

PECC2014

Beijing, 10-11 Sept. 2014

Urbanization and Sustainable Development of Cities in China

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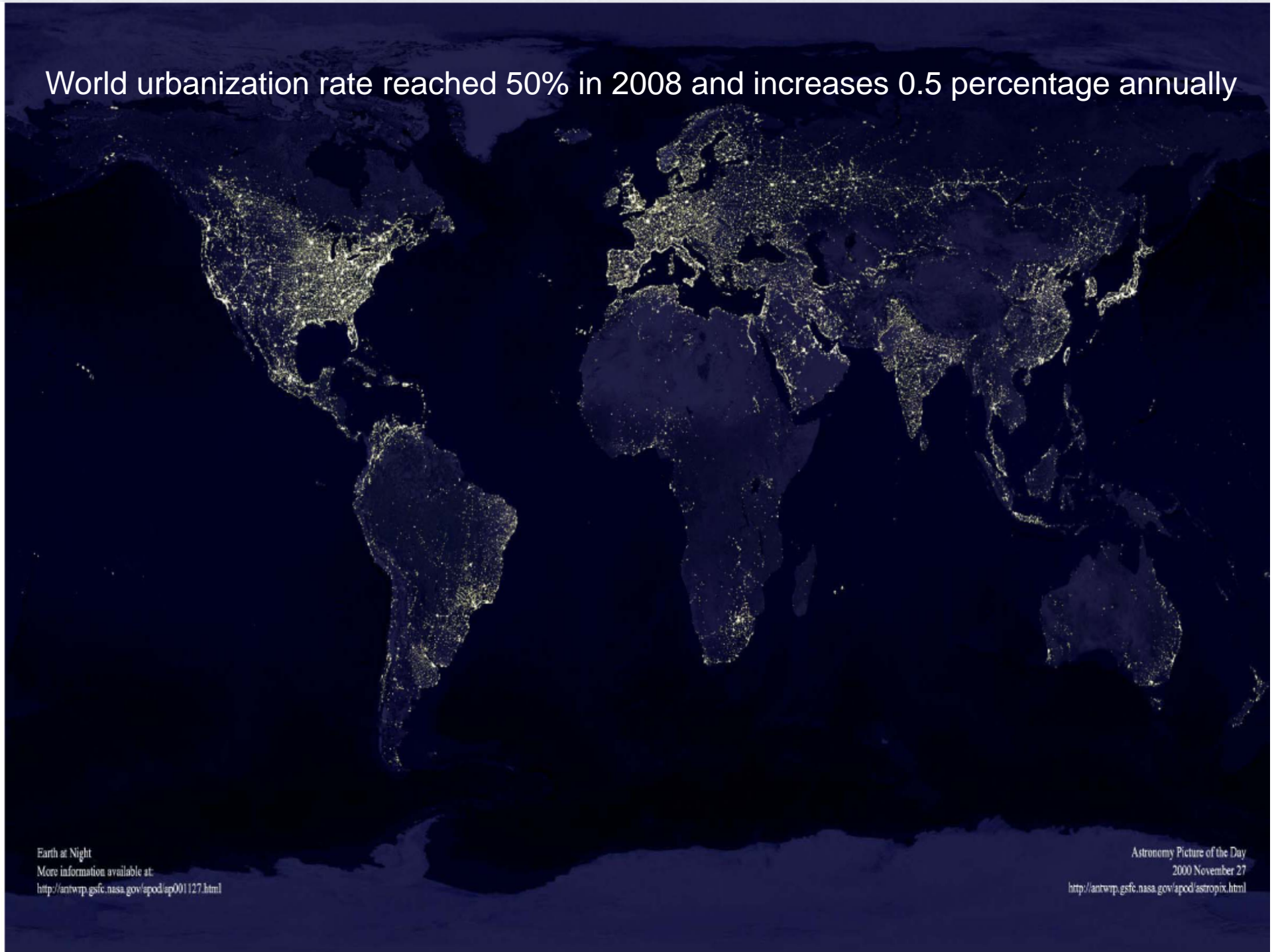
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Urban and Environmental Studies (IUE)

Chinese Academy of Social Sciences (CASS)



