Energy Status and an Emission Scenario of China

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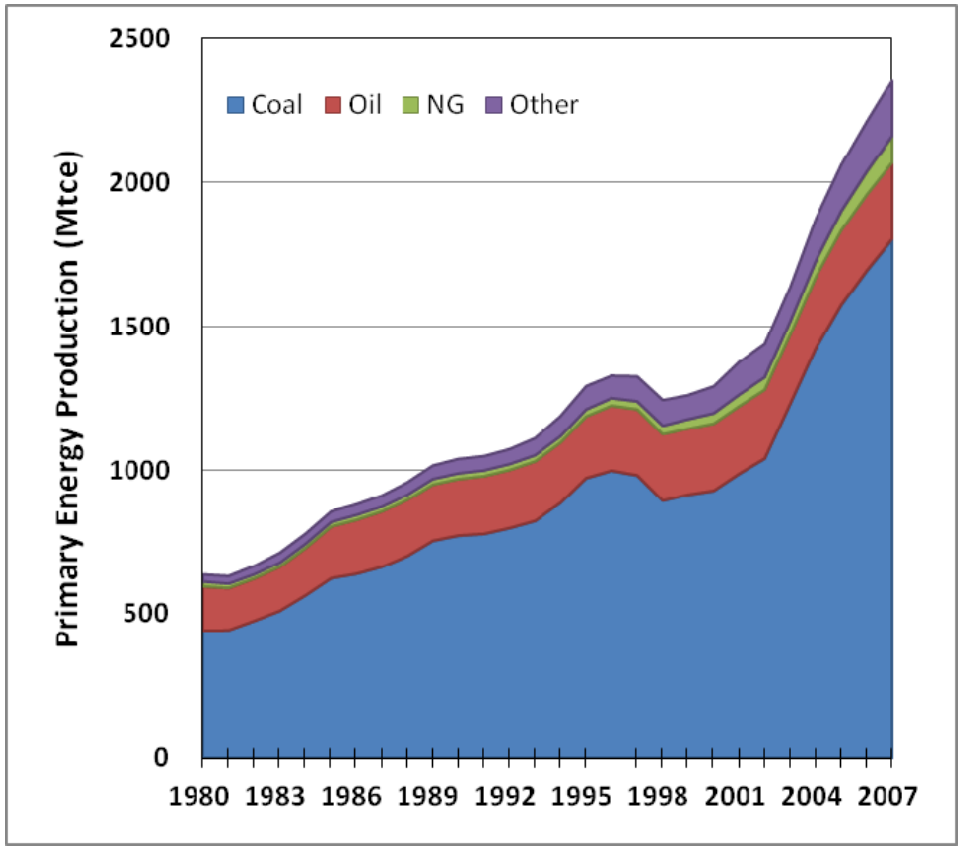
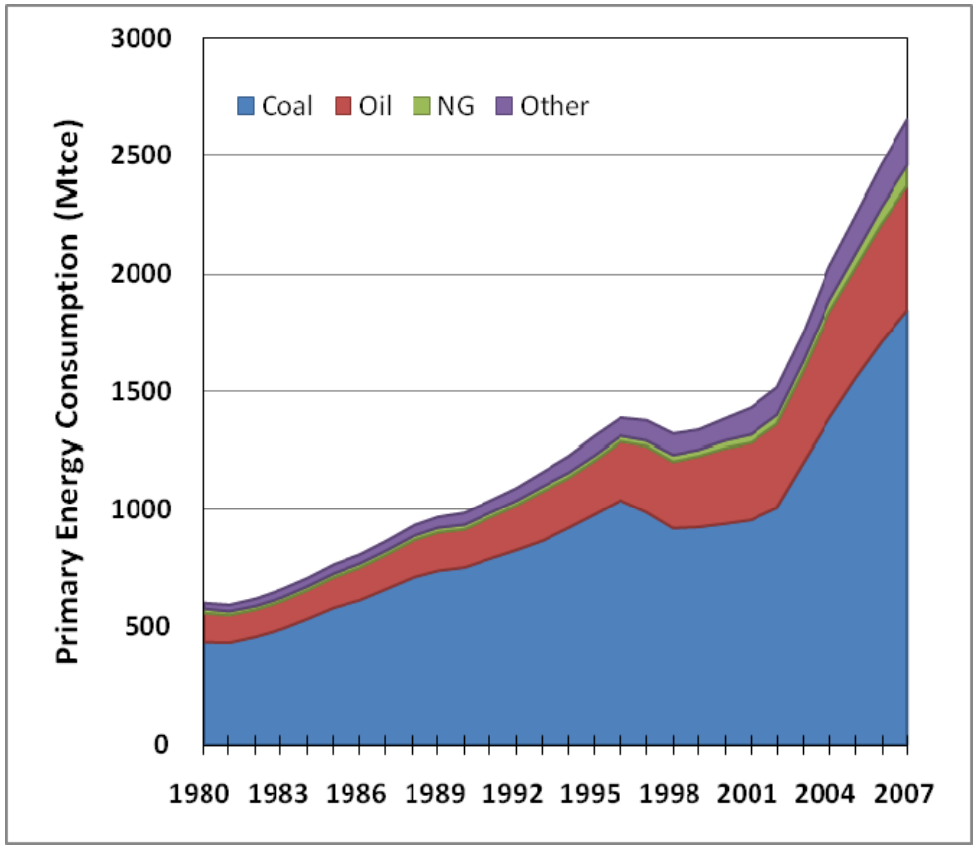
OUTLINE

- Summary of energy status and trend in China
- Policies and achievement to respond to climate change
- An energy development and carbon emission scenario
- Conclusion

