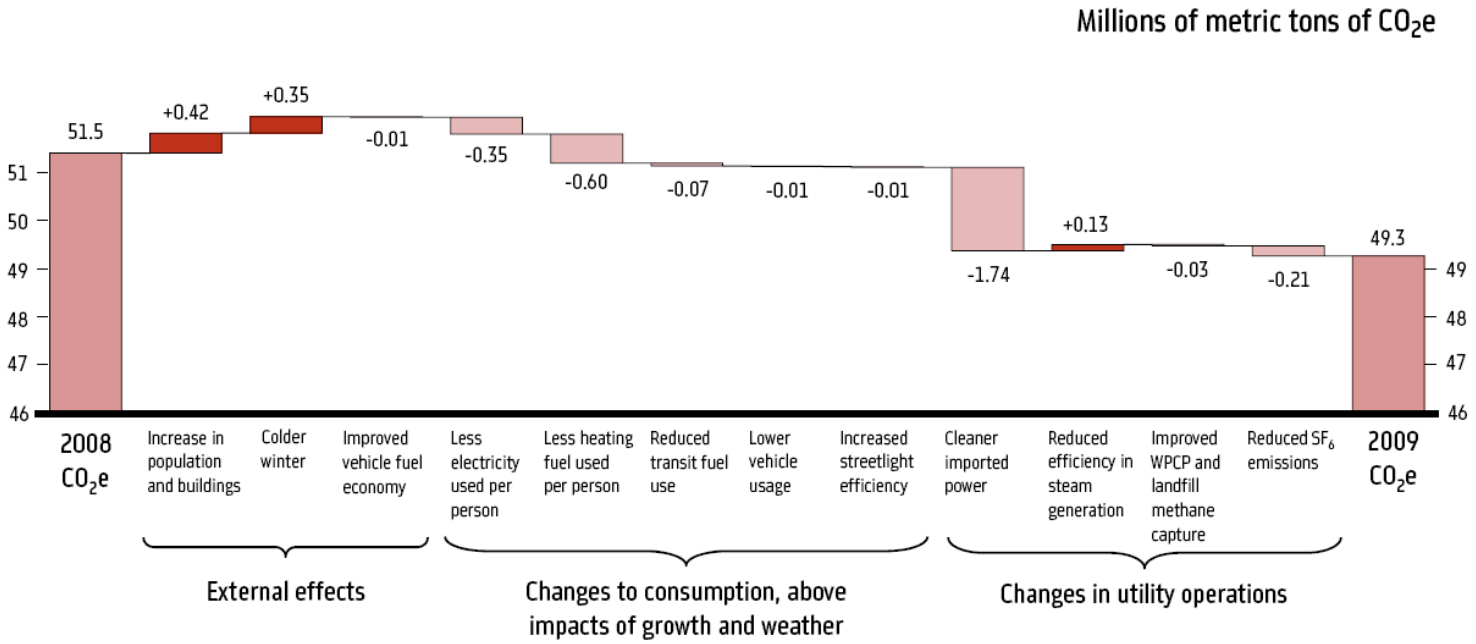
Performance tracking (1)



