INDC and Low Carbon City Initiatives

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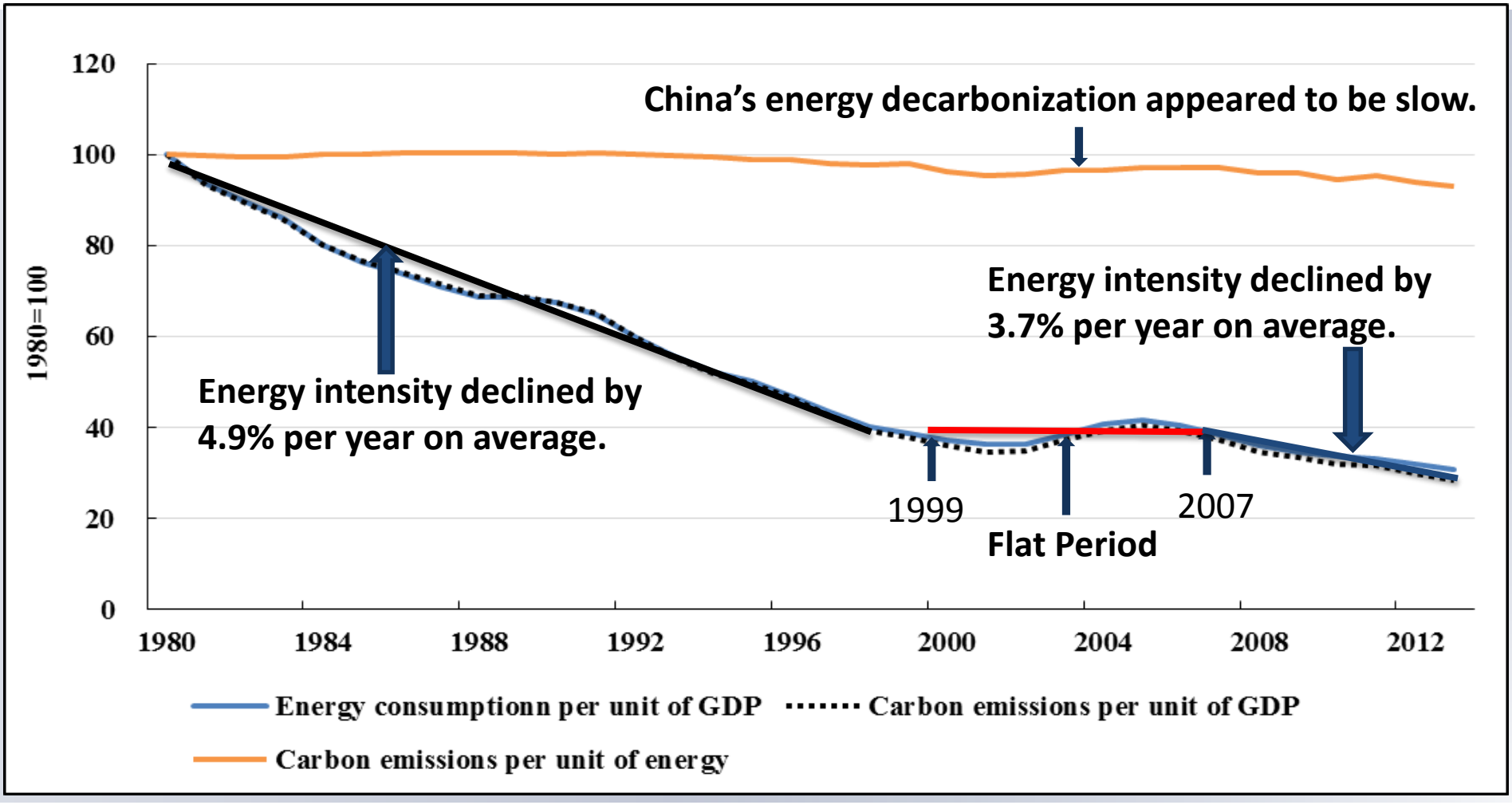
Enhanced Actions on Climate Change from China for Paris COP

- To achieve the peaking of carbon dioxide emissions around 2030 and making best efforts to peak early;
- To lower carbon dioxide 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%; and
- Start to build a national carbon emission cap-and-trade system in 2017.

