Powering China's Development, the Role of Renewable Energy

Li Junfeng
Energy Research Institute, China
Finance and Technology Needs Address the Climate Challenges
Eigtveds Pakhus, Asiatisk Plads 2G, 1448 Copenhagen K, Denmark
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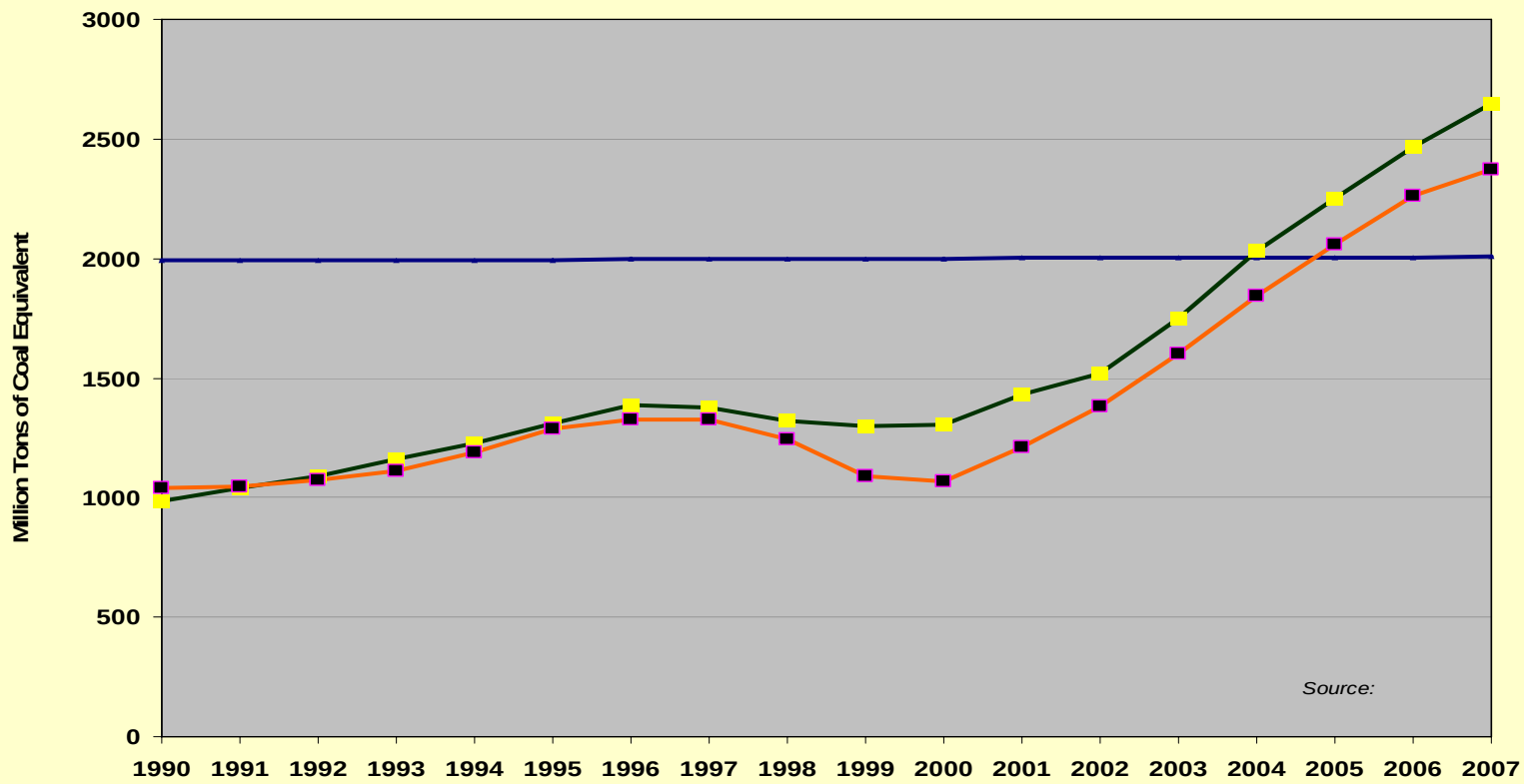
Content of the presentation

- The recently energy status in China