Year-to-Year Performance Tracking

Source : Inventory of New York City GHG Emissions September 2010

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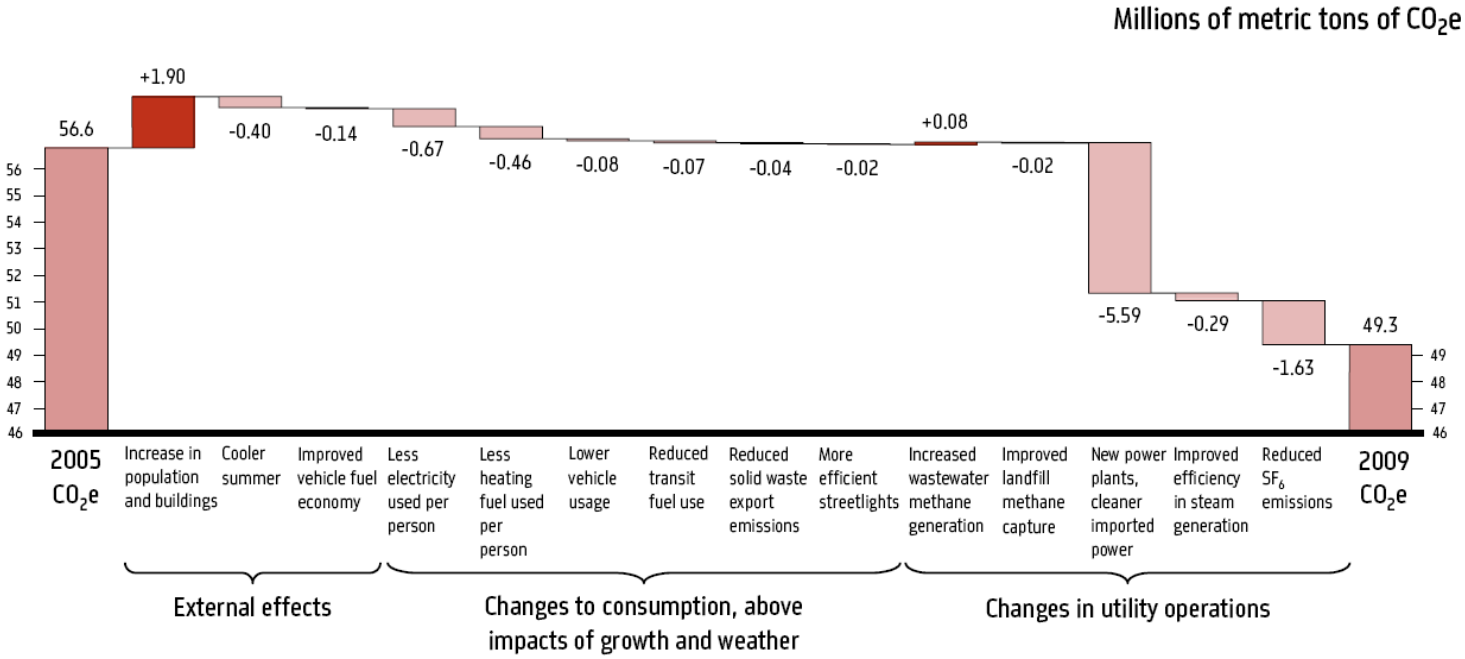
Performance tracking (2)



Tracking Against Base Year Emissions

Source : Inventory of New York City GHG Emissions September 2010

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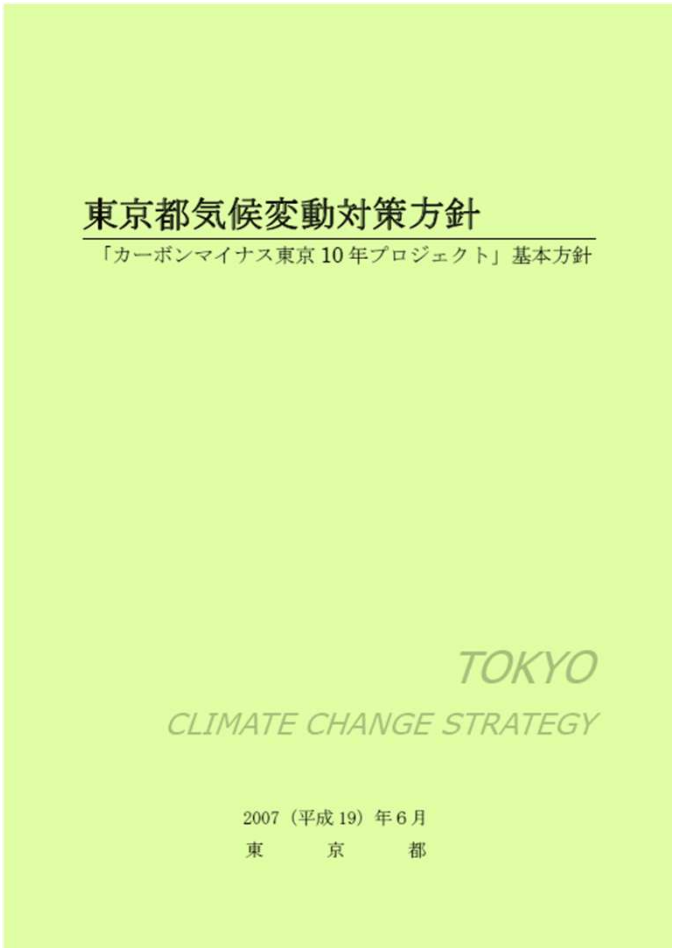
Case Study 2: Tokyo



25%

below 2000 level by 2020

Boundary

- Scope 1

Gases

- CO2, CH4, N2O, SF6, HFCs, PFCs

Source: Tokyo GHG Inventory Report 2009. TMG.