China's Low Carbon City Pilot Program

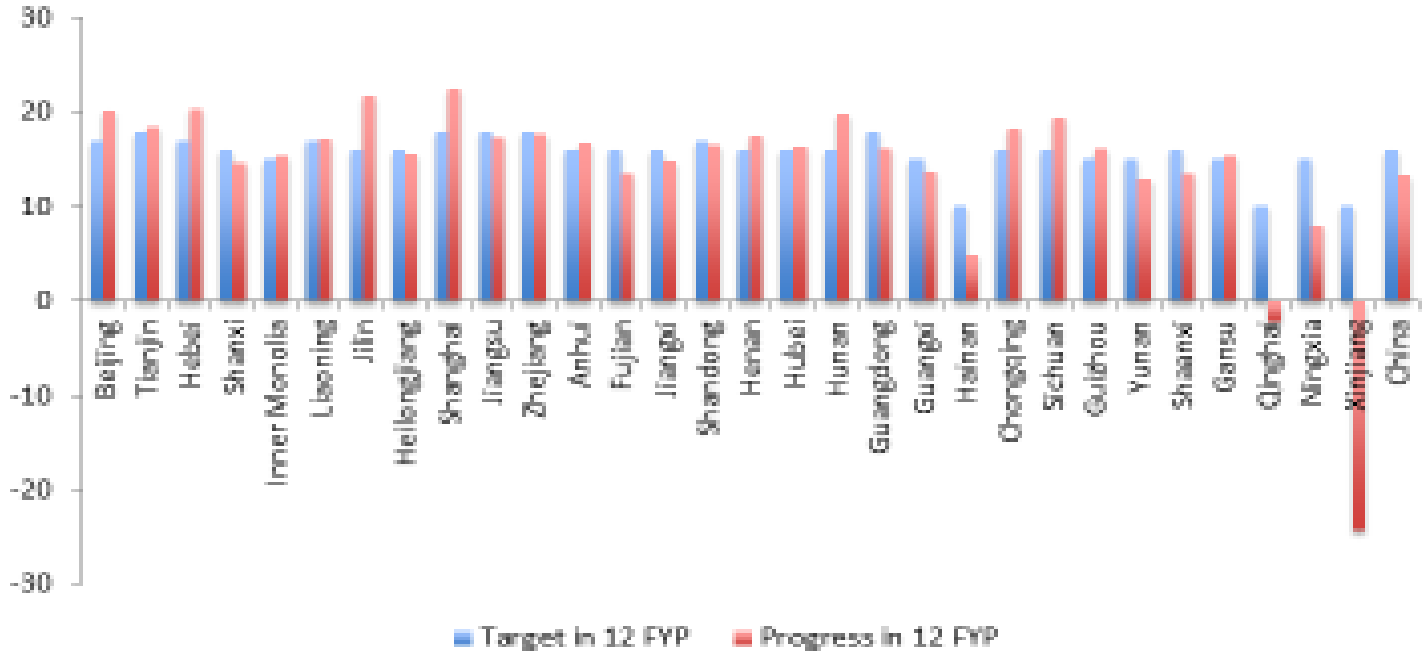
- Launched in 2010 at 8 cities and now extended to 36 cities;
- Develop GHG emission inventories;
- Setting GHG emission control roadmaps;
- Formulating innovative mechanisms for
  - Low industry
  - Low transportation
  - Low community
  - Low behaviors

Energy intensity of Chinese GDP, carbon intensity of Chinese GDP and carbon intensity of energy supply