Primary Energy Production and Consumption





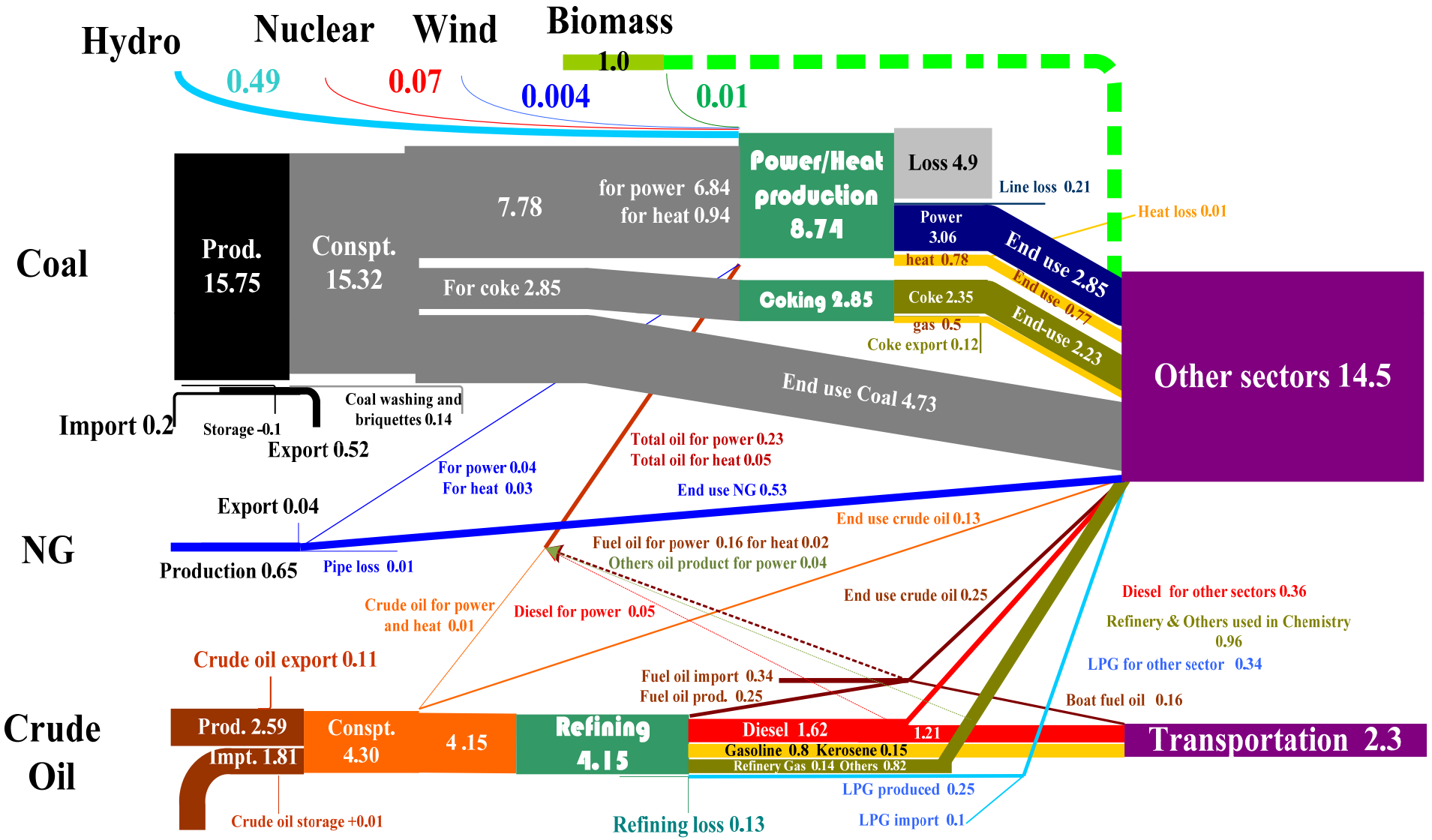
1980 – 1984: low increasing of energy consumption due to decreasing proportion of secondary industry

1985 – 1996: accelerating increasing of energy consumption due to the light industry expansion