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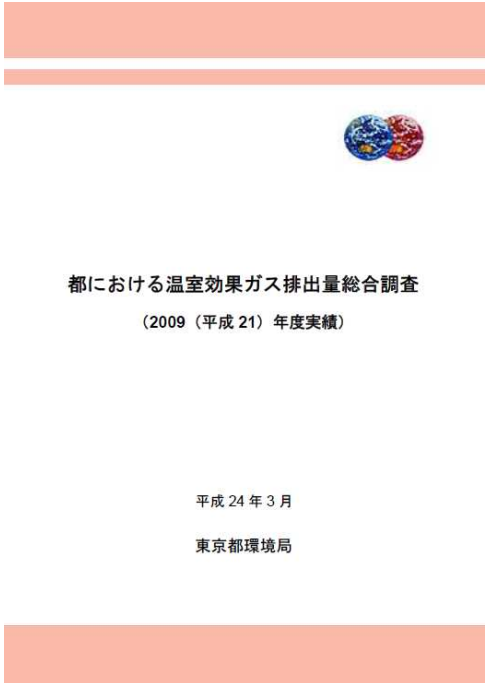
Disclosure and performance tracking



Annual progress report

Annual GHG inventory report

Source: Tokyo GHG Inventory Report 2009. TMG.

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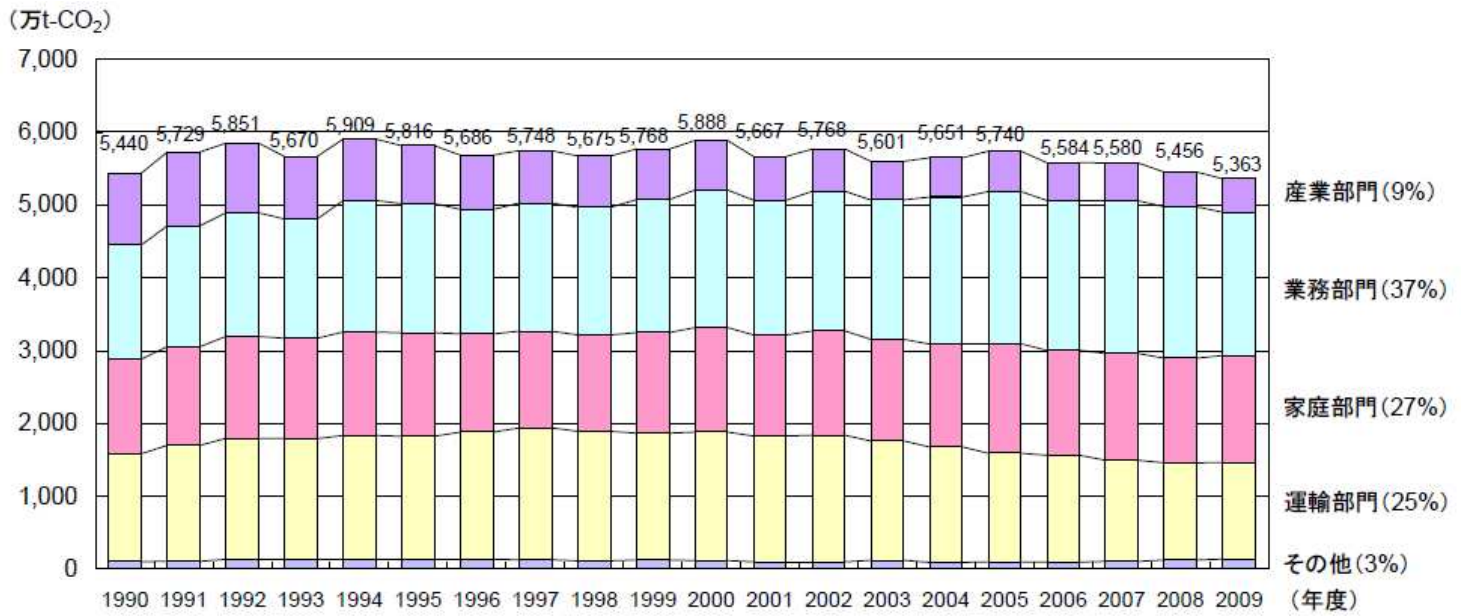
Data analysis: Emission by economic sector



Source: Tokyo GHG Inventory Report 2009. TMG.