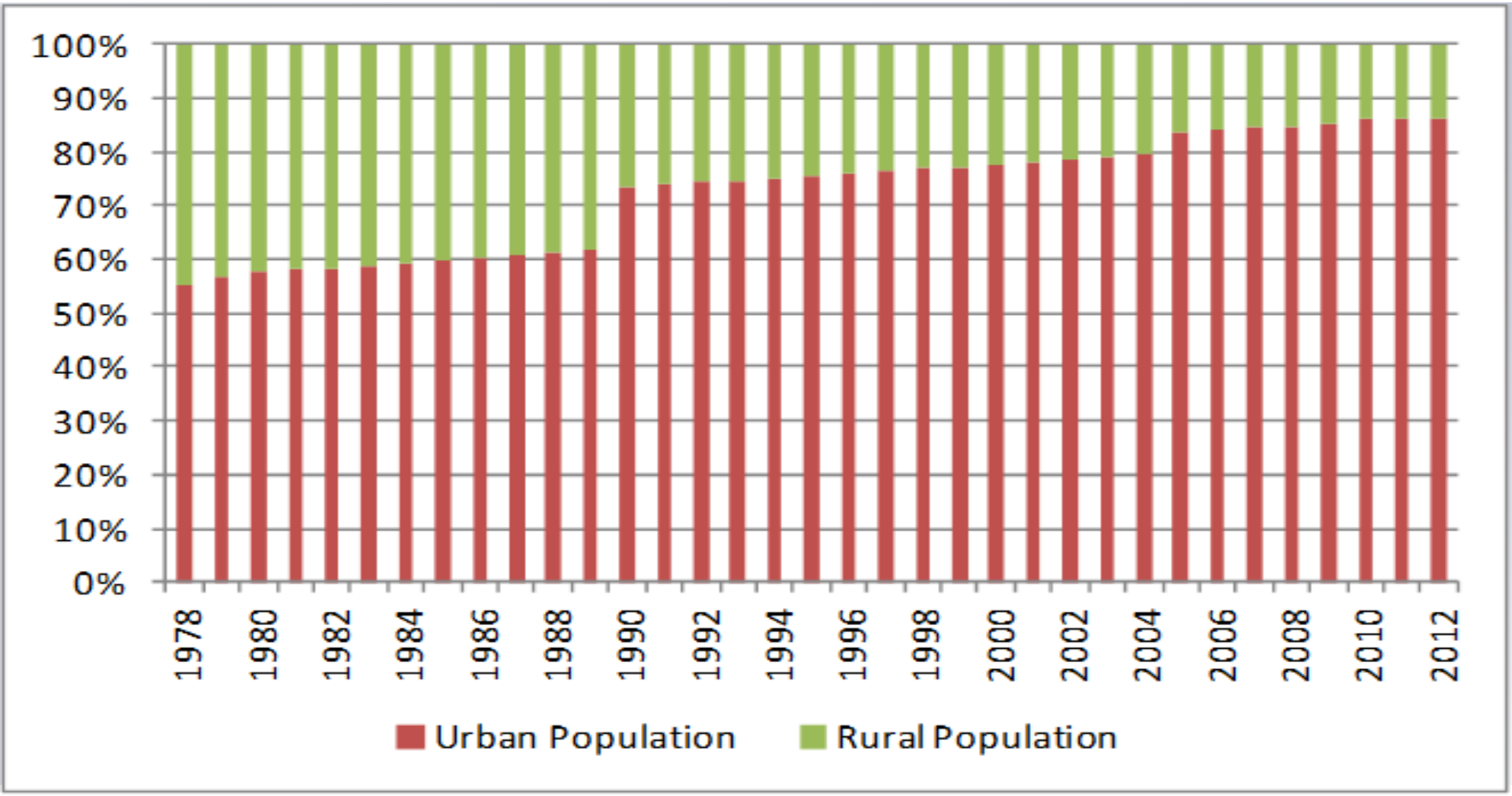


Progress in provincial levels during 12 FYP （2010-2014）

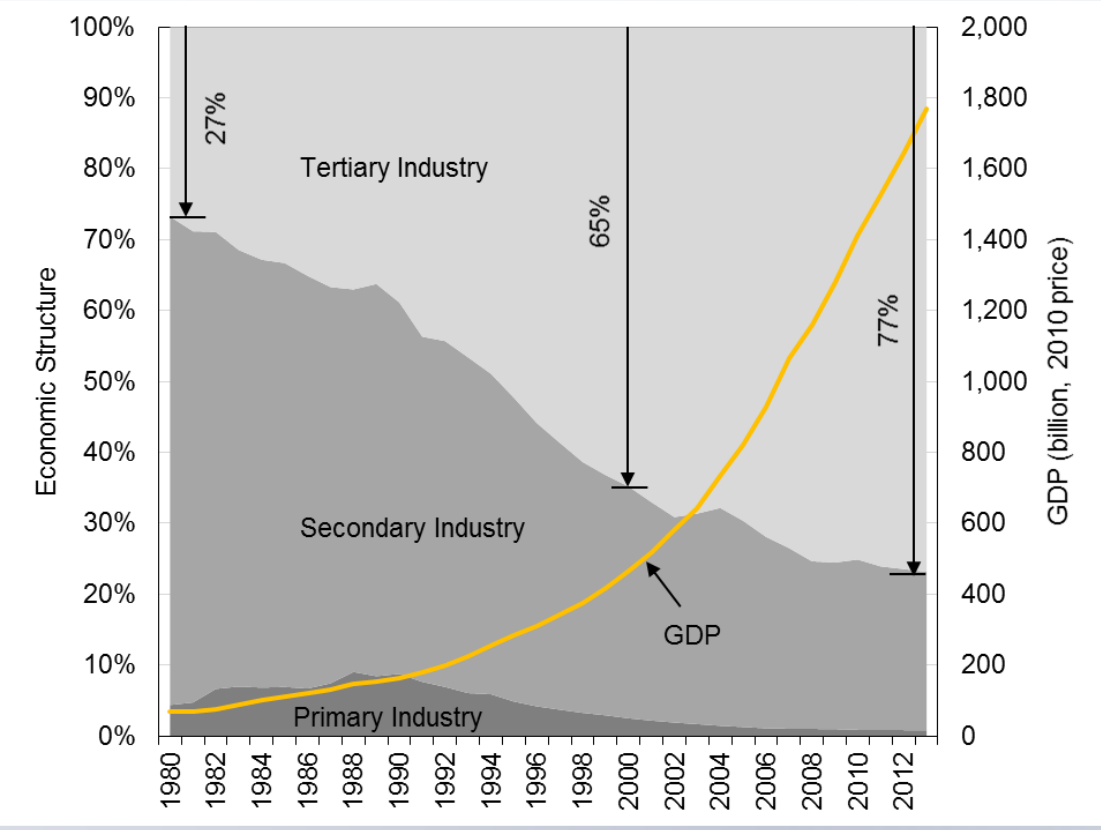
- Half of 31 provinces have achieved the Five-year energy intensity reduction targets one year ahead
- Most provinces are to fulfill the energy intensity reduction targets by the end of 2015, except Xinjiang



