POCACITO Webinar with China

Low-Carbon Pilot Cities in China: Taking Guangyuan as an Example

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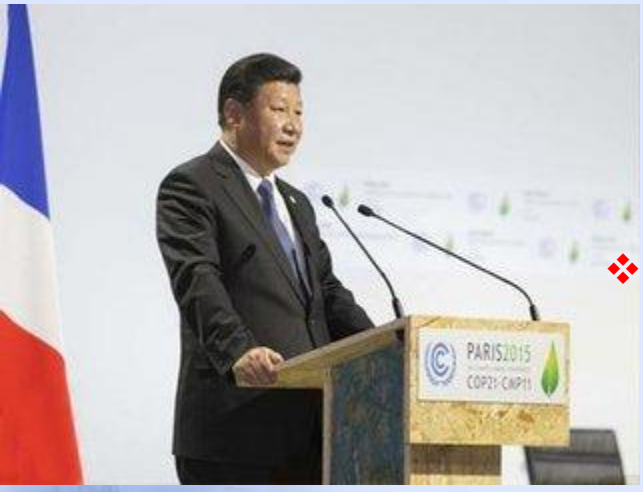
Content

- Brief Introduction to China's Climate Change Policy
- Urbanisation Process and Potential Impacts on Carbon Emissions
- Low-Carbon City Pilot and Demonstration Programme
- Case Study in Guangyuan

China' s Intended Nationally Determined Contributions (INDC)



- To achieve the peaking of CO_2 emissions around 2030 and making best efforts to peak early;
- To lower CO_2 emissions per unit of GDP by 60% to 65% from the 2005 level;
- To increase the share of non-fossil fuels in primary energy consumption to around 20%;
- To increase the forest stock volume by around 4.5 billion cubic meters on the 2005 level.

PARIS2015
UN CLIMATE CHANGE CONFERENCE
COP21·CMP11

Achievement made by 2014

- CO_2 emissions per unit of GDP is 33.8% lower than the 2005 level;
- The share of non-fossil fuels in primary energy consumption is 11.2%;
  - The installed capacity of hydro power is 300 gigawatts (2.57 times of that for 2005);
  - The installed capacity of on-grid wind power is 95.81 gigawatts (90 times of that for 2005);
  - The installed capacity of solar power is 28.05 gigawatts (400 times of that for 2005); and
  - The installed capacity of nuclear power is 19.88 gigawatts (2.9 times of that for 2005).
- The forested area and forest stock volume are increased respectively by 21.6 million hectares and 2.188 billion cubic meters compared to the 2005 levels;