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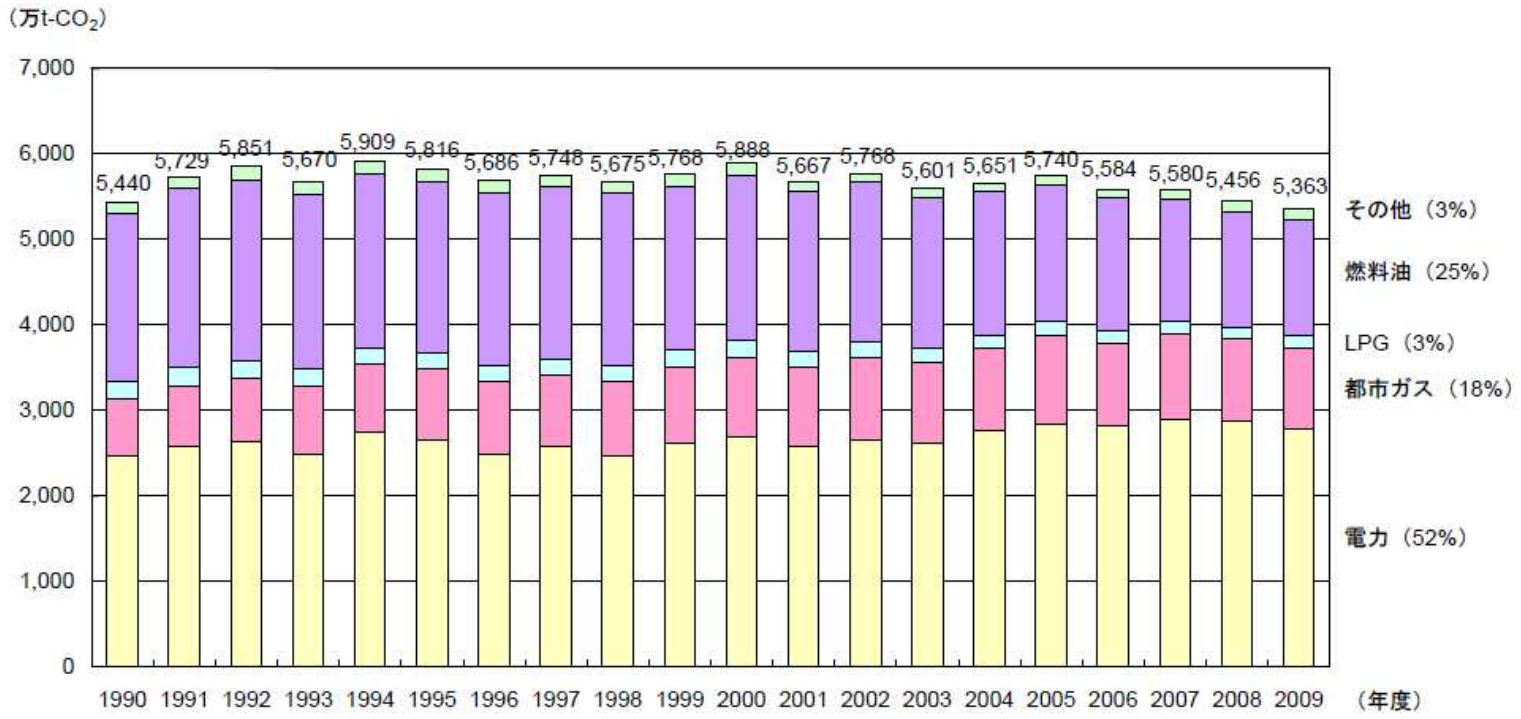
Data analysis: Emission by fuel type



Source: Tokyo GHG Inventory Report 2009. TMG.

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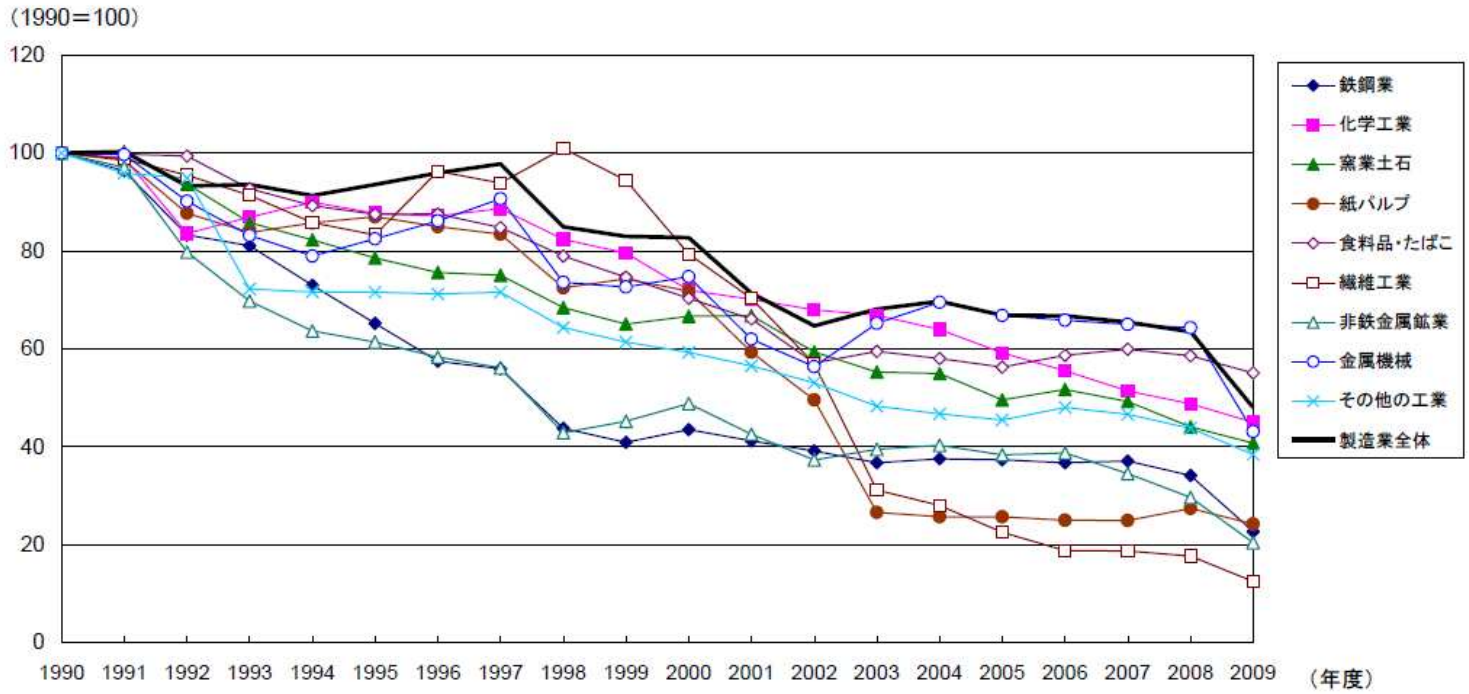
Data analysis: Industrial sector