1996 – 2000: energy consumption increasing fluctuation

2000– 2007: accelerating increasing of energy consumption

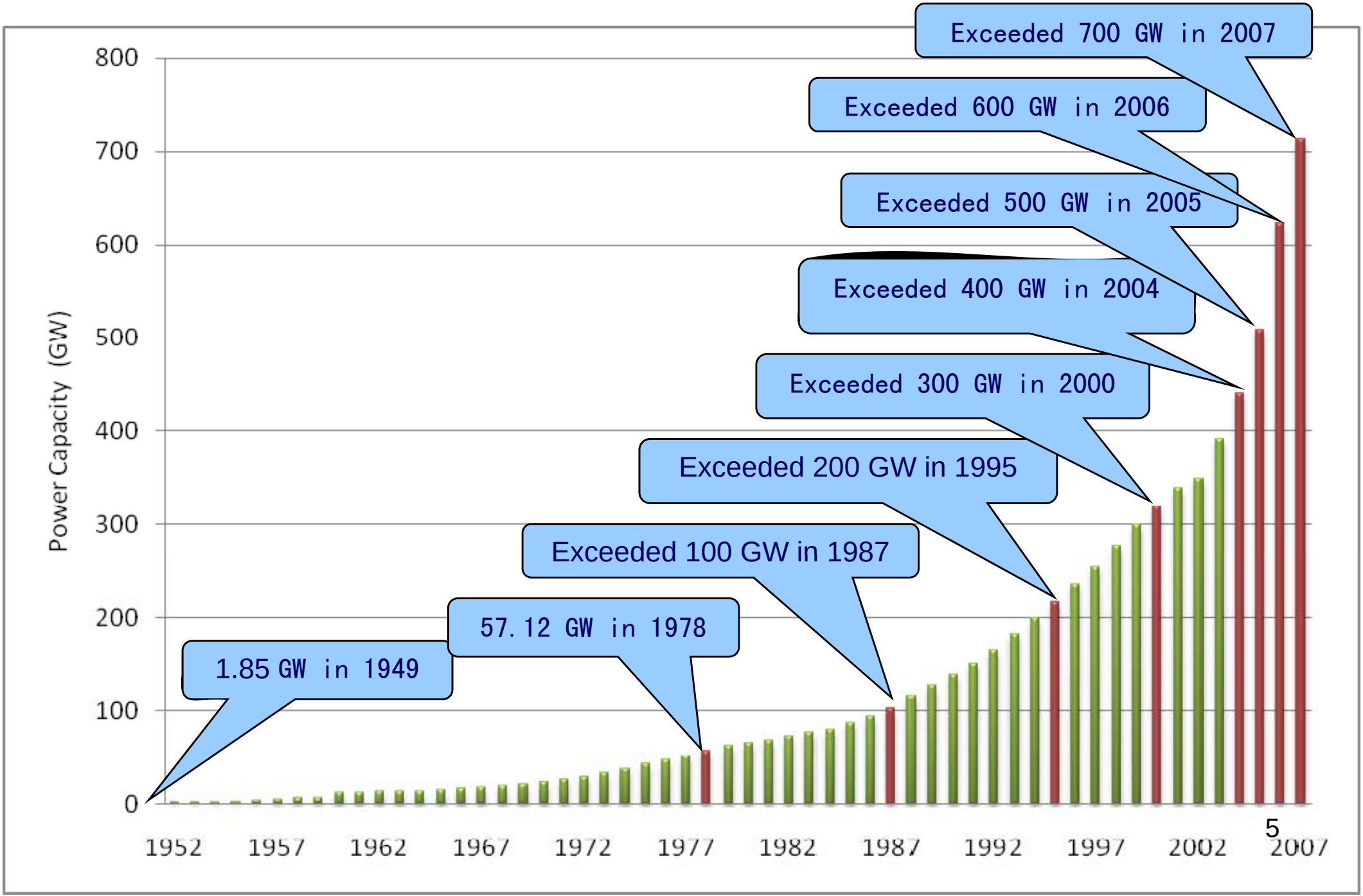
Energy Flowchart of China in 2005



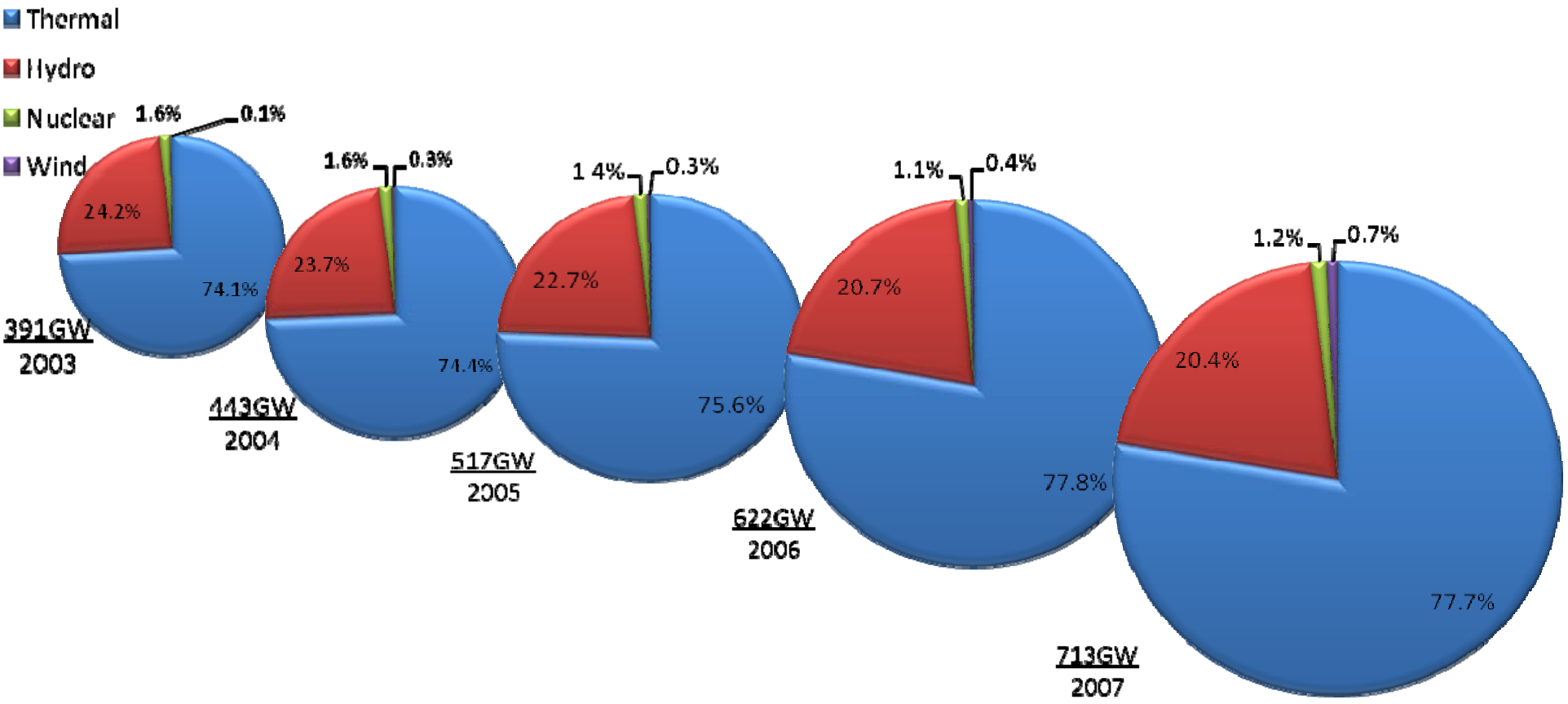
Unit: 100 million tce

Data source: Statistics Yearbook of China Energy 2006

China's Power Sector Development

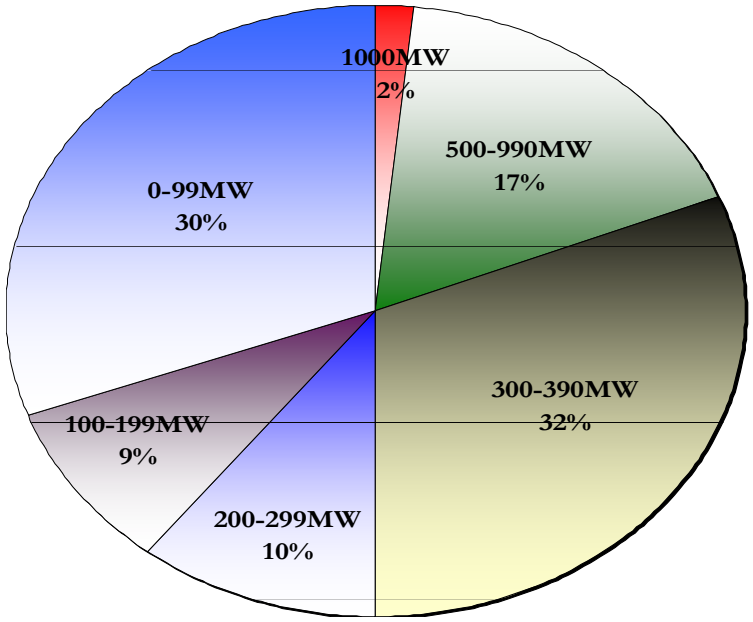


China’s Power Mix from 2003 to 2007



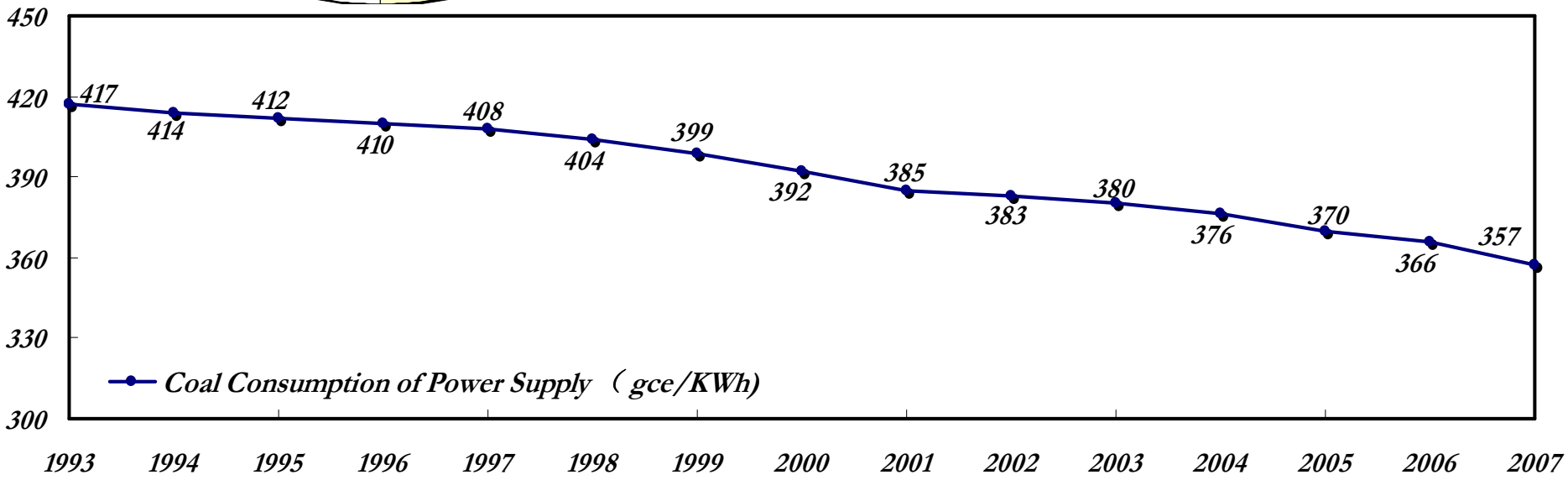
Unit Scale Mix and Energy Efficiency of Thermal Power