Policies and Measures to Implement INDCs

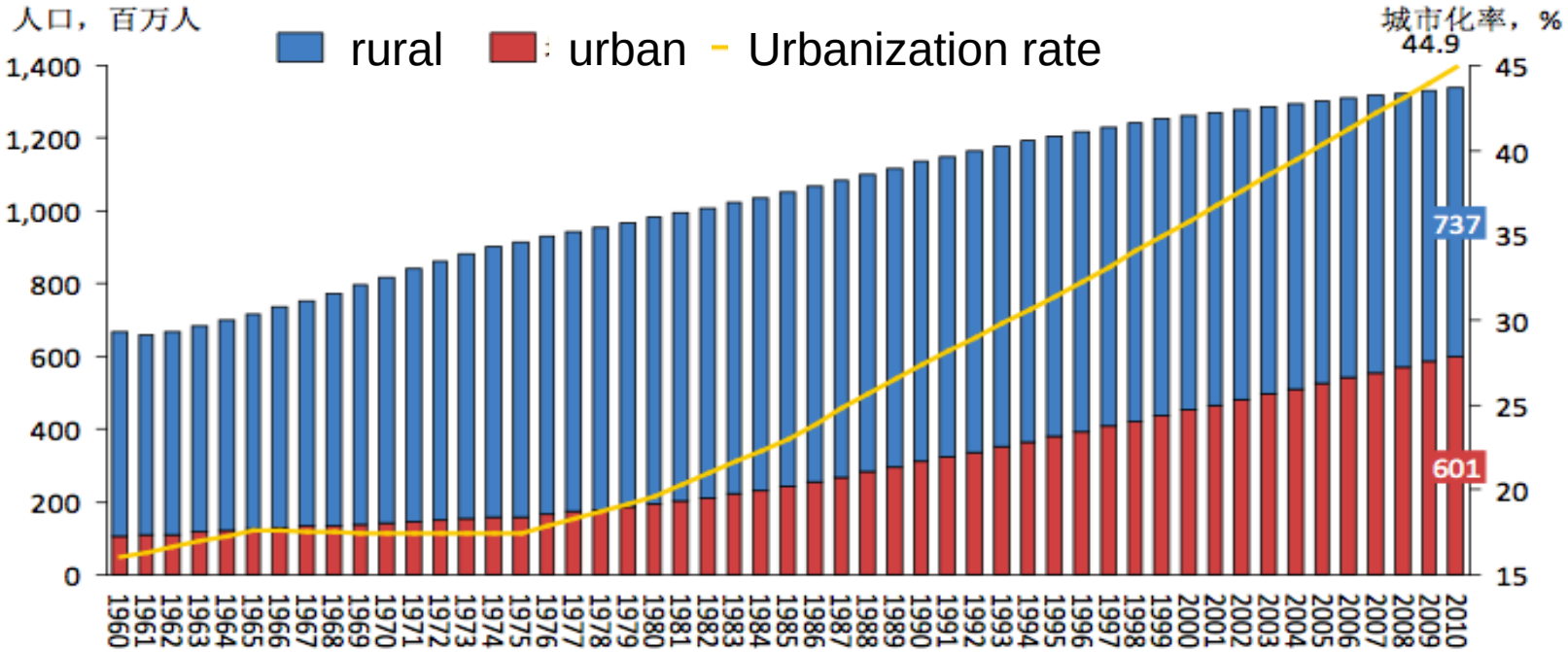
- Implementing Proactive National Strategies on Climate Change
- Improving Regional Strategies on Climate Change
- Building a Low-Carbon Energy System
- Building an Energy Efficient and Low-Carbon Industrial System
- Controlling Emissions from Building and Transportation Sectors
- Increasing Carbon Sinks
- Promoting the Low-Carbon Way of Life
- Enhancing Overall Climate Resilience
- **Innovating Low-Carbon Development Growth Pattern**
- Enhancing Support in terms of Science and Technology
- Increasing Financial and Policy Support
- Promoting Carbon Emissions Trading Market
- Improving Statistical and Accounting System for GHG Emissions
- Broad Participation of Stakeholders
- Promoting International Cooperation on Climate Change

Innovating Low-Carbon Development Growth Pattern

- To advance low-carbon pilots in provinces and cities;
- To conduct low-carbon cities (towns) pilots as well as low-carbon industrial parks, low-carbon communities, low-carbon business and low-carbon transport pilots;
- To explore diversified patterns of low-carbon growth;
- To research on effective approaches to control carbon emissions in different regions and cities;
- ……

Urbanization Process in China

Urbanization rate was about 54% in 2014 and is estimated to go up to 70% in 2030.



WB,2012

Potential Impacts of Urbanization on Carbon Emissions

IEA estimated that Urban area consumes 67% of total energy and is responsible for over 70% of emissions

- Large number of migrants
- Public service: large scale infrastructure construction demands for heavy industry
- Housing: about 60bm^2 stock of existing buildings and 1.8bm^2 of new residential buildings built annually
- Employment pressure
- Lifestyle changed: more electronic appliances
- Energy mix: biomass to commercial energy
- Environmental impacts including carbon emissions
- ……