Source: Tokyo GHG Inventory Report 2009. TMG.

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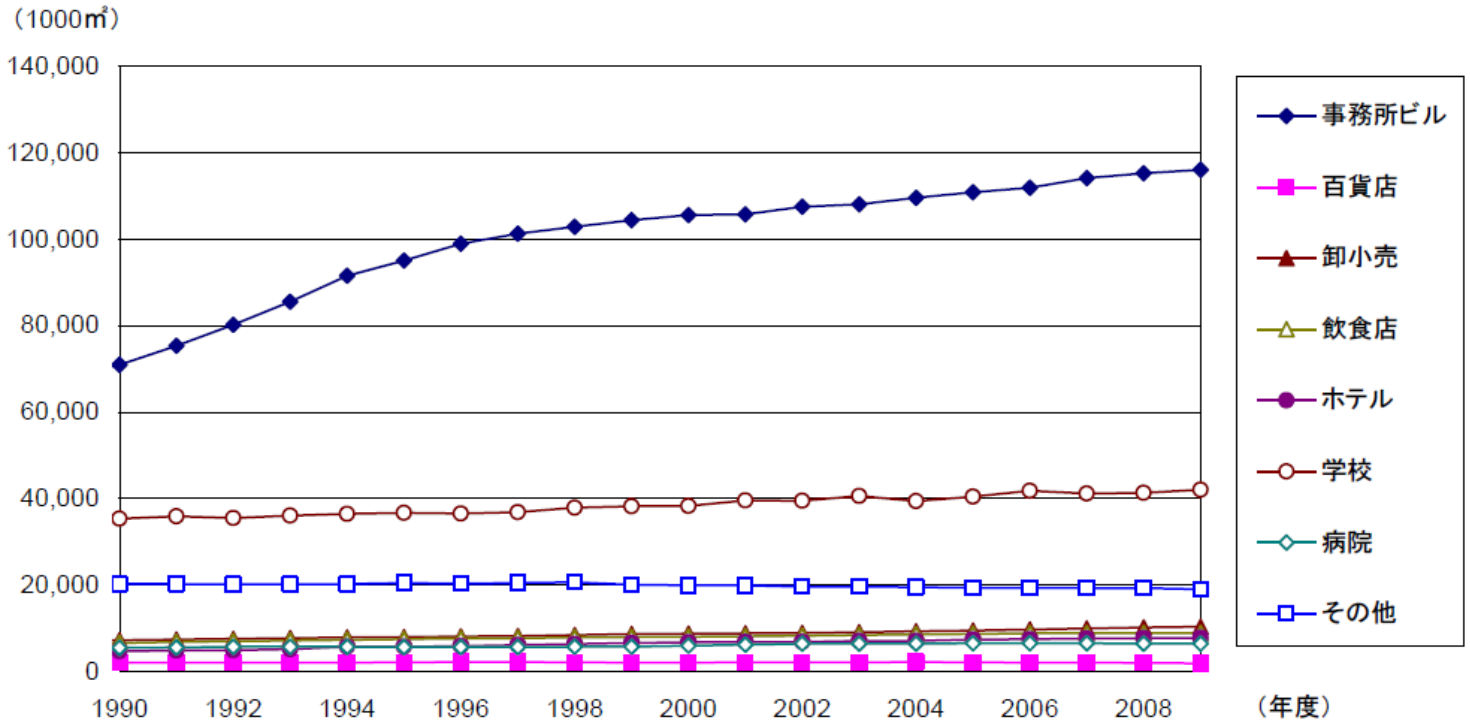
Data analysis: Commercial sector



Source: Tokyo GHG Inventory Report 2009. TMG.