World urbanization rate reached 50% in 2008 and increases 0.5 percentage annually

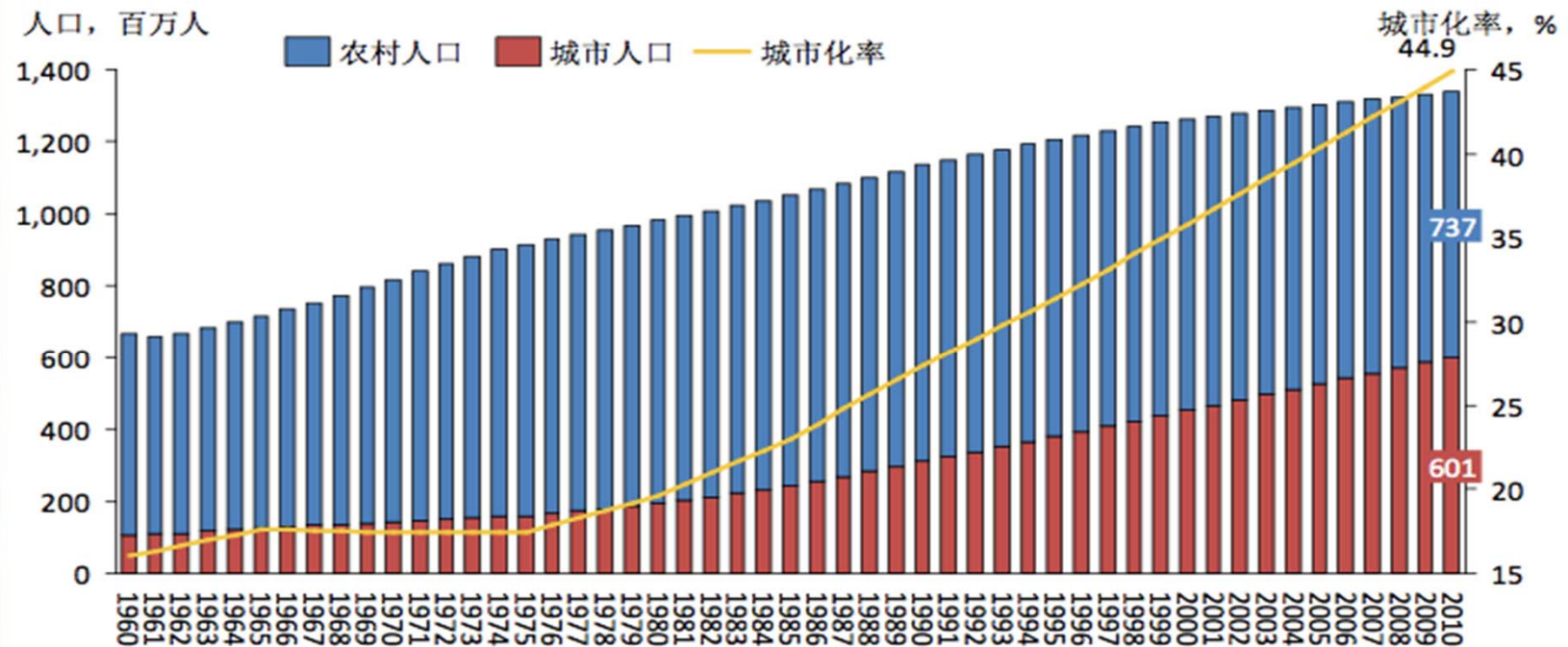


Earth at Night
More information available at:
<http://antwip.gsfc.nasa.gov/apod/ap001127.html>

Astronomy Picture of the Day
2000 November 27
<http://antwip.gsfc.nasa.gov/apod/astropix.html>

Urbanization Process

Urbanization rate was about 53.73% in 2013 and will go up to 70% in 2030.



WB,2012

数据来源：世界银行数据库2012

Number and Size of Cities in China

	1978	2010
Cities	193	658
Population more than 10 million	0	6
5 -10 million	2	10
3-5 million	2	21
1-3 million	25	103
0.5-1 million	35	138
less than 0.5 million	129	380
Designated towns	2173	19410

Sources: Based on China's 6th demographic census.