International Comparison of Urbanization and Carbon Emissions

Emissions intensity

Emissions per capita

Total Emissions

碳排放强度

人均碳排放量

碳排放总量

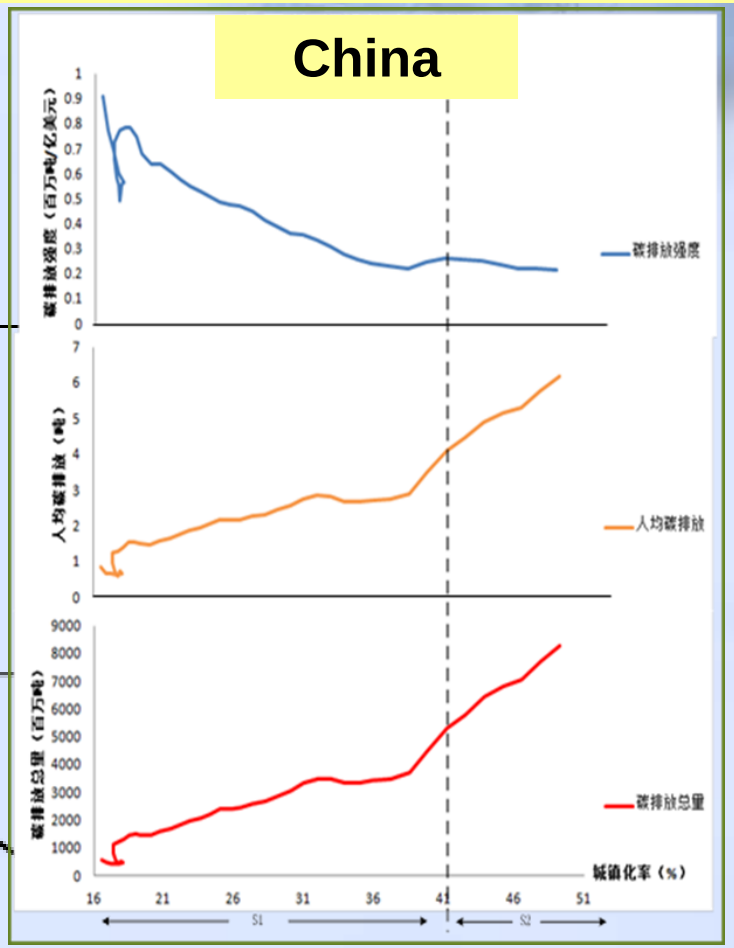
50%-90%

55%-95%

similar with peak of emissions per capita except some countries

S1 S2 S3 S4

Urbanization rate



Can China Find Low Carbon Development Pathways in Provinces and Cities?

Low-Carbon City Pilot Programme:

- **The First batch: 5 provinces + 8 cities (July 2010)**
- **The Second batch: 1 + 28 including Beijing, Shanghai, Guangyuan and etc. (Dec. 2012)**