Urbanization in Beijing Municipality

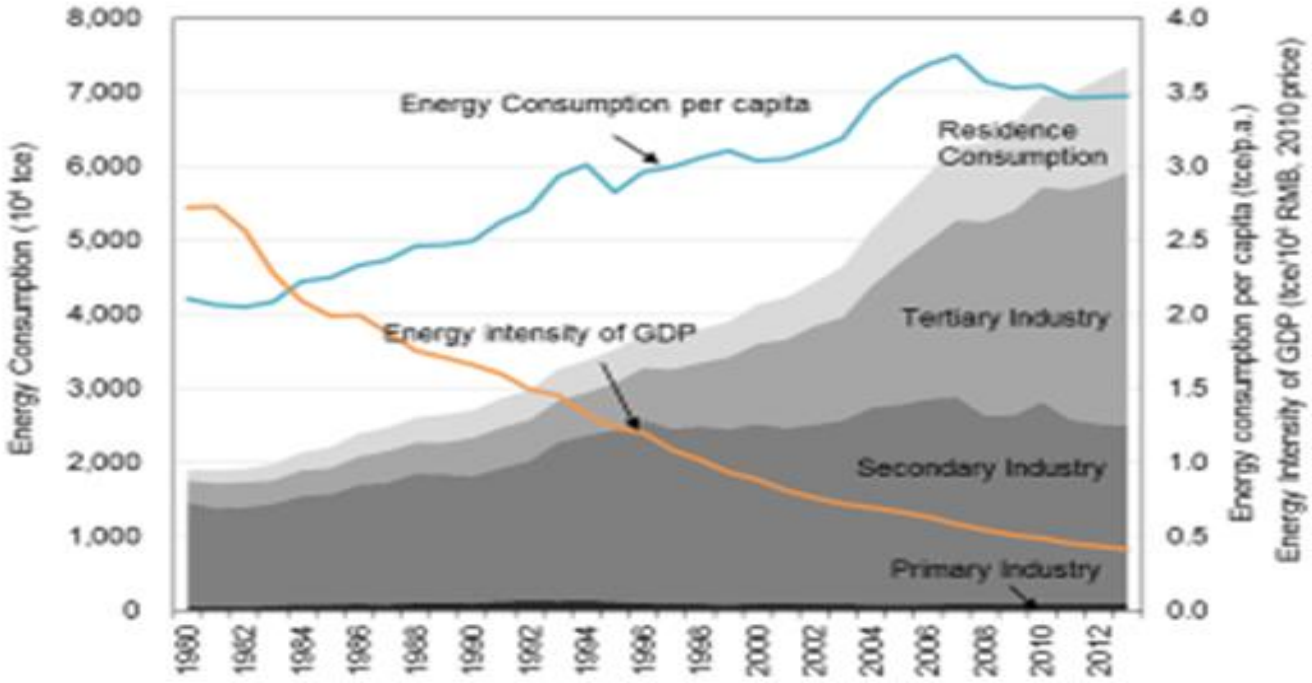


Economic growth



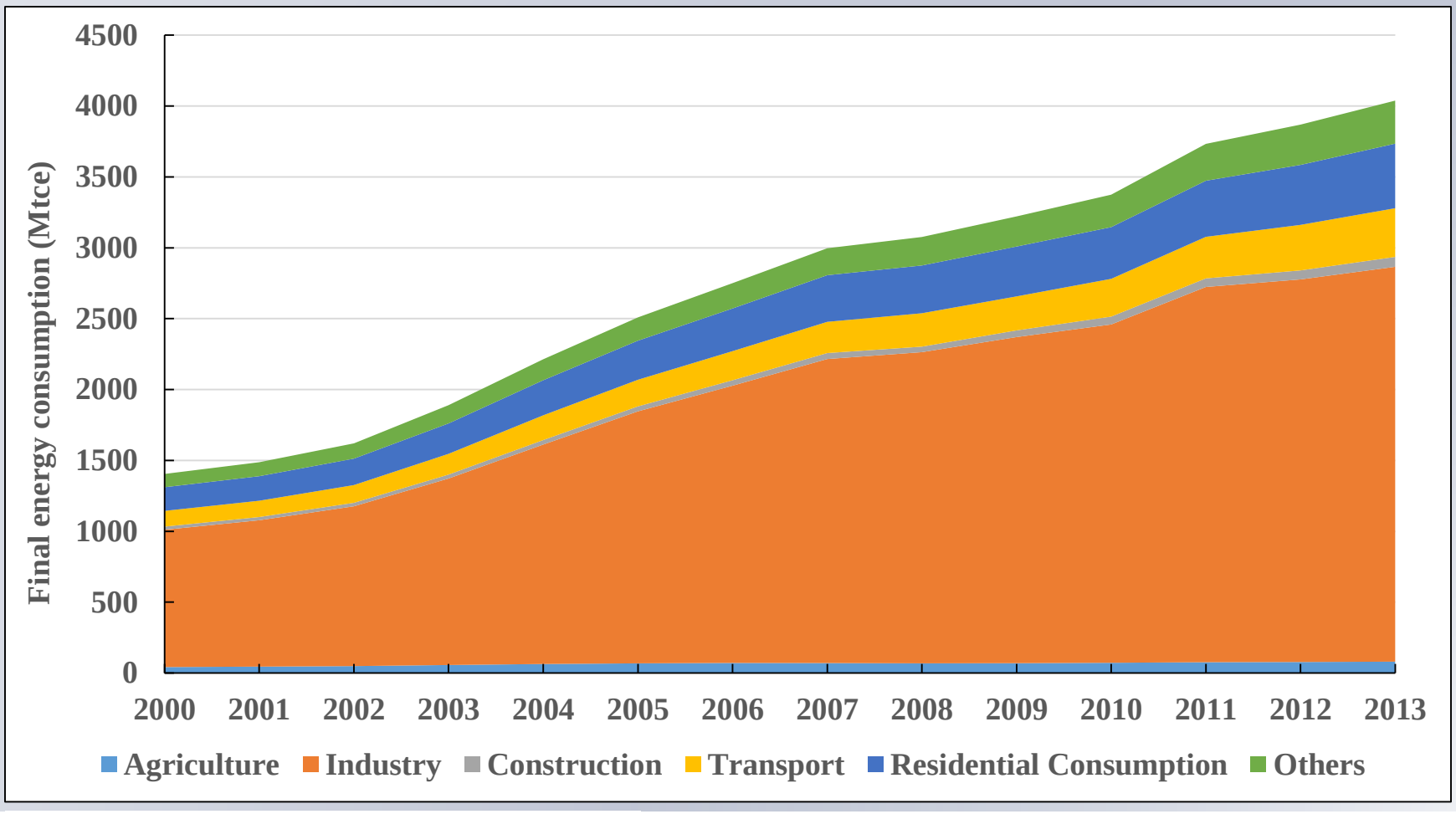
- Beijing's GDP experienced rapid growth during the last three decades, reached almost 1,900 billion RMB in 2014 from only 70 in 1980.
- Industrial structure keeps improved.
- The tertiary industry took 77% of total GDP in 2013.
- Per capita GDP was 15,000 USD in 2013.