Urbanization and SD

- ❖ An economic engine
- ❖ Social impacts
- ❖ **Environmental impacts**
- ❖ Governance of SD in the process of urbanization



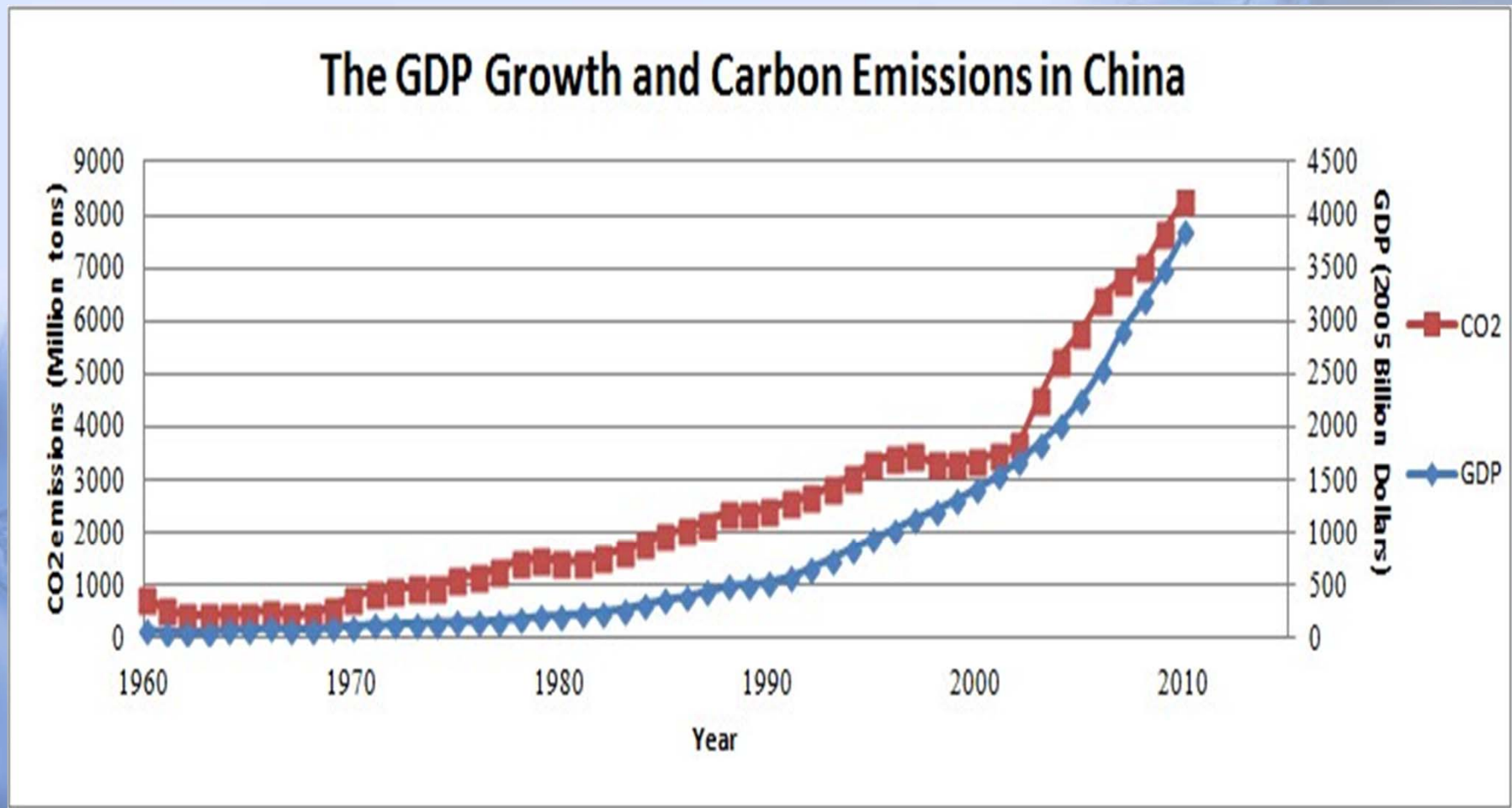
Potential Impacts on Carbon Emissions

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

- ❖ Public service: large scale infrastructure construction
- ❖ Housing : 1.8-2.0b m² new residential buildings built annually
- ❖ Employment pressure
- ❖ Lifestyle change: more electronic appliance
- ❖ Energy mix: biomass to commercial energy
- ❖ Environmental impacts including carbon emissions
- ❖