Recent Progress in Low-carbon Pilots and Demonstration

Of 42 pilot provinces and cities,

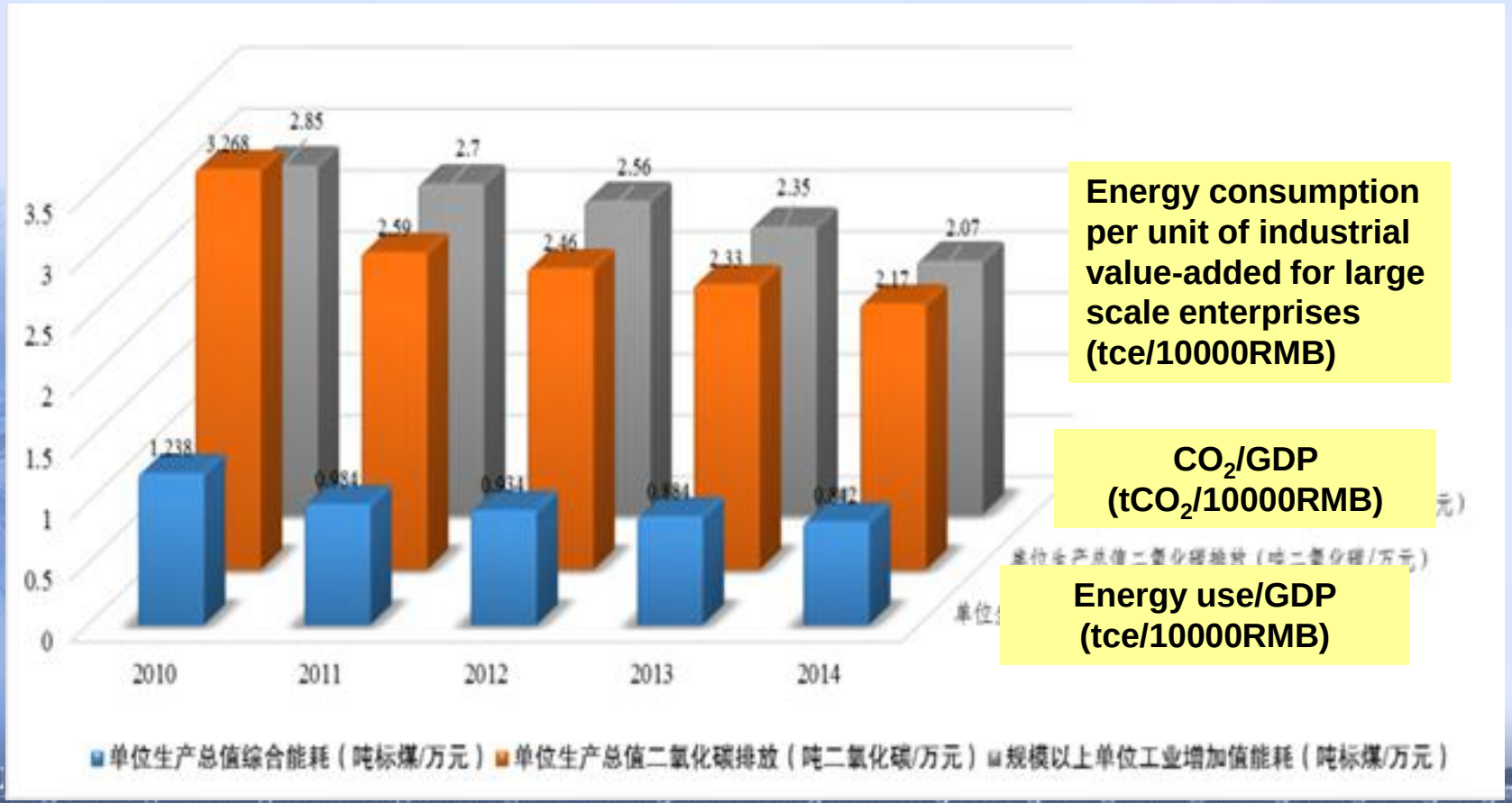
- **13 established low-carbon development funds**
- **36 developed carbon reduction target decomposition and assessment mechanisms**
- **All have clearly put forward peak targets or are studying the issue, and the peak year proposed is 2025 or before.**
- **U.S.-China Climate Leaders Declaration On the Occasion of the First Session of the U.S.-China Climate-Smart/Low-Carbon Cities Summit (Los Angeles, Sept. 15-16th 2015)**

Basic information of Guangyuan City

- GY located in northern Sichuan Province, south-western of China, consisting of 3 districts and 4 counties with a long history. 16.3 thousand km^2 and 3.14 million population
- GY is the only low-carbon city pilot in Sichuan Province, also known as an excellent tourist city, national forestry city, national sanitary city.
- GY developed rapidly after “5.12” earthquake in 2008.