Energy consumption



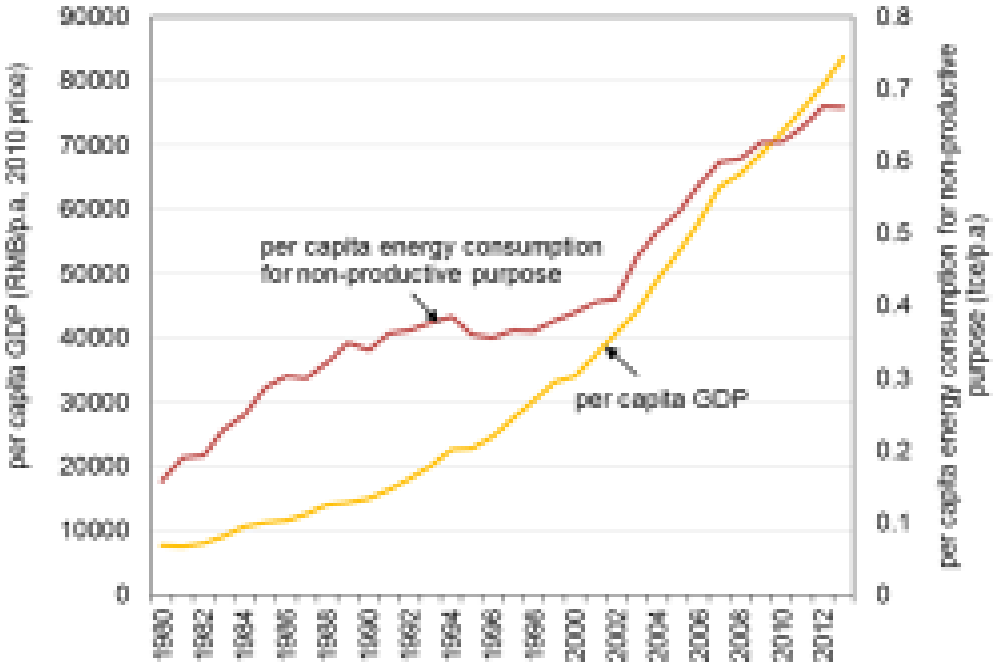
	1980	2000	2010	2013
Energy consumption (M- tce)	1908	4144	6954	7354
Energy consumption per capita (tce/p.a)	2.11	3.04	3.55	3.48
Energy intensity (tce/10^4 RMB)	2.723	0.892	0.493	0.416