Thermal Power Mix as of end 2007



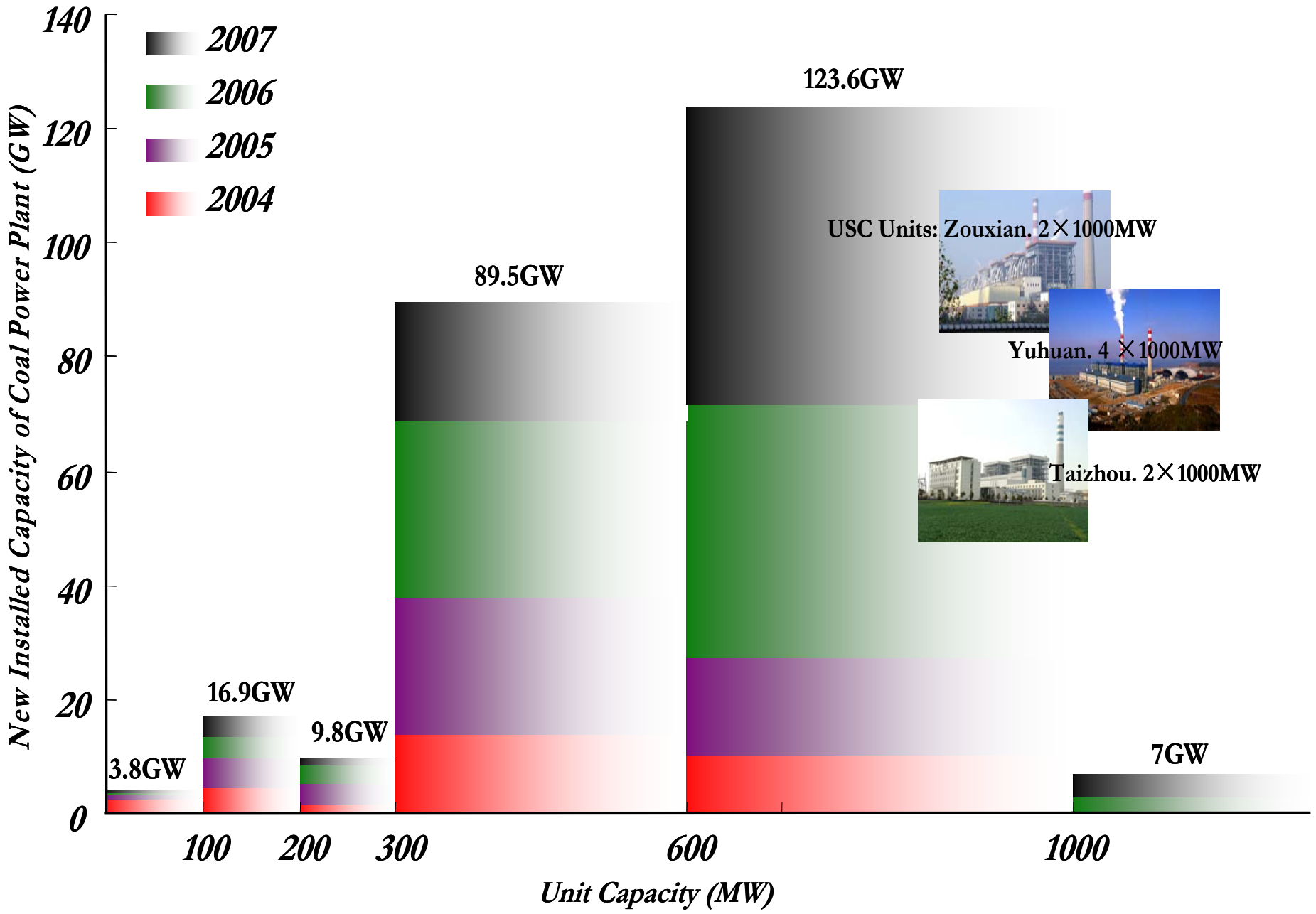
Energy efficiency of different size of coal power unit in China in 2006

Unit Size (MW)	Coal consumption of power supply (gce/kWh)
6	600
12	550
25	500
50	440
100	410
300	340
600	299
600	292
1000	285.6



Source: National Bureau of Statistics of China (NBSC), National Development and Reform Comission (NDRC), Asian Development Bank (ADB).

Unit Scale Mix of New Installed Capacity of Coal Power



Source: Tsinghua-BP Clean Energy Research & Education Centre. Note: USC, Ultra-supercritical

Strategic Objectives to Respond to Climate Change

China's National Climate Change Programme (June 2007)

- to make significant achievements in controlling greenhouse gas emissions
- to enhance the capability of continuous adaptation to climate change
- to promote climate change related science, technology and R&D to a new level
- to remarkably raise public awareness on climate change
- and to further strengthen the institutions and mechanisms on climate change

Policies and Objectives to Respond to Climate Change

- Accelerating the transformation of economic growth pattern:

  about 20% reduction of energy consumption per unit GDP by 2010

- Optimizing energy consumption structure:

  to raise the proportion of renewable energy (including large-scale hydropower) in primary energy supply up to 10% by 2010

- Developing a recycling economy, raising resources utilization efficiency

  By 2010, the emissions of nitrous oxide from industrial production should be no higher than in 2005.

- Carrying out the policies and measures on forestation, returning farmland to forest and grassland, natural forest protection and so on:

  Increasing the forest coverage rate to 20% and realizing the increase of carbon sink by 50 million tons over the level of 2005 by 2010.

Achievement in 2007

- Energy intensity per GDP reduction
  - 1.79%(2006) 3.66%(2007)
- Development and application of advance technology
- Accelerating the pace of eliminating backward production capacity

✓ 14.38 million kW of small thermal power units (37.6 million tons CO_2 annually)

✓ 46.59 million tons of iron-smelting capacity

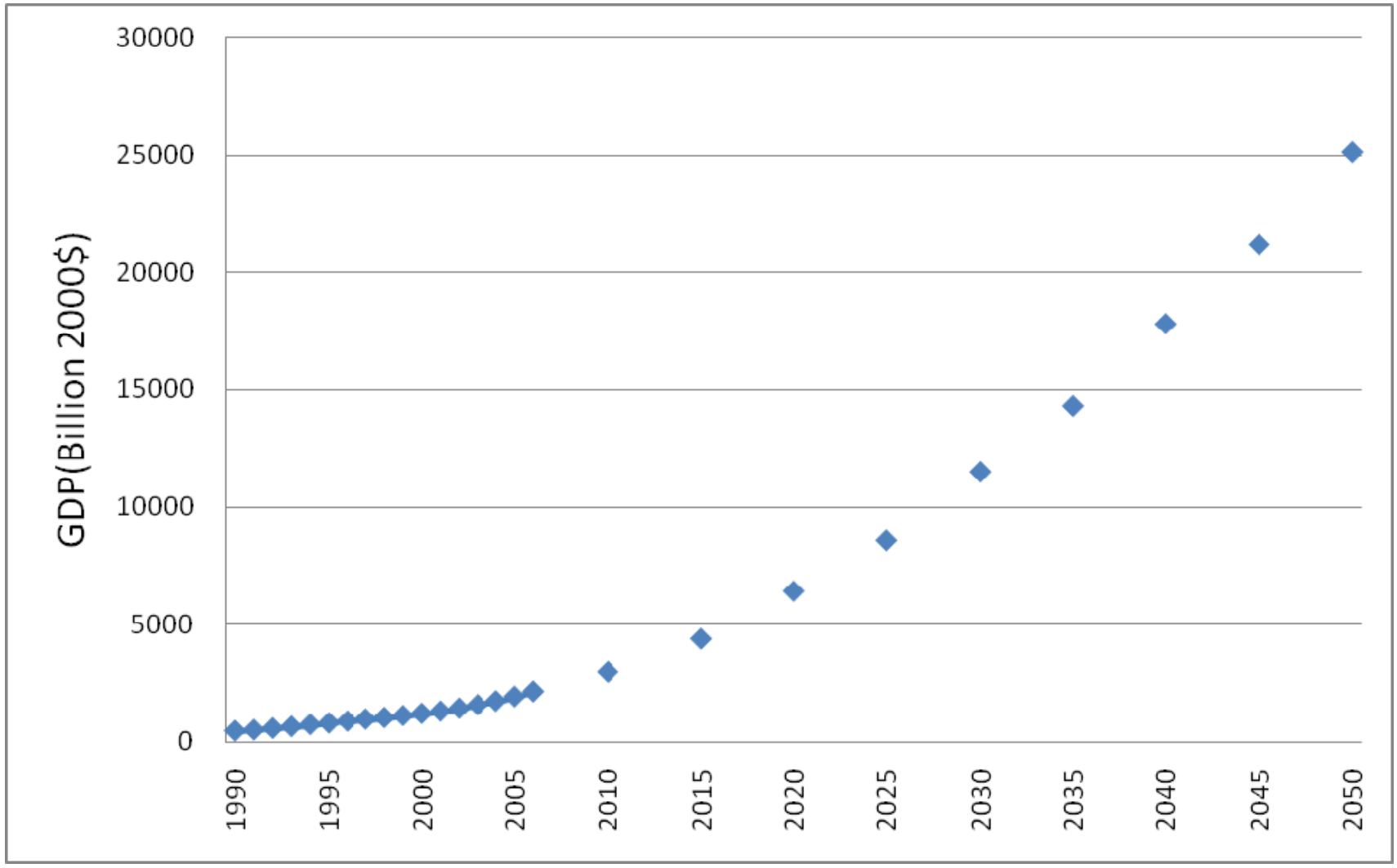
✓ 37.47 million tons of steelmaking capacity

