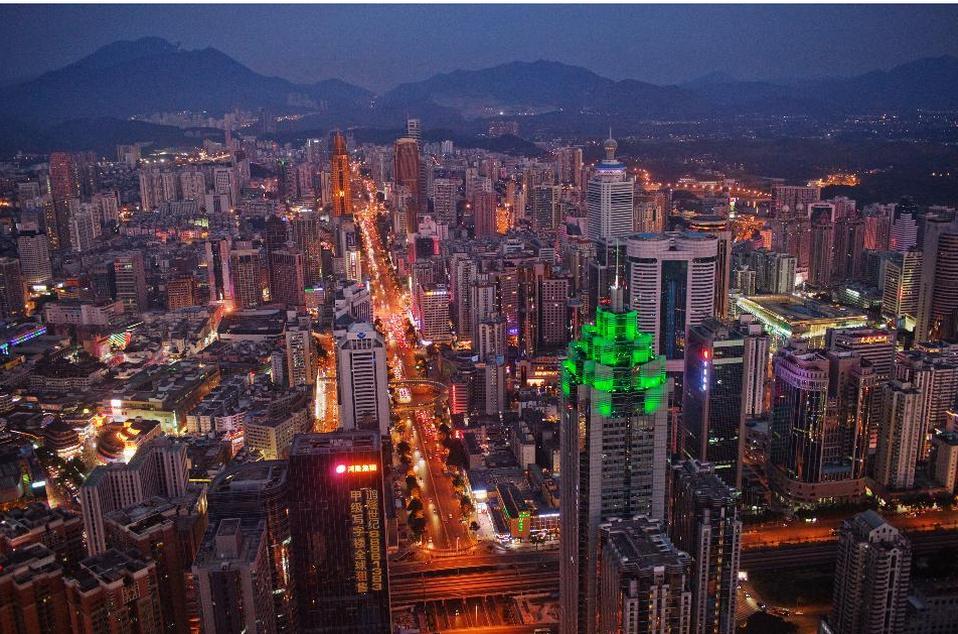


LOCALIZING GLOBAL AGENDAS

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Low Carbon City Initiatives in the People's Republic of China (PRC)



**ADB HQ, MANILA, PHILIPPINES
27-29 SEPTEMBER 2016**

Global Low Carbon Context

- **1992:** United Nations Framework Convention on Climate Change (UNFCCC) negotiated at the Earth Summit in Rio
- **1997:** Kyoto Protocol committed State Parties to reduce greenhouse gas emissions, based on the premise that (a) global warming exists and (b) human-made CO₂ emissions have caused it.
- **2015:** Paris Agreement - country-led greenhouse gas (GHG) emissions reduction commitments known as their intended Nationally Determined Contributions (NDCs)
- **SDGs:**
 - Goal 11: Make cities and human settlements inclusive, safe, resilient and sustainable
 - Goal 13: Take urgent action to combat climate change and its impacts



PARIS2015
UN CLIMATE CHANGE CONFERENCE
COP21·CMP11

Global Emission Context

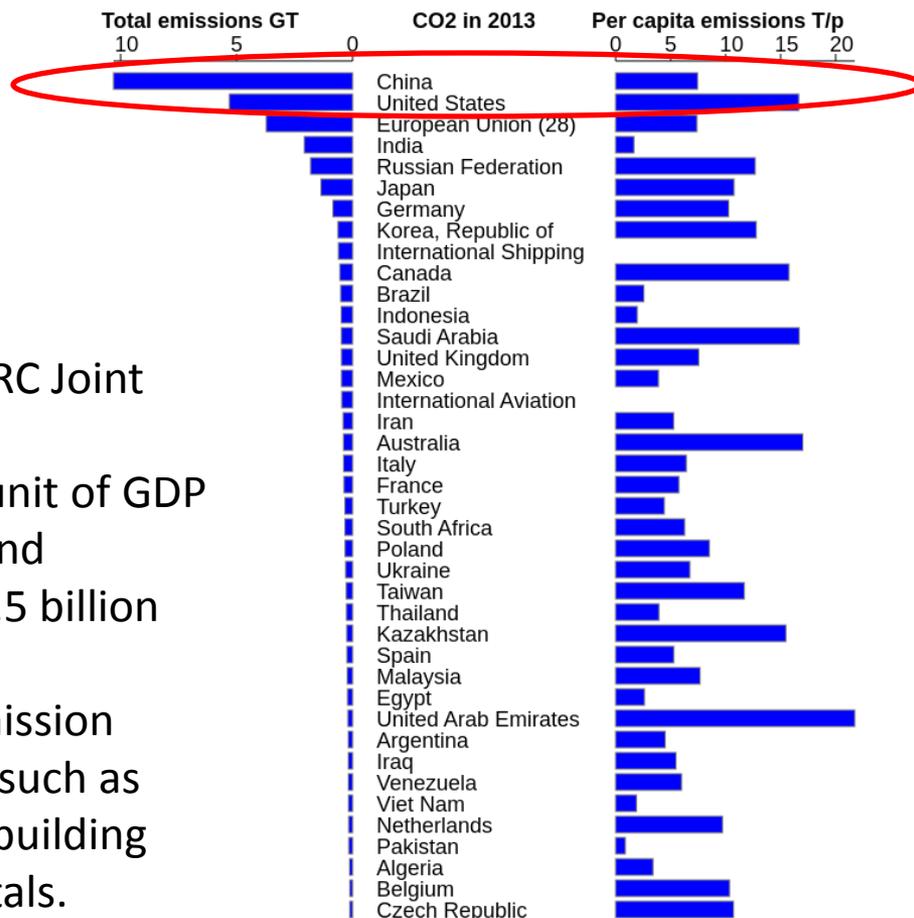
The White House
Office of the Press Secretary