China's Final Energy Consumption by Sector



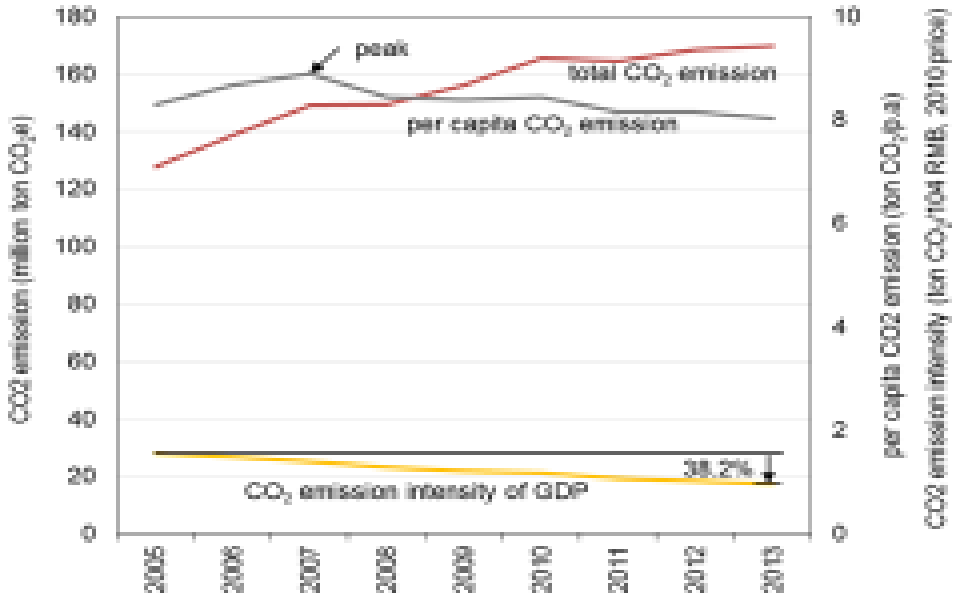
Data Source: China Energy Statistical Yearbook 2014

Energy consumption



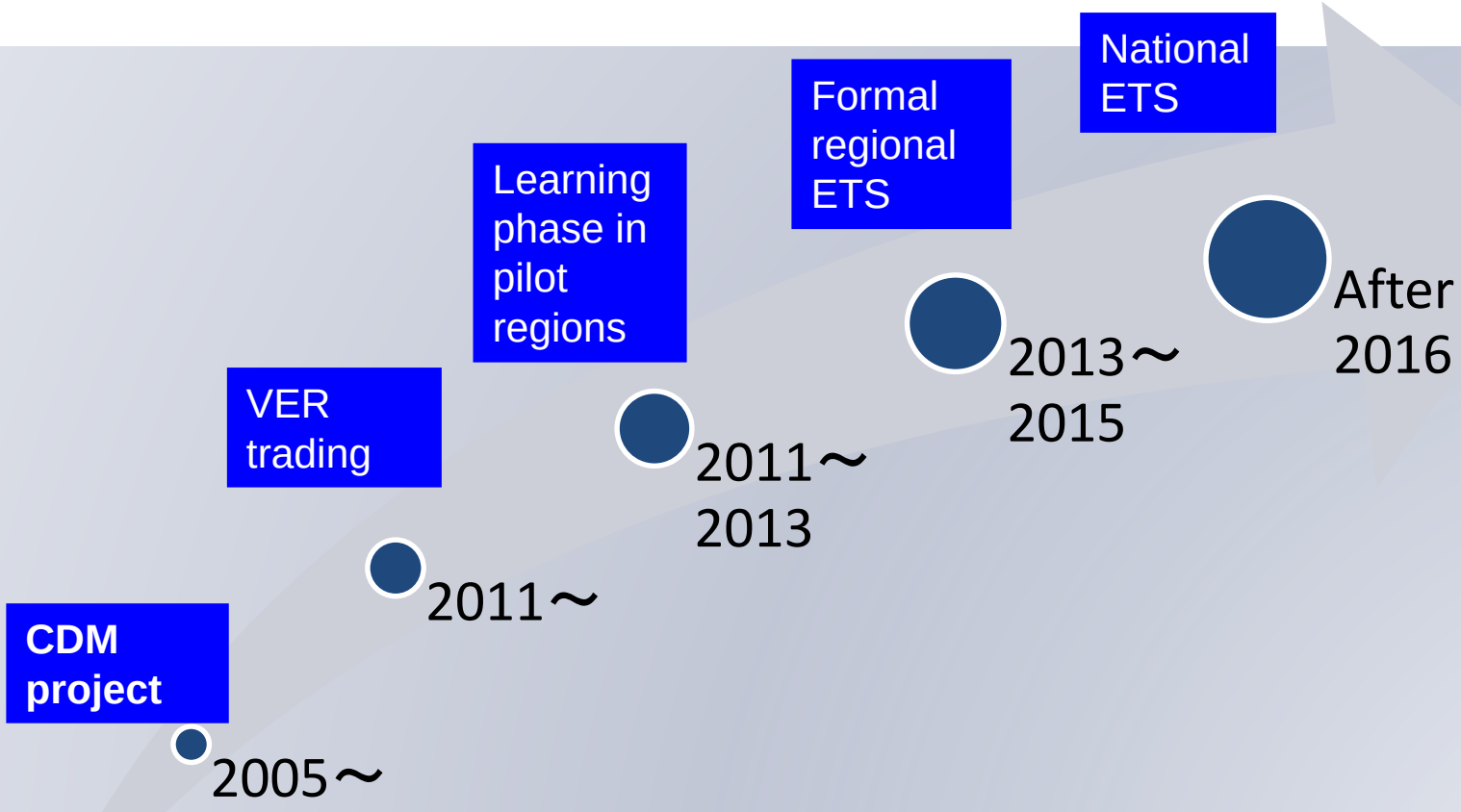
- Per capita GDP increased from less than 10,000 RMB in 1980 to more than 80,000 RMB in 2013.
- With the residents living standard enhanced, per capita energy consumption for non-productive purpose keeps increase, nevertheless per capita total energy consumption has showed a decrease trend since 2007.