Estimation of Energy-related CO₂ Emission (1990-2010)

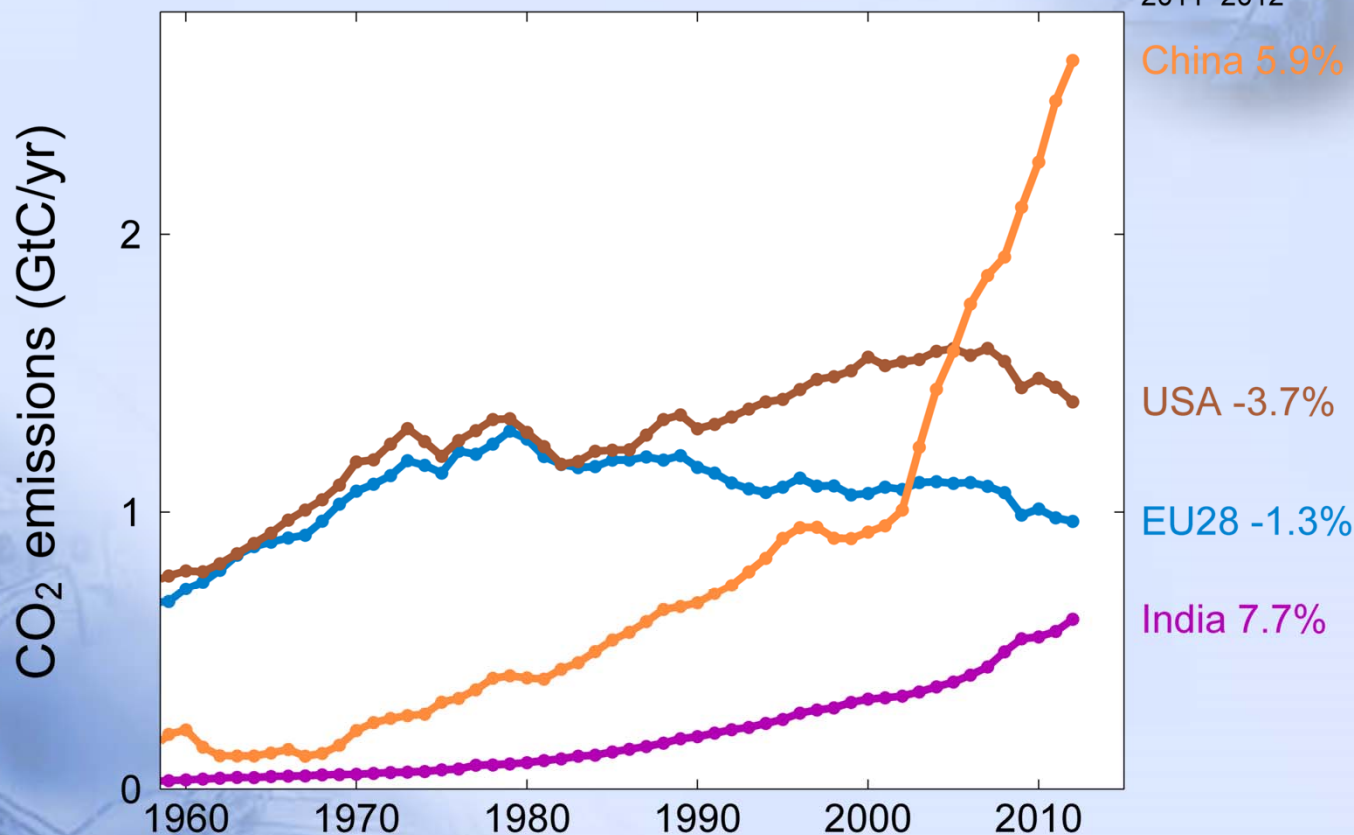


Top Fossil Fuel Emitters (Absolute)

Top four emitters in 2012 covered 58% of global emissions

China (27%), United States (14%), EU28 (10%), India (6%)

Growth rates
2011–2012



With leap year adjustment in 2012 growth rates are: China 5.6%, USA -4.0%, EU -1.6%, India 7.4%.