- Renewable energy development review
- Target of 2020 and beyond
- National policy and program for promoting renewable energy
- Technologies and financial needs
- Conclusion and summary

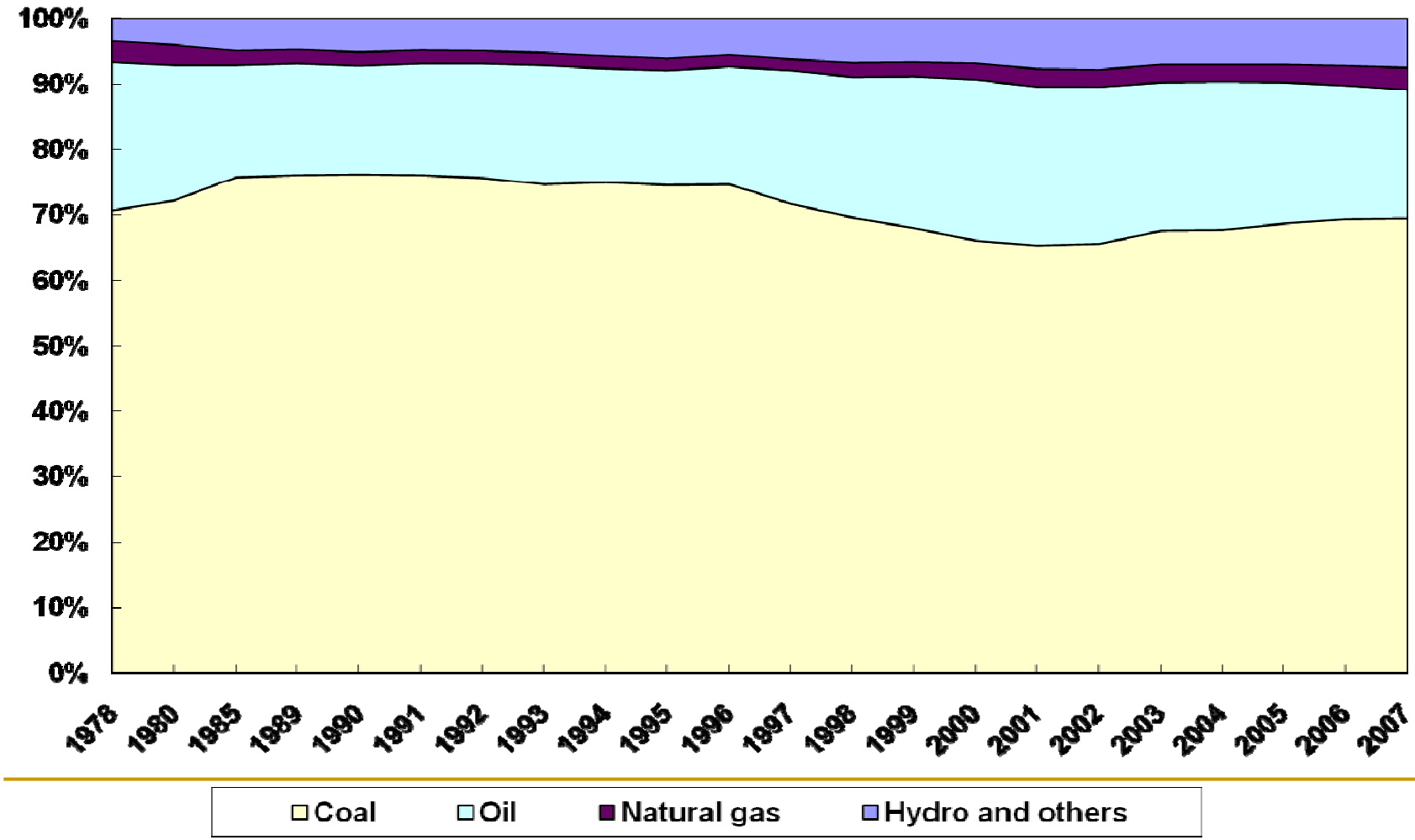
The recent energy development status in China

The second large country in the world for energy consumption with annual growth rate at about 5% in over 30 years