✓ 52 million tons of cement production capacity

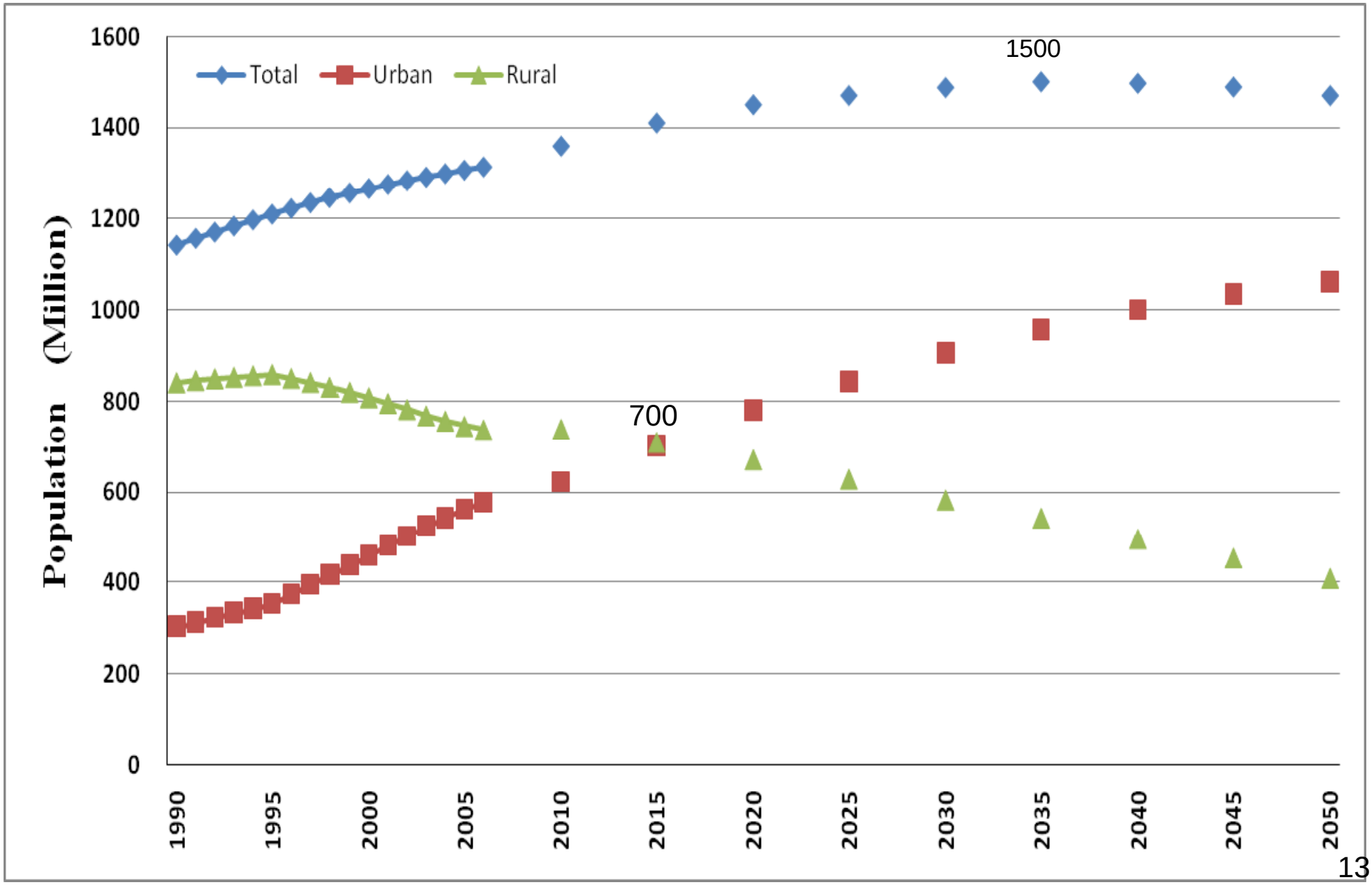
✓ More than 2,000 heavily polluting papermaking plants, chemical plants, and printing and dyeing mills

✓ About 11,200 small coal mines.