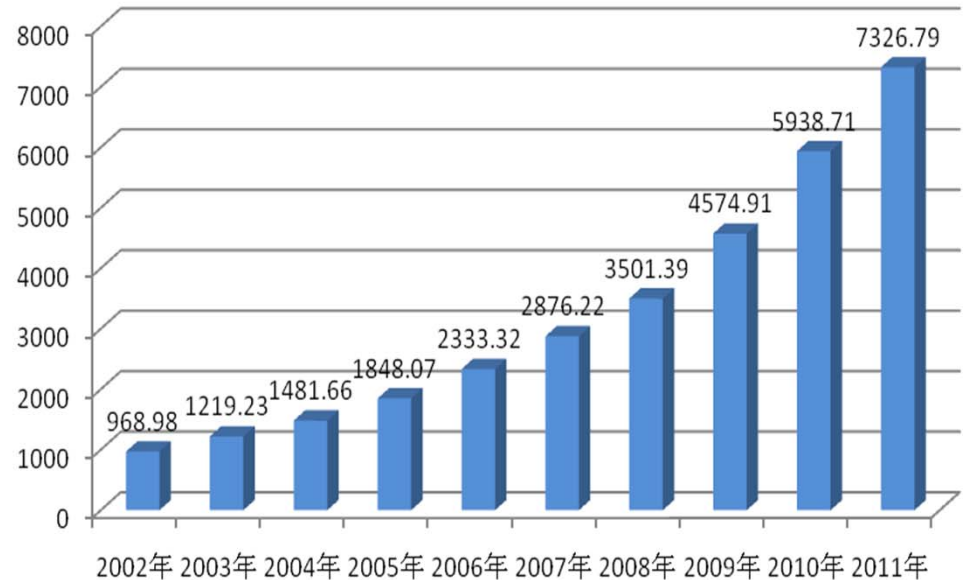
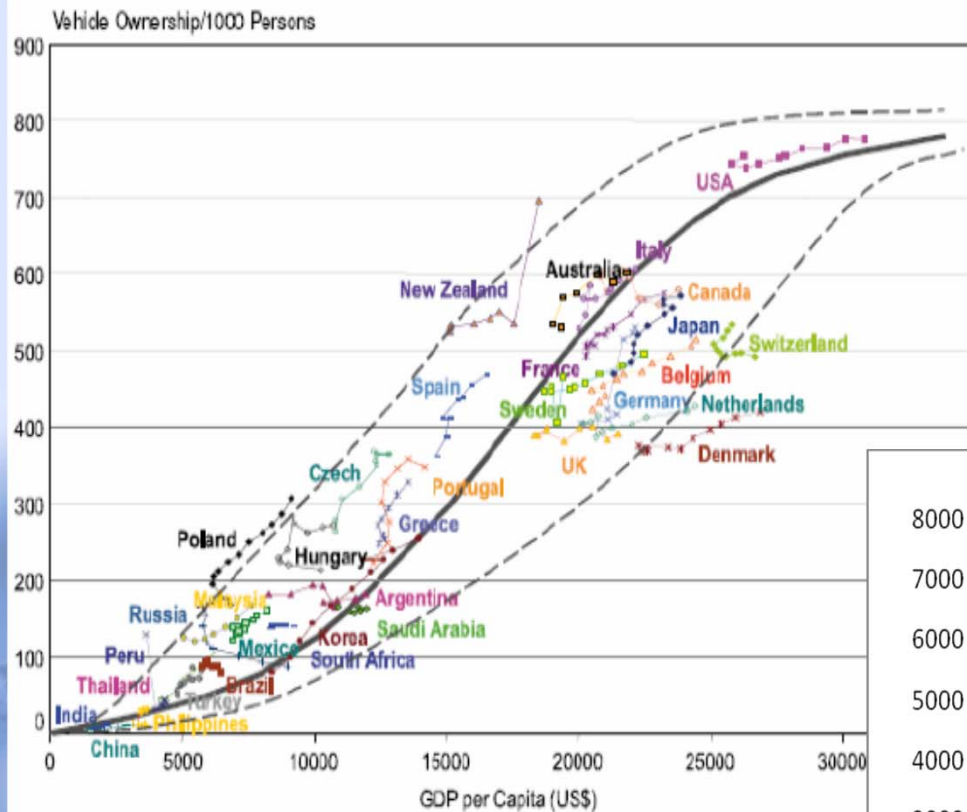
Source: [CDIAC Data](#); [Le Quéré et al 2013](#); [Global Carbon Project 2013](#)