For Immediate Release

September 25, 2015

U.S.-China Joint Presidential Statement on Climate Change

- November 2014 and September 2015: U.S.-PRC Joint Announcement on Climate Change
- PRC will lower carbon dioxide emissions per unit of GDP by 60% to 65% from the 2005 level by 2030 and increase the forest stock volume by around 4.5 billion cubic meters on the 2005 level by 2030.
- PRC also plans to start in 2017 its national emission trading system, covering key industry sectors such as iron and steel, power generation, chemicals, building materials, paper-making, and nonferrous metals.



Source: <https://www.whitehouse.gov/the-press-office/2015/09/25/us-china-joint-presidential-statement-climate-change>

Source: Chris55 - Own work, CC BY-SA 4.0, <https://commons.wikimedia.org/w/index.php?curid=42202193>

PRC Low Carbon Targets

- **2009:** Chinese government committed to reducing its carbon dioxide emissions (carbon dioxide / unit of gross domestic product GDP) by 2020, resulting in an efficiency increase of 40% to 45% of August 2010.
- Pilot provinces, municipalities, and cities selected in **2010 and 2012** [State Council and National Development and Reform Commission (NDRC)]

Task for Pilot Cities

- **preparing low-carbon development plans** that integrate climate change concerns into the regional Twelfth Five-Year Plan
- formulating **supporting policies** to strengthen the development of green, low-carbon development
- accelerating establishment of an **industrial system that produces fewer carbon emissions**
- establishing a system for collecting and managing GHG emission data
- **promoting low-carbon lifestyles** and consumption (National Development and Reform Commission 2010)

2010 LCD pilot cities



5 provinces: Guangdong, Liaoning, Hubei, Shanxi, Yunnan

2 municipalities: Tianjin, Chongqing

6 cities: Shenzhen, Xiamen, Hangzhou, Nanchang, Guiyang, Baoding

2010 Cities' Carbon Objectives and Plans (1)

| City | Target | Planning Strategies and Overview | Drafting Institution |
|-----------|--|--|--|
| Tianjin | 2015/2010: Carbon Intensity 15% ↓ Energy Intensity 15% ↓ | Construction of a new cycle of low-carbon industrial system, safe and healthy ecological system, natural and beautiful city landscape system, convenient and efficient green transport system, recycling and efficient use of resources and energy systems, and livable eco-friendly community model | Tianjin Development and Reform Commission |
| Baoding | 2010/2005: Carbon Intensity 25% ↓ 2020/2010: Carbon Intensity 35% ↓ | "China Power Valley" and "Solar City" program as the basis, planning the formation of wind power, photovoltaic, electricity, electricity storage, power transmission and power automation system of six major industries, and from the urban ecological environment, low-carbon community building aspect, low-carbon urban transport system construction to start | Baoding Municipality Government |
| Hangzhou | 2020/2005: Carbon Intensity 50% ↓ | Made 50 "low carbon Deal" to create a low-carbon economy, low carbon buildings, low carbon transport, low-carbon life, low-carbon environment, low-carbon communities "Six in One" low-carbon city | Hangzhou Municipality Government |
| Chongqing | 2020/2005: Carbon Intensity 40% ↓ | Reduce the proportion of energy-intensive industries, the formation of the modern service industry and advanced manufacturing-based industrial structure, and gradually form a low-carbon industry group | Chongqing Development and Reform Commission |