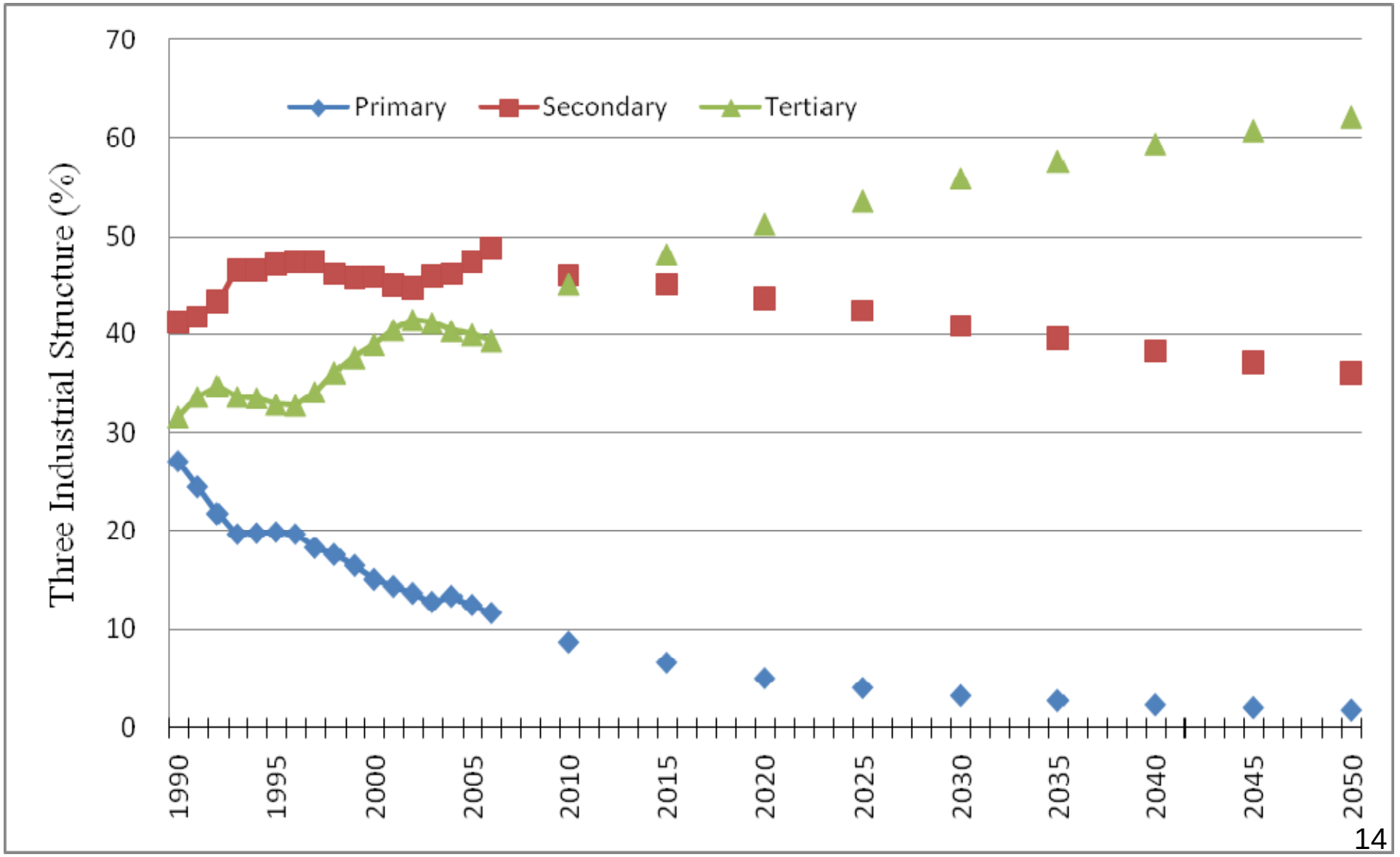
Assumption on Future Economic Development