Huge development demand and great challenges

- ❖ China's official estimates that there are 98.99 million people living below the national poverty line in 2012
 - The poor in rural area
 - The poor in urban area
 - **Migrant workers:** over 200 million living in urban area, another 200 million migrants are coming

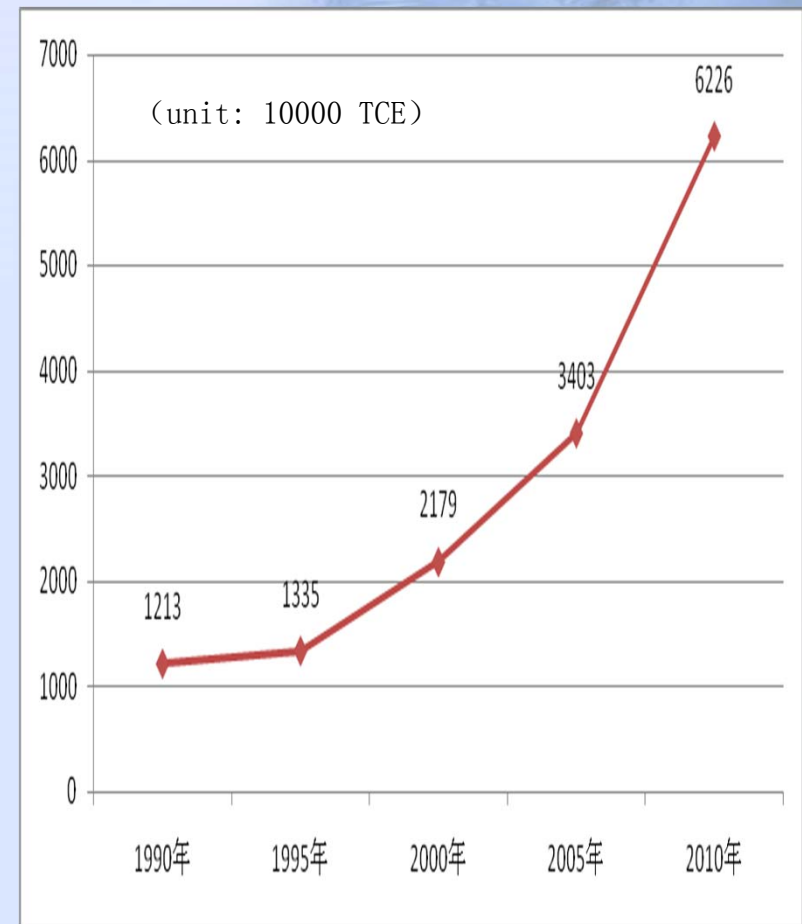


Vehicle Ownership vs. GDP per Capita



Energy Use in Buildings

- ❖ **Existing buildings stock:** about 50b m²
- ❖ **New buildings :** about 2.0b m² built annually
- ❖ **Energy Use in buildings:** about 20% of total commercial energy use, still low comparing to 1/3 in developed countries



China's building energy consumption in 1990-2010

Sustainable urbanization avoiding lock-in effects



International Cooperation

- ❖ **China has made great efforts to pursue low carbon development.**
- ❖ **National New Urbanization Plan 2014-2020**
- ❖ **Bright perspectives for international cooperation to promote sustainable urbanization**
 - **Software**
 - **Hardware**

Thank you!