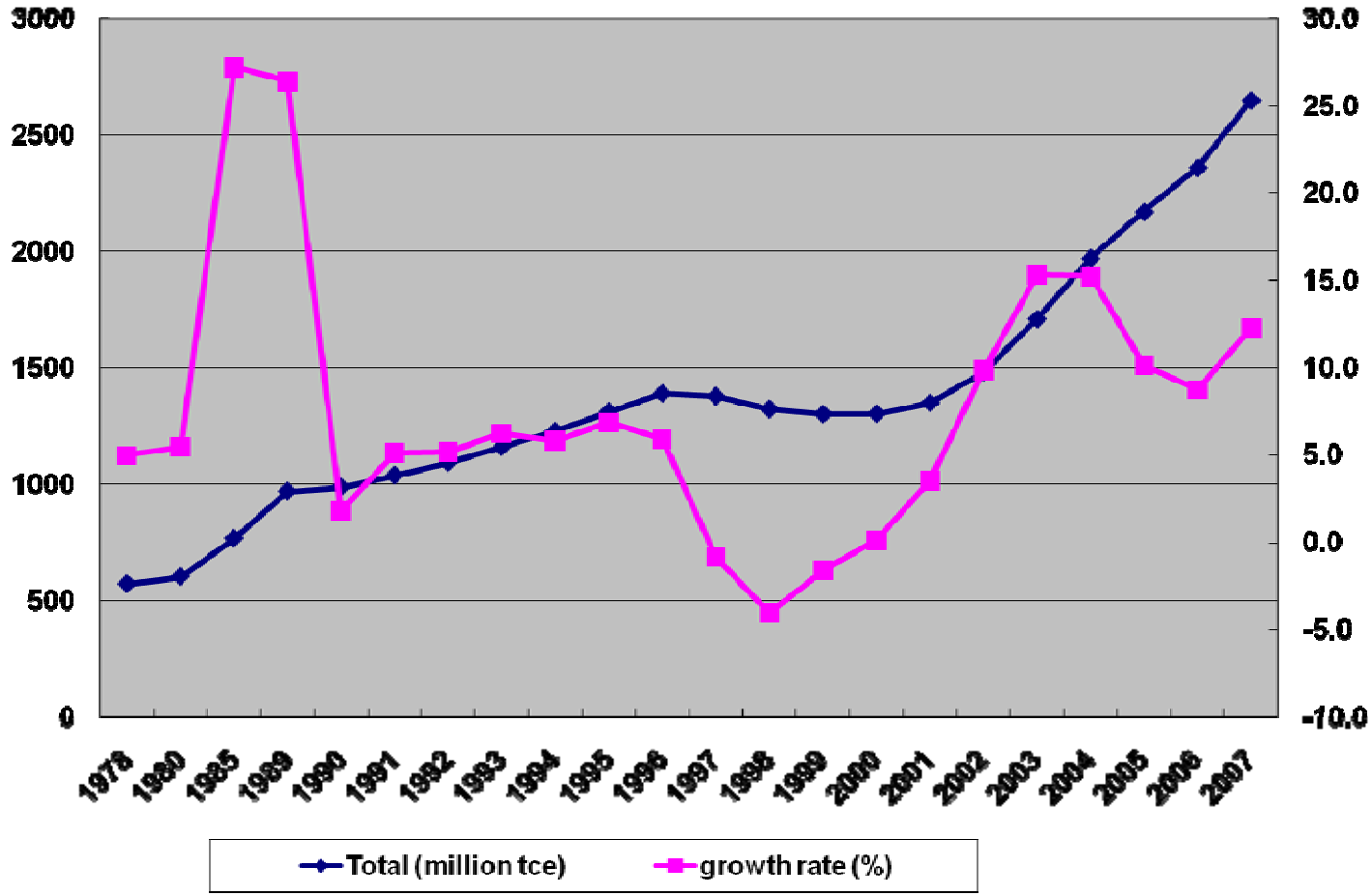
The growth of energy demand and supply



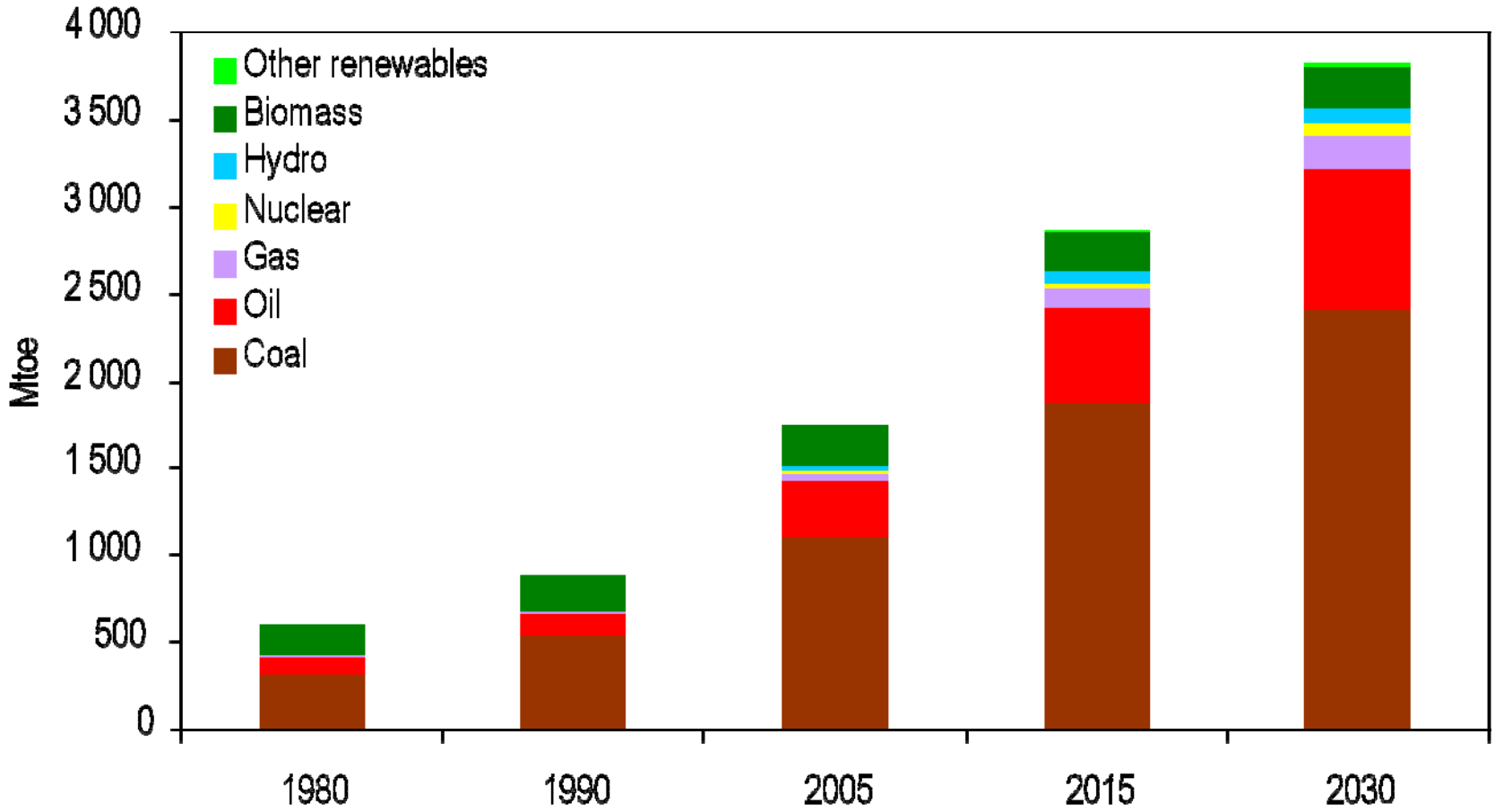
Energy consumption structure changes in last 30 year



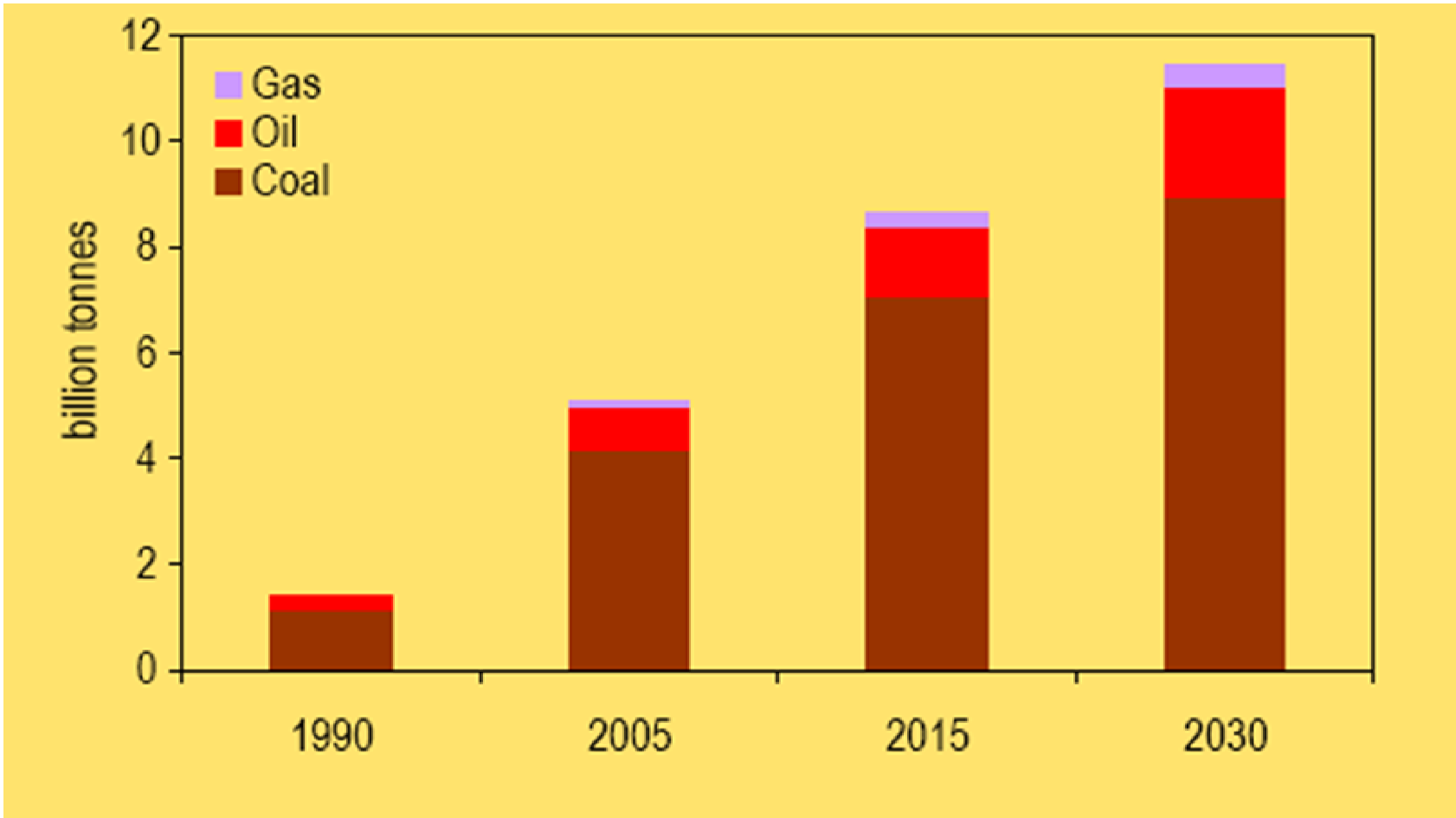