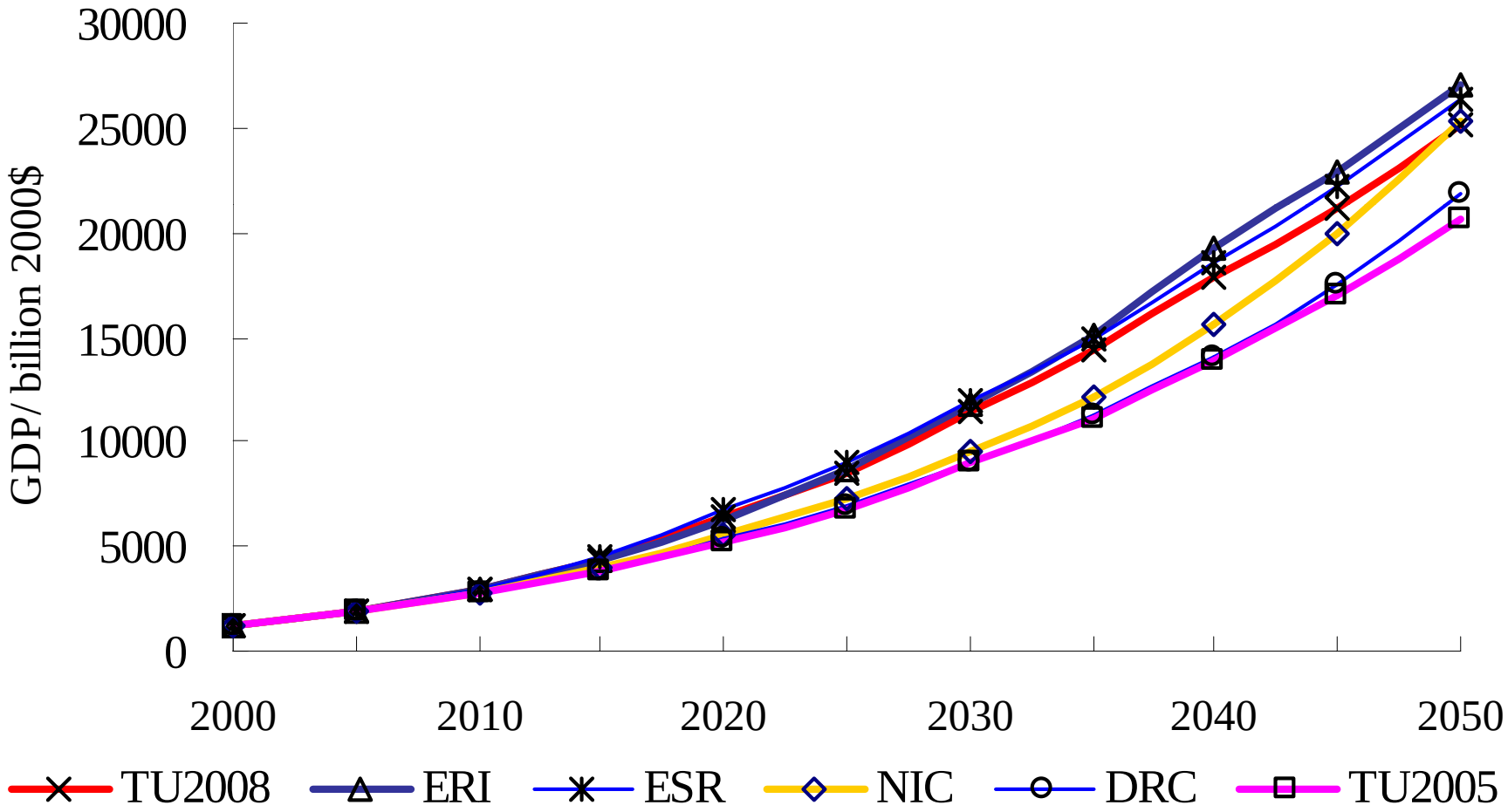
Assumption on Population



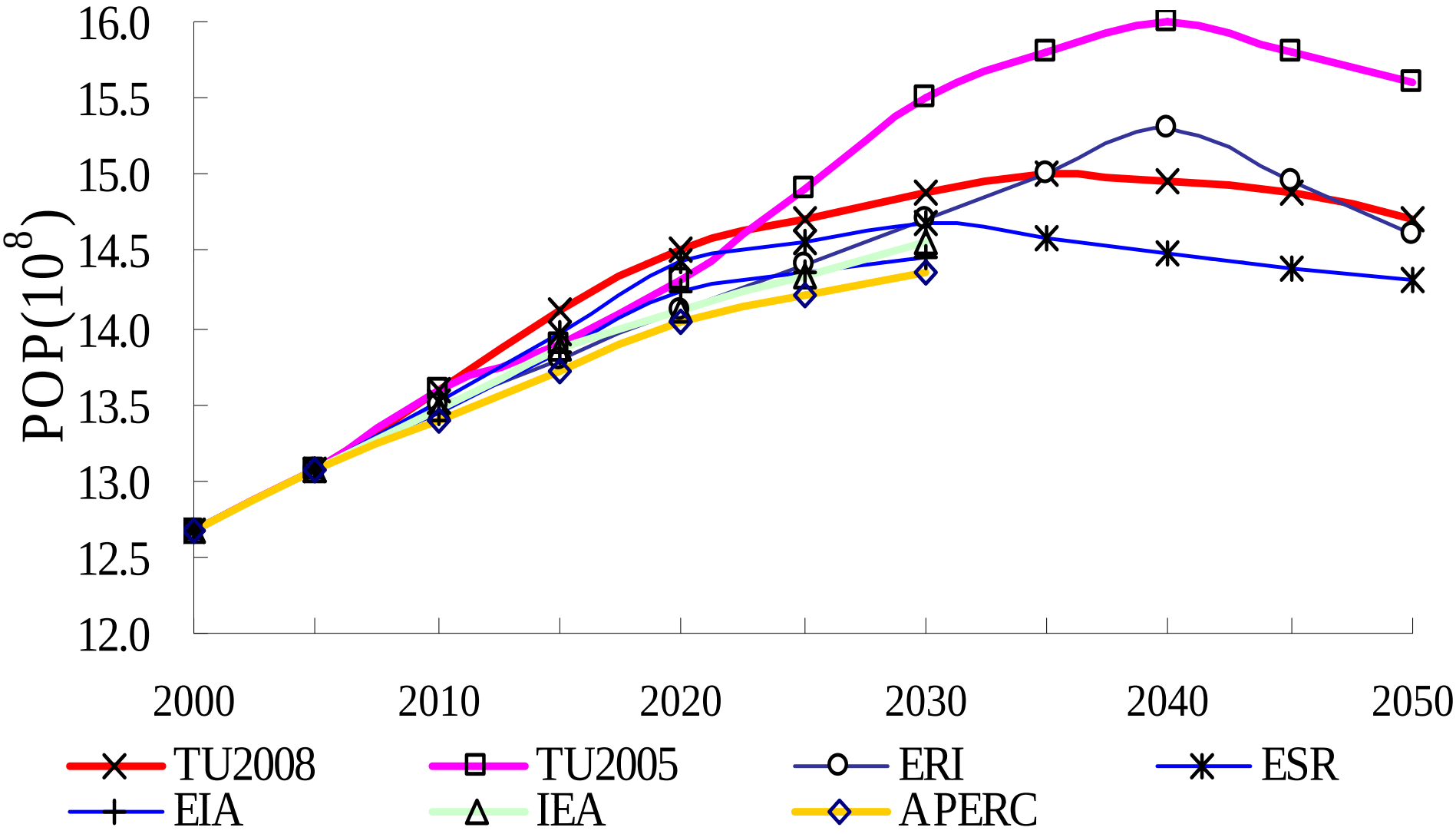
Assumption on Industry Structure Adjustment