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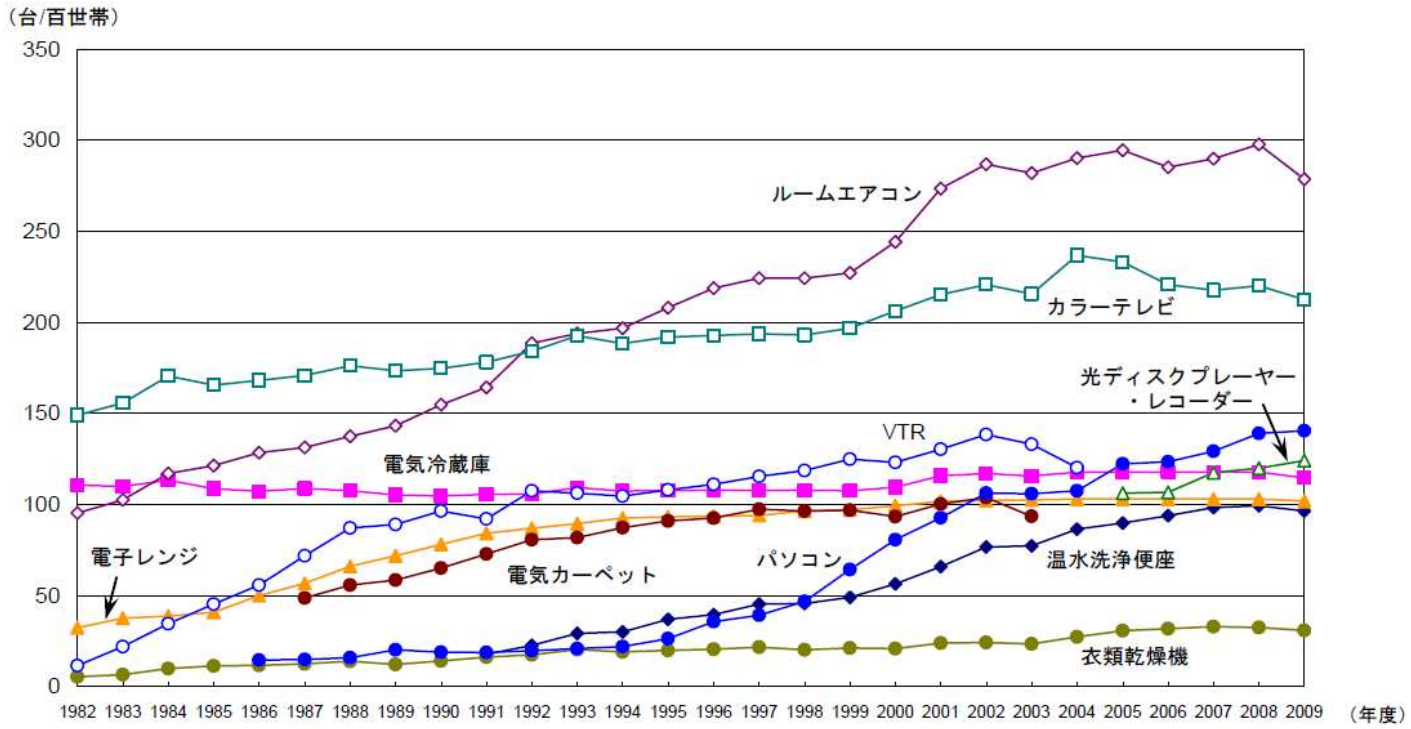
Data analysis: Residential sector



Source: Tokyo GHG Inventory Report 2009. TMG.