2010 Cities' Carbon Objectives and Plans (2)

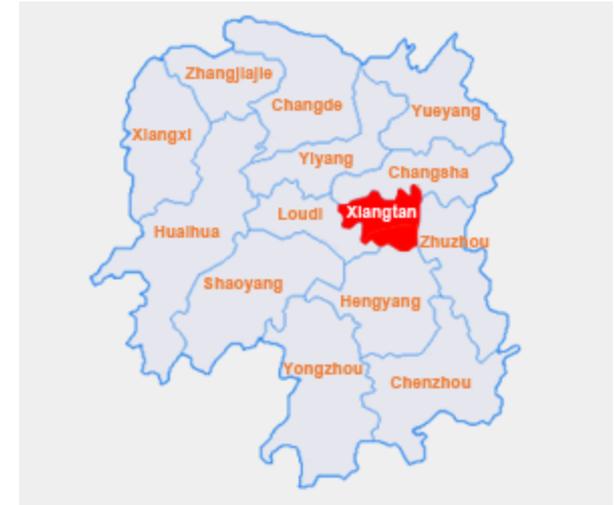
| City | Target | Planning Strategies and Overview | Drafting Institution |
|----------|--|--|---|
| Nanchang | 2020/2005: Carbon Intensity 40% ↓ | Construction of low-carbon eco-industrial system, the development of semiconductor lighting, photovoltaic, outsourcing three major industries, trying to Nanchang to build a world-class photovoltaic industry base | Nanchang Municipality Government |
| Guiyang | 2020/2005: Carbon Intensity 45-48% ↓ | Construction of urban low-carbon transport systems, green building system, the use of financial subsidies to promote energy-saving lamps use residential buildings, to guide the public to accept a low-carbon lifestyles and consumption patterns | Guiyang Municipality Government |
| Xiamen | 2020/2005: Carbon Intensity 15% ↓ Carbon Emission 68.64 Mt | Explore low-carbon development model from transportation, construction, production of three areas, focusing on the development of LED lighting, solar architecture | Xiamen Construction & Administration Bureau |
| Shenzhen | 2015/2005: Carbon Intensity 39% ↓ 2020/2005: Carbon Intensity 45% ↓ | Guangming New District began construction of low-carbon, from the optimization of urban spatial structure, improve green municipal planning, and guide the development of industry to spread the goods, the establishment of green transport system, the development of green building and other aspects | Shenzhen Development and Reform Commission |

Evaluation Indicators

| Level indicators | # | Secondary indicators | Weighting/% |
|--------------------|----|--|-------------|
| Carbon output | 1 | Carbon emissions per unit of GDP | 30 |
| Carbon consumption | 2 | Per capita carbon emissions | 10 |
| | 3 | Per capita (living expense) carbon emissions | 10 |
| Carbon resources | 4 | Non-fossil fuels in primary energy consumption ratio | 10 |
| | 5 | Forest coverage | 10 |
| Low-carbon policy | 6 | Low Carbon Economic Development Strategy and Planning related | 6 |
| | 7 | Carbon emission monitoring, statistical and management systems related | 6 |
| | 8 | Building/Construction related | 6 |
| | 9 | Traffic related | 6 |
| | 10 | New energy industry related | 6 |

PRC Case Study: Xiangtan

- Xiangtan, Hunan Province
 - Prefecture-level city with pop ~3 million
 - Potential candidate for next round of LCD pilot cities
- 2 ongoing ADB TAs to support:
 - Establishment of GHG inventories, monitoring platforms, low carbon development plans
 - Mitigation, adaptation, and climate financing options (RDTA)

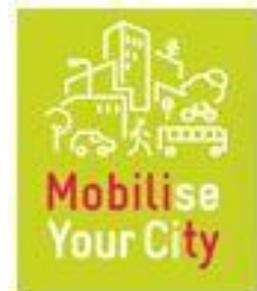
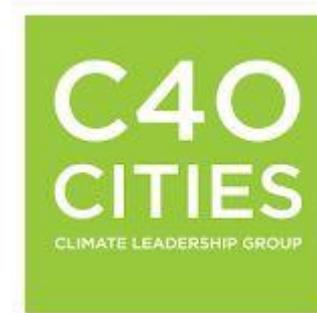