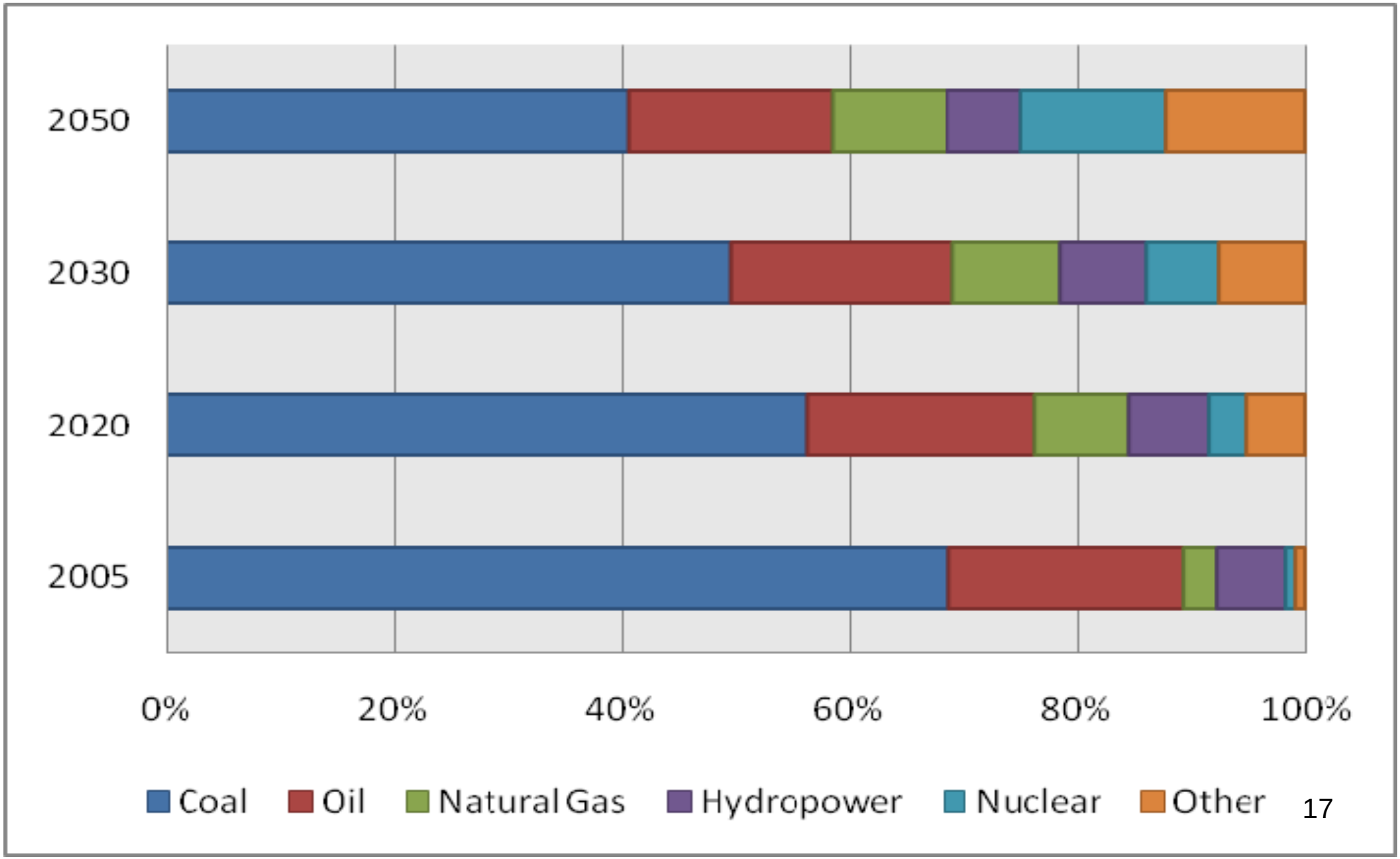
Compare of GDP Assumptions



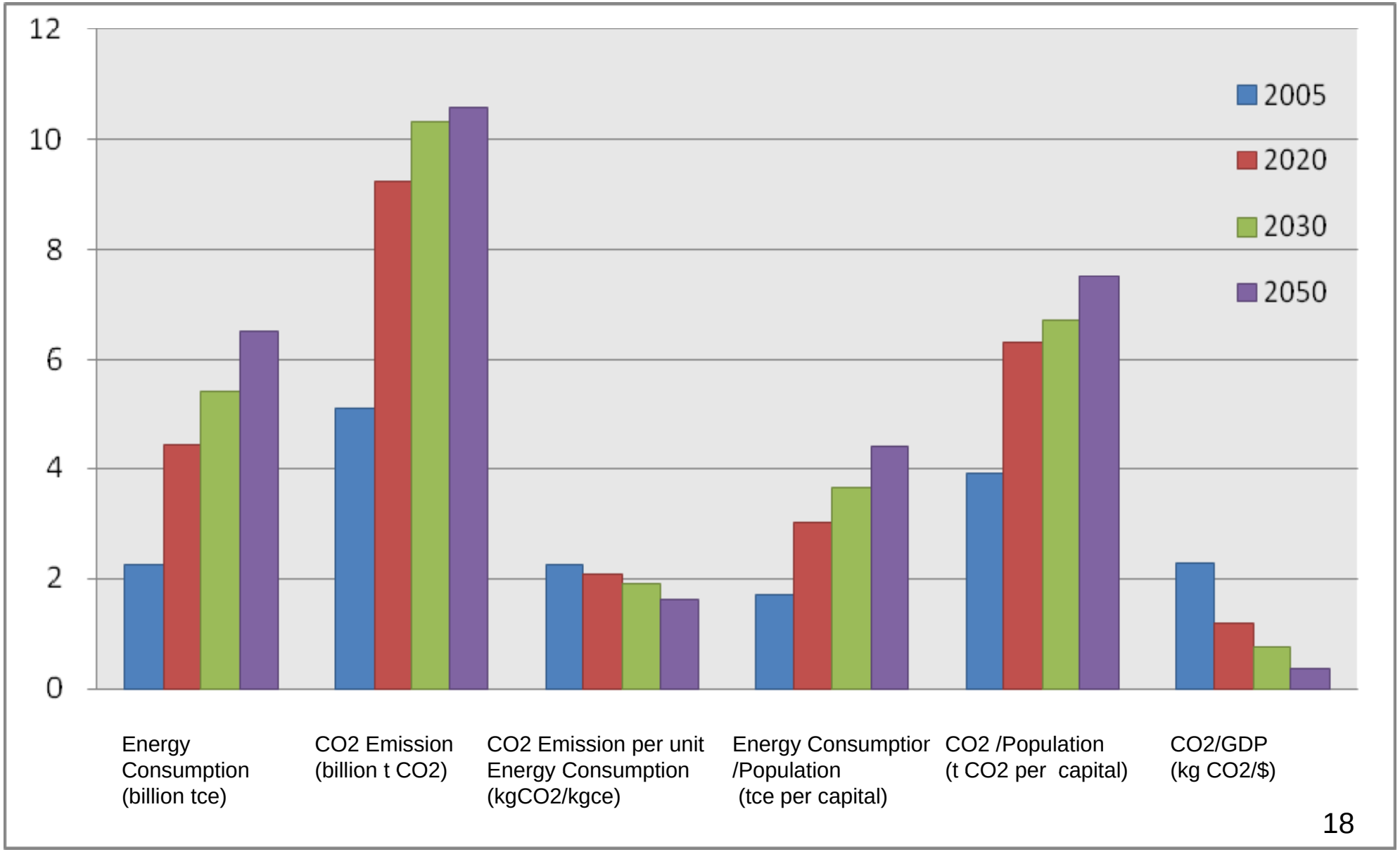
Compare of Population Assumptions



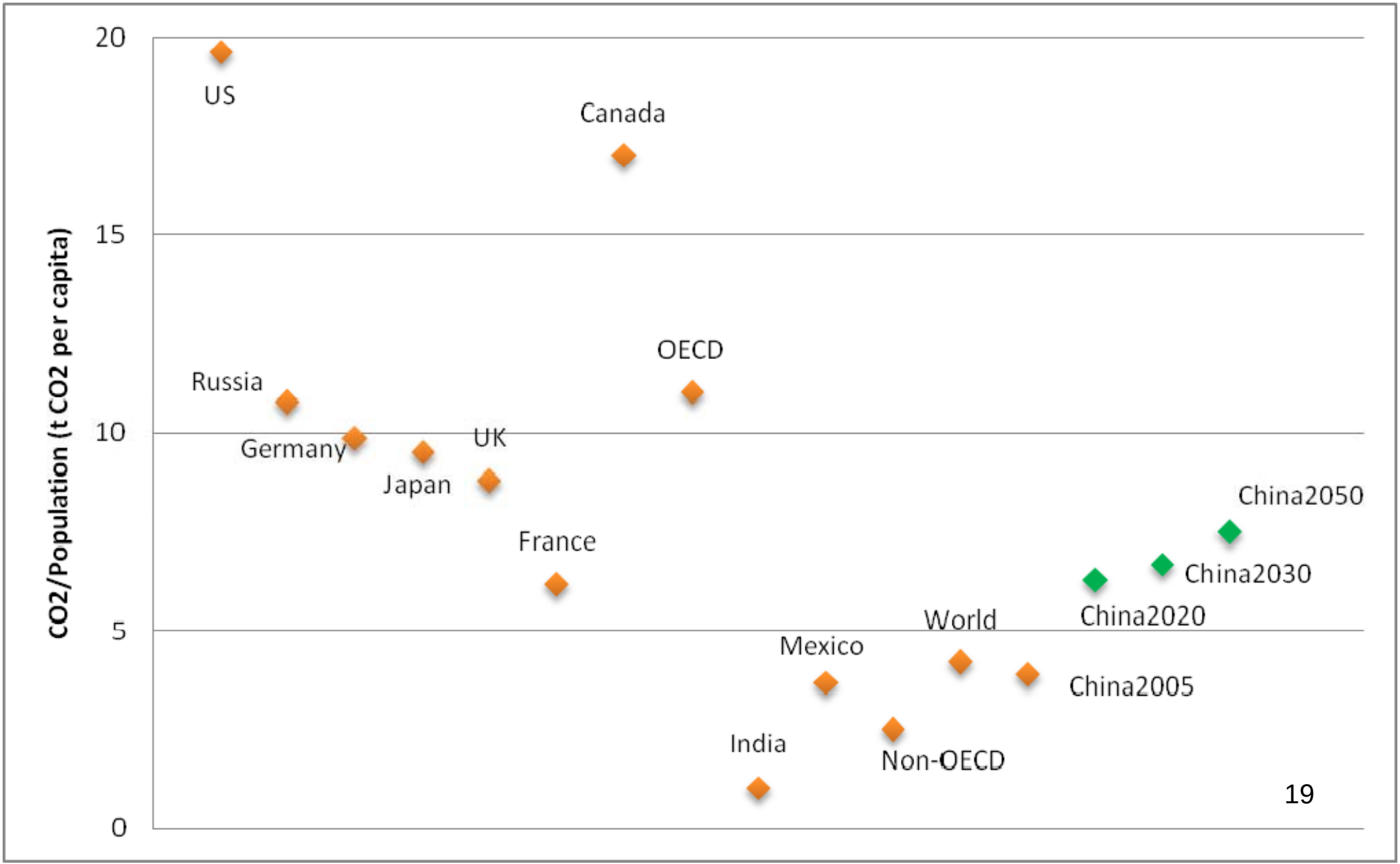
A Scenario of Energy Development



A Scenario of Carbon Emission



Compare of Carbon Emission per Capital (2005)



Conclusion

- As a developing country with a coal dominated energy mix, China faces severe challenges when coping with climate change along with the acceleration of urbanization and industrialization.
- China has made great efforts to mitigate carbon emission within the framework of sustainable development.
- Developing countries should have room of carbon emission growth to further develop their economy and improve living standard.
- Financial support and technology transfer from developed to developing countries should be encouraged to allow developing countries make greater contribution to mitigate GHG emissions.

Thank you!