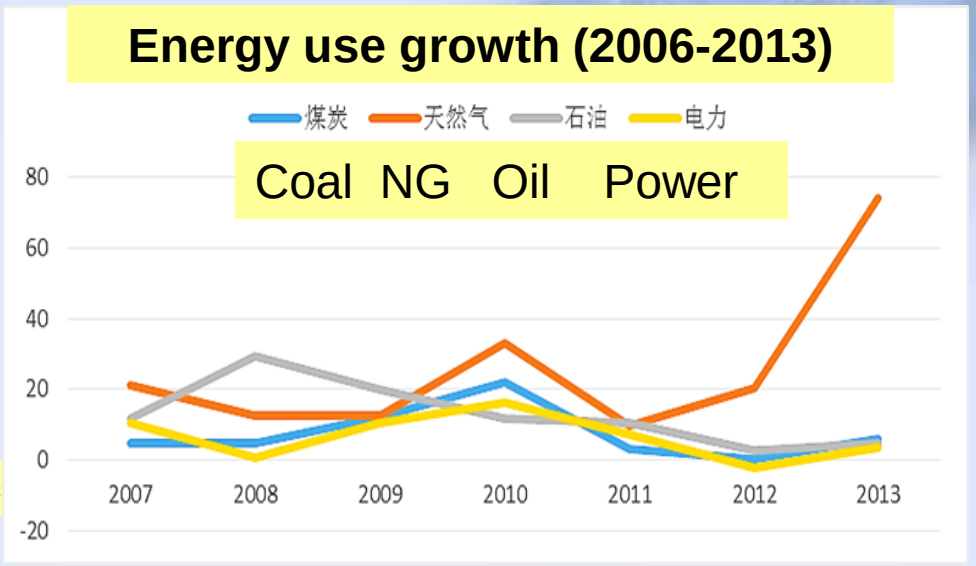
Reach 30% target of 12th Five Year Plan ahead of time

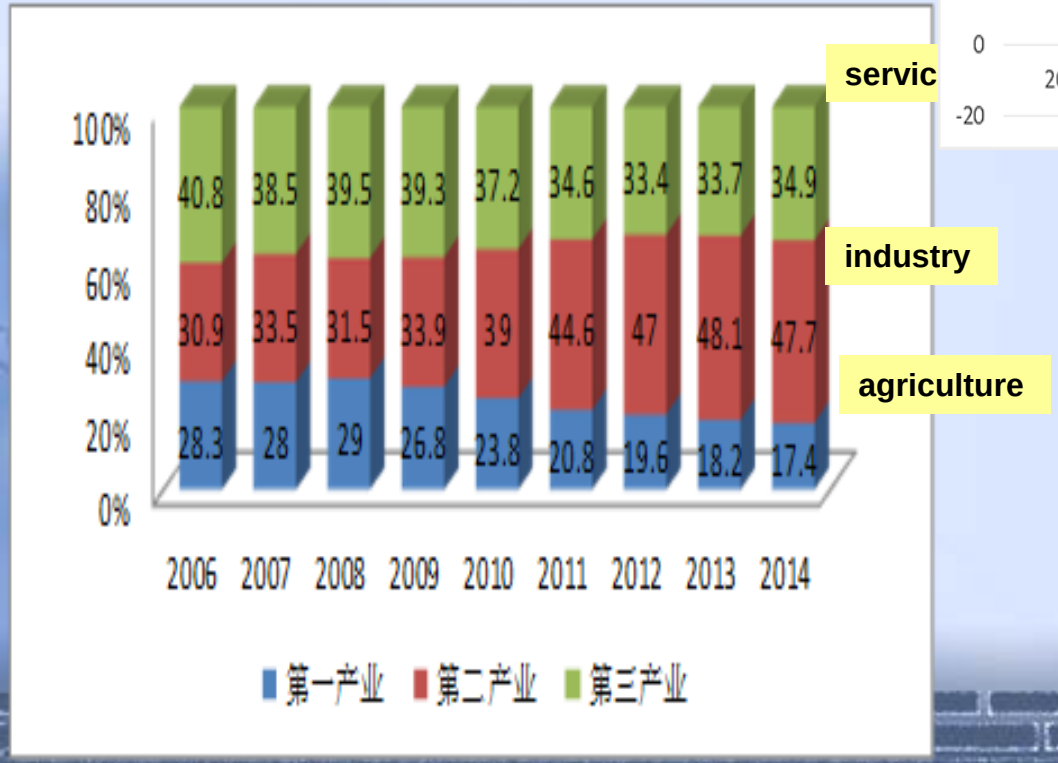
- CO_2 /GDP reduced by 33.4% below 2010 level in 2014. CO_2 per capita is less than 1.5 tons.