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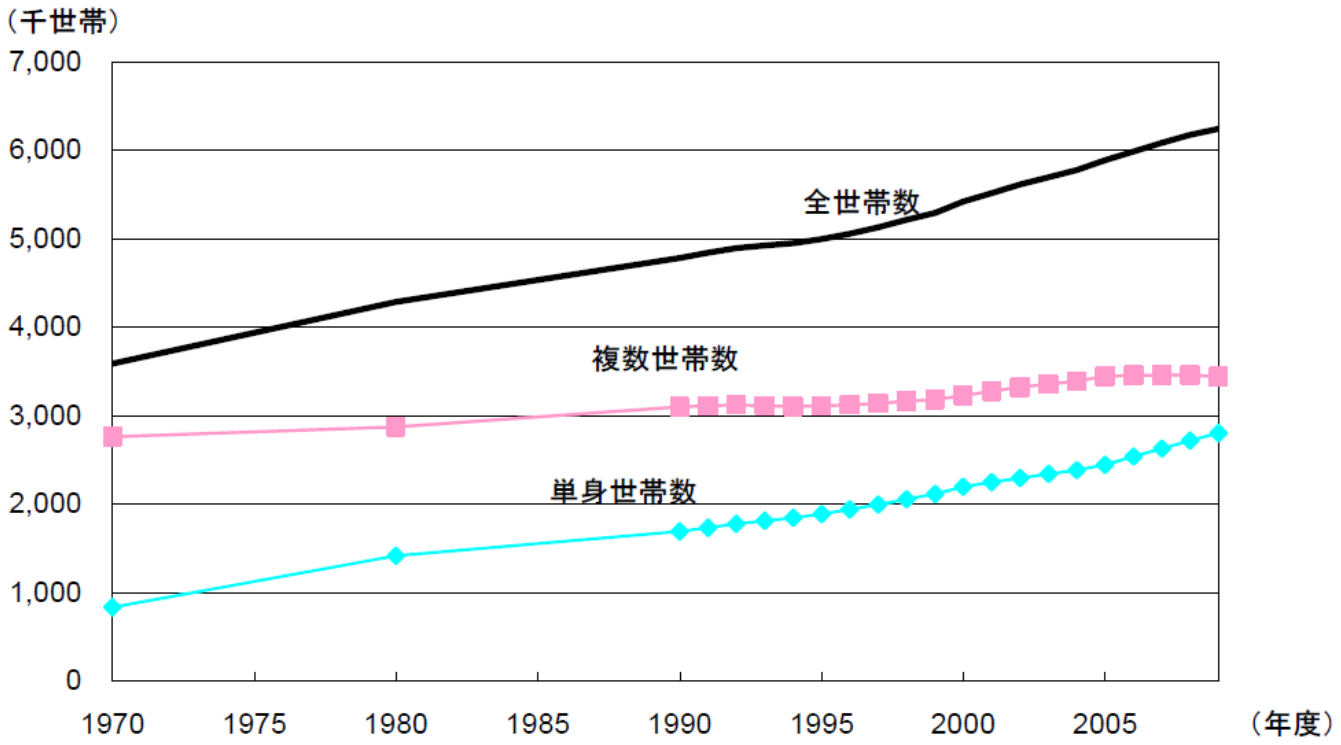
Data analysis: Residential sector



Source: Tokyo GHG Inventory Report 2009. TMG.

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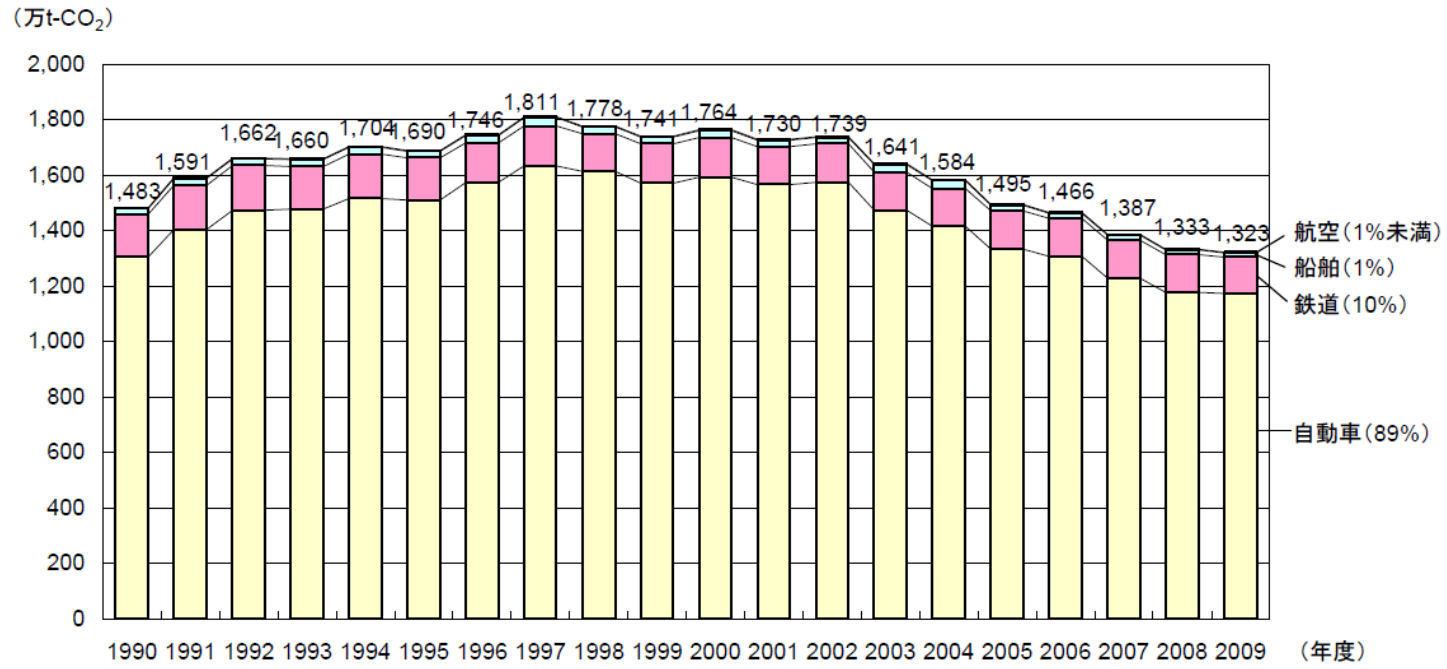
Data analysis: Transportation sector