CO_2 emission



- Total energy related CO_2 emission reached 170 million ton CO_2 e.
- Per capita CO2 emission got peak in 2007, and decreased to 8 ton CO_2 per person in 2013.
- CO_2 emission intensity decreased from 1.55 ton CO_2/10^4 RMB in 2005 to 0.96 ton CO_2/10^4 RMB in 2013(2010 price).
- CO_2 emission intensity has reduced by 38% compared with 2005 level.

China's ETS Roadmap



Emissions trading system to help support achievement of CO_2 emissions intensity targets

- **Provincial/city level pilots starting in 2013:** Tianjin, Shanghai, Beijing, Chongqing, Guangzhou, Hubei, Shenzhen.
- **Many scales, different system designs**

	GHGs	Covered CO_2 emissions (Mt)	Share of total emissions	Direct or indirect emissions	Number of covered entities	Emissions threshold for coverage (tons CO_2/year)	Historical emissions period
Beijing	CO_2	58	50%	Direct and indirect	approx. 490	> 10,000 (average (stationary emissions)	2009–2012
Tianjin	CO_2	112	45%	Direct and indirect	197	> 20,000 for industry; > 10,000 for other sectors	2010–2011
Shanghai	CO_2	90	60%	Direct and indirect	191	> 20,000	2009–2012
Chongqing	CO_2	No data	Not yet available	Direct and indirect	No data	> 20,000 (or 10,000 tce)	2008–2010
Hubei	CO_2	117	33%	Direct and indirect	107	> Approx. 120,000 (or 60,000 tce)	2010–2011
Guangdong	CO_2	209	42%	Direct and indirect	830	> 20,000 (or 10,000 tce)	2010–2012
Shenzhen	CO_2	32	40%	Direct and indirect	635	> 5,000	2009–2011
All ETS pilots	CO_2	> 620	7% of China's total	Direct and indirect	> 2535		
EU-ETS (Phase I)	CO_2	2014	47%	Direct	11500	> 10,000	1996–2004

Source:
Duan, 2013; International Carbon Action Partnership (ICAP), 2013; European Commission, 2013; Qiu, 2013; Xu, 2013.

In: Zhang et al., 2014, *Energy Policy*, forthcoming. (CECP manuscript)

Thank you for your attention!