

Greenhouse Gas Accounting Tool for Chinese Cities



- First comprehensive greenhouse gas accounting tool for Chinese cities
- Consistent with the Global Protocol for Community-scale Greenhouse Gas Emissions (GPC)

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China lacks a unified methodology for city-level greenhouse gas (GHG) measurement. The GHG Accounting **Tool for Chinese Cities (Pi**lot Version 1.0) provides a comprehensive set of methodologies to measure GHG emissions from cities and helps cities design effective action plans to mitigate their emissions.

It was jointely developed by:

- World Resources Institute (WRI)
- Institute of Urban and Environmental **Studies of the Chinese Academy of Social** Sciences (CASS)
- World Wide Fund for Nature (WWF)
- Institute for Sustainable Communities (ISC)

www.ghgprotocol.org

Emissions from industries

- Power generation and heating
- Manufacturing
- Construction

Emissions from transportation

- Public and private transport
- Road, rail, civil aviation, waterborne

Emissions from buildings

- Commercial Residential
- Institution

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Emissions from agriculture

- Crops
- Animals

Land use change and forestry

- Carbon sinks by forest
- Carbon emissions from land use changes



Indirect emissions from electricity consumption ("Scope 2" emissions)





Indirect emissions from waste treatment outside of city boundary ("Scope 3" emissions)



GHG emissions sources and sinks in cities

Full accounting of city GHG emissions

- Energy activity
- Industrial process
- Agriculture
- Land use change and forestry
- Waste

Additional focus on key emission sources

- Industry
- Buildings Transport
- Waste

Compatible with both international and domestic standards

- Developed in accordance with international standards on city GHG accounting
- Consistant with relevant domestic policies

Reduced workload for users through automated design

- Excel-based
- IPCC and China official emission factors embeded
- 27 tables and charts generated with the press of a single button

Main users

- Government
- Research organizations, universitites, consultant companies

Direct and Indirect **Emissions**

Direct emissions

Emissions occurring within a city's geographic boundary, includes "Scope 1" emissions.

Indirect emissions

Emissions occurring outside of a city's geographic boundary but induced by activities within a city's geographic boundary, includes "Scope 2" and "Scope 3" emissions.

'Scope" Framework

- "Scope 1"emissions Direct emissions occurring within city geographic boundaries.
- "Scope 2"emissions Indirect emissions from all the electricity and transferred heat (hot water and steam) consumed by activities within city geographic boundaries.
- "Scope 3" emissions All the other indirect emissions except for "Scope 2" emissions.

Boundaries

- Cities
- Districts
- Counties
- Conglomerates

Importance of city-level GHG accounting

- Basis for GHG target allocation and performance tracking
- Foundation for low-carbon city planning
- Basis for establishing national GHG database
- Shared learning between cities

Steps in GHG accounting

- Step 1: Define accounting boundary
- Step 2: Identify emissions sources and sinks
- Step 3: Determine calculation methods
- Step 4: Collect data
- Step 5: Calculate GHG emissions
- Step 6: Report GHG emissions

Trainings

- We organize trainings on low-carbon city planning and GHG accounting
- Target audience: government officials, researchers, practitioners

Download

We regularly update the Tool. Users can download the latest version free of charge at the following websites:

GHG Protocol: http://www.ghgprotocol.org/chinese-city-tool

WRI China: www.wri.org.cn/ **node/492**

Project Background

The GHG Accounting Tool for Chinese Cities (Pilot Version 1.0) was developed based on the Global Protocol for Community-Scale Greenhouse Gas Emissions (GPC) Pilot Version 1.0 jointly developed by WRI, C40 Cities Climate Leadership Group, ICLEI-Local Governments for Sustainability in collaboration with the World Bank, United Nations Environment Program (UNEP) and UN HABITAT.

The GPC Pilot Version 1.0 was released in May 2012. It is currently being pilot tested in 35 cities (see map below). Pilot cities will conduct GHG inventories according to GPC's requirements, and communicate and exchange experience through regular webinars and workshops. Feedback from these cities will help improve the GPC as well as inspire other cities to measure and manage their emissions.

Beside pilot testing, WRI and partners also established an advisory committee that consists of 20 international organizations to provide high-level guidance, advice and direction on the development and implementation of the GPC.

The final version of the GPC is scheduled be published in 2014.



GPC Partners







GPC Supporters

GPC Advisory Committee

• WRI	• OECD
• C40	• WBCSD
• ICLEI	• BSI
• World Bank	• R20
• UNEP	• CDP
• UN HABITAT	• UNFCCC

• IPCC

- ICLEI U.S.Clean Air Asia
- WWF
- IGES/ NIES

GPCwebsite

http://www.ghgprotocol.org/city-accounting

Tool development funders





About WRI

WRI focuses on the intersection of the environment and socio-economic development. We go beyond research to put ideas into action, working globally with governments, business, and civil society to build transformative solutions that protect the earth and improve people's lives.

- · Solutions to Urgent Sustainability Challenges
- Practical Strategies for Change
- · Global Action

Contact

FONG Wee Kean

Global Lead GHG Protocol City Project Email: wkfong@wri.org Tel: 86 10 59002566 ext. 27

JIANG Xiaoqian

Research Analyst GHG Protocol City Project Email: xqjiang@wri.org Tel: 86 10 59002566 ext.11