Source: Tokyo GHG Inventory Report 2009. TMG.

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Data analysis: Transportation sector

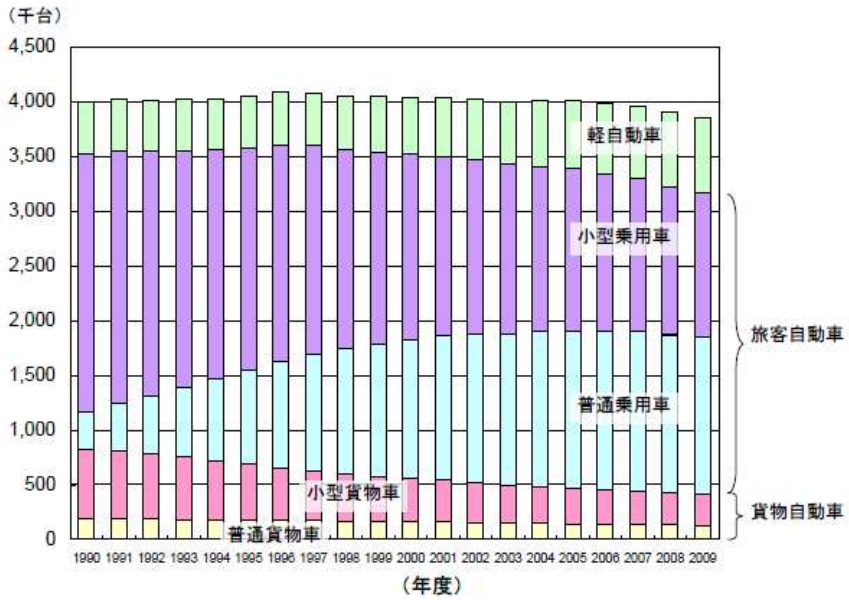

図 2-33　東京都の自動車保有台数の推移
（注）軽自動車は、軽乗用車と軽貨物車を含む。

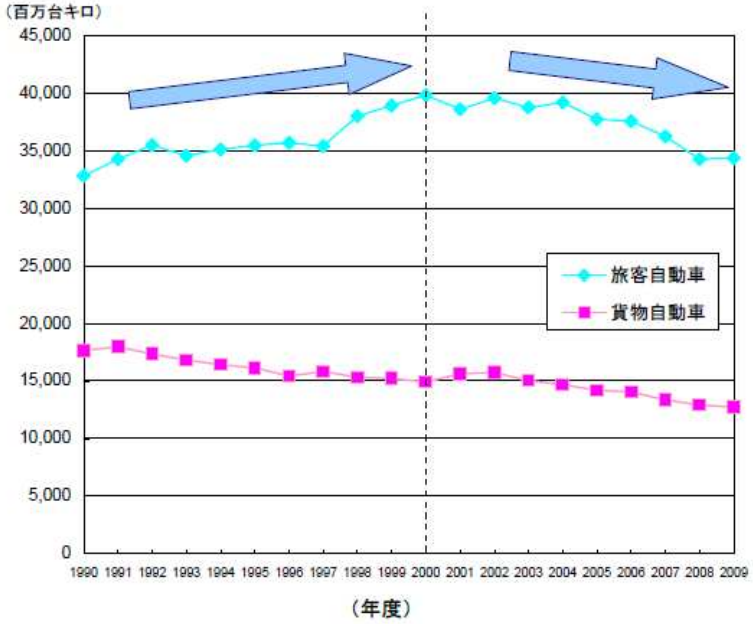

図 2-34　東京都の自動車走行キロの推移
（注）旅客自動車：軽乗用車、乗用車、バス
貨物自動車：軽貨物車、小型貨物車、貨客車、普通貨物車、特殊貨物車

Source: Tokyo GHG Inventory Report 2009. TMG.

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Conclusion

"You can't manage what you can't measure"

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Thank You!

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