Challenges to LC Cities

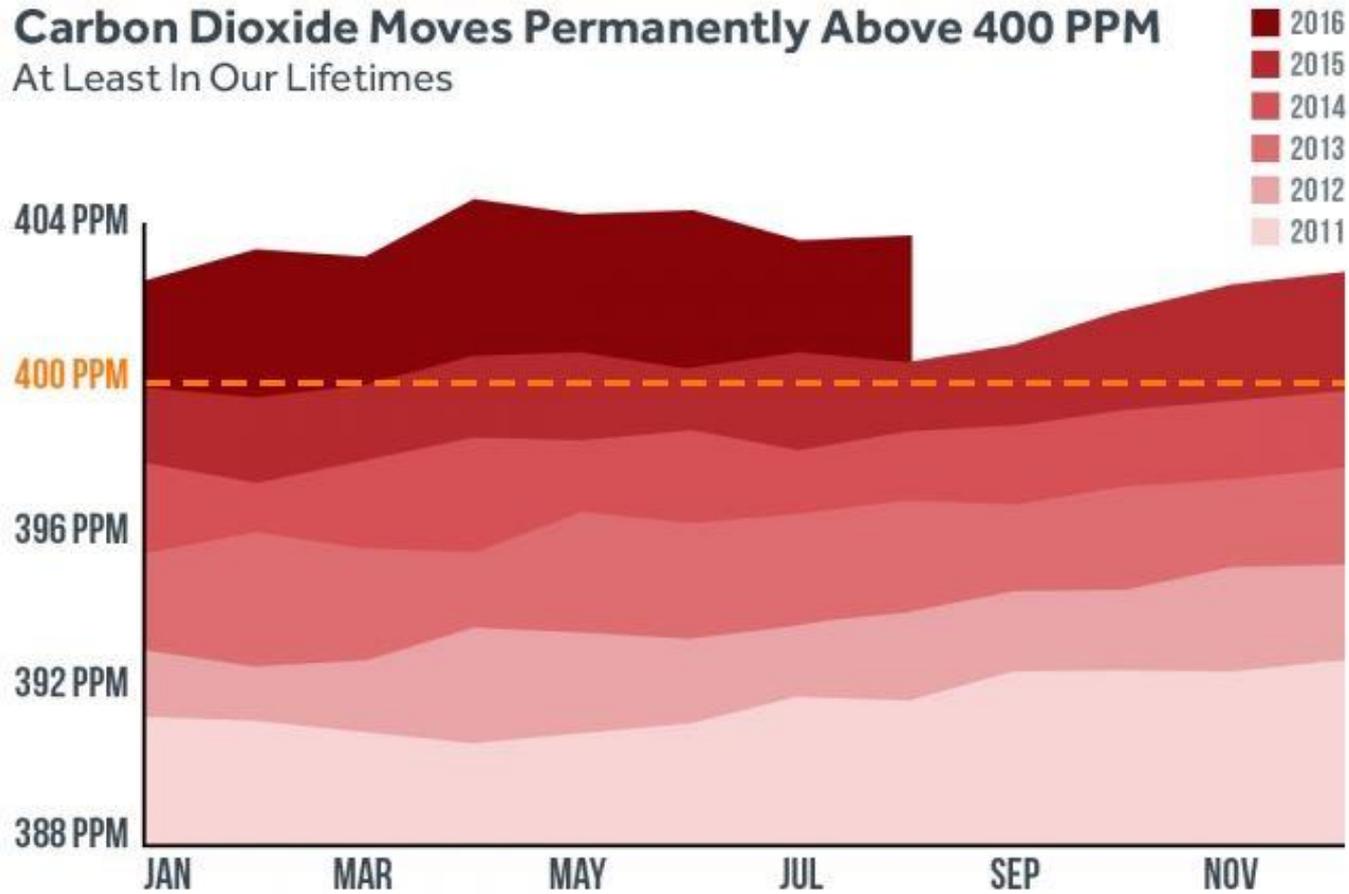
- Many climate agreements made a national level; unclear how requirements and funds will reach cities
- Lack of local leadership, empowerment, capacity/understanding
- Capacity to identify and budget for climate investments and climate-smart policies
- Lack of reliable data
- Few municipal level financing opportunities

How to help cities

- Municipal-level global knowledge networks
 - Understand CC scenarios
 - Tools to measure and report CO2 emissions
 - Support legislative/ policy framework and funding programs/ schemes
 - Share ideas
- Possibilities for cities to access CC funds



Carbon Dioxide Moves Permanently Above 400 PPM At Least In Our Lifetimes



Source: Scripps Institute of Oceanography, Mauna Loa Observatory

CLIMATE CENTRAL

Thank you for your attention!

Contact: kkatich@adb.org