Structural Adjustment

- Characteristic agriculture
- Strategic emerging industry
- Service (tourism, leisure activities, etc.)





Non-fossil fuel is 23.36% of energy mix

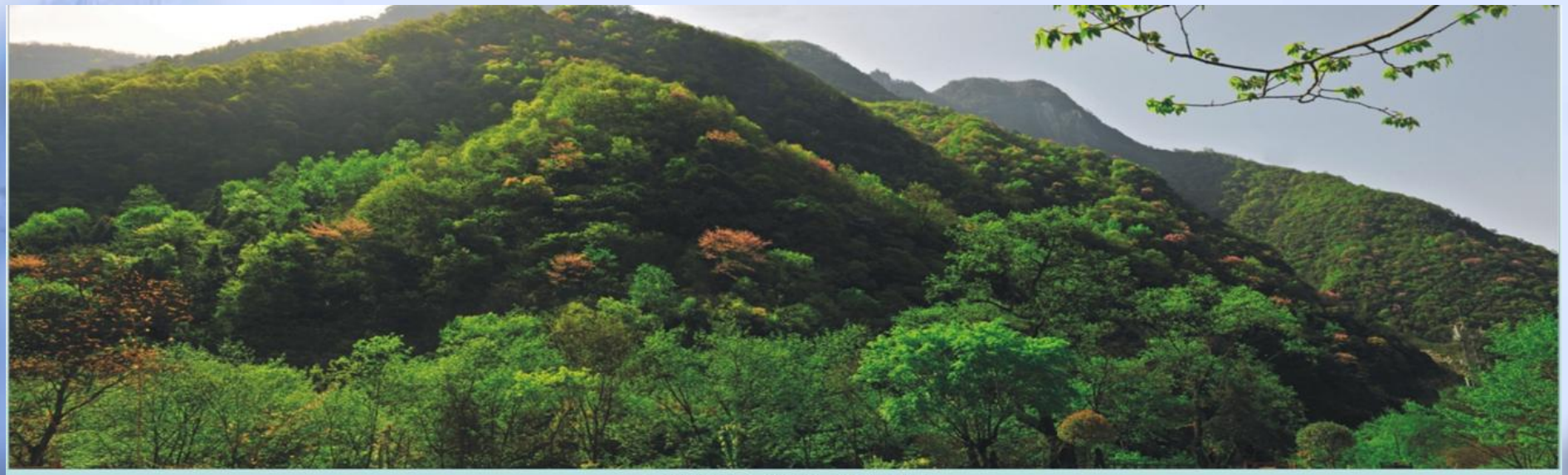
- Natural gas 180million m^3/y
- methane from biomass (75% users in rural area)
- Hydro power 2.15 Gigawatts
- Other renewable energy 0.19Gigawatts

Transportation and Buildings

- Public buildings retrofitted and managed to reduce energy use per m^2 by 3.2%, energy use per capita by 4%
- Green buildings pilot 2 projects
- Low-carbon pilot communities 12 (city level) and 24 (county level)
- Public transportation system including 150km special “green lane” for riding bicycle and hiking, 1000 bicycles for free, 6300 natural gas bus, etc.

Carbon Sinks

- Forestry coverage was about 54.6% in 2014, 2.3 percentage higher than in 2010. It is estimated that forestry can absorb 24.1 million tonnes in 2010, which is about 4.5 times of carbon emissions from fossil fuel.



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Institutional Construction and Capacity Building

- Low-carbon Bureau as leading group
- Inventory of GHGs emission (2010 base year)
- Guidelines for low-carbon industrial park and community
- Carbon reduction target decomposition and low carbon assessment indicators for districts and counties
- Cooperation with institutes, universities and NGOs
- Training and education to raise the public awareness for low carbon lifestyle, for example, Low-Carbon Day initiated 5 years ago, 3 years before the central government; low-carbon information website; annual report on low-carbon city pilot, etc.

Thank you!