Total energy consumption and growth rate



Projection of energy use in the future (IEA's estimation in 2007)



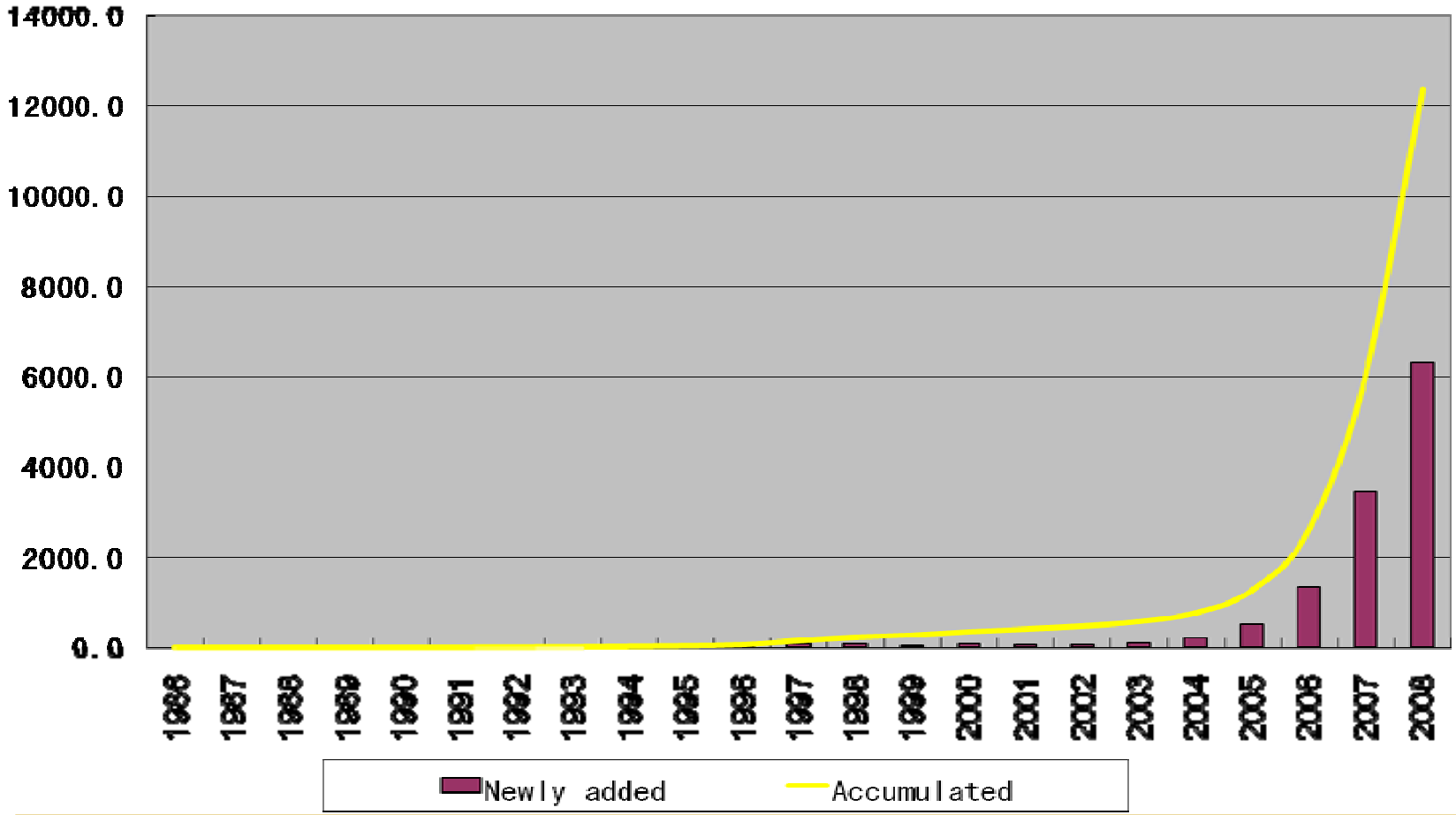
Emission of GHG for China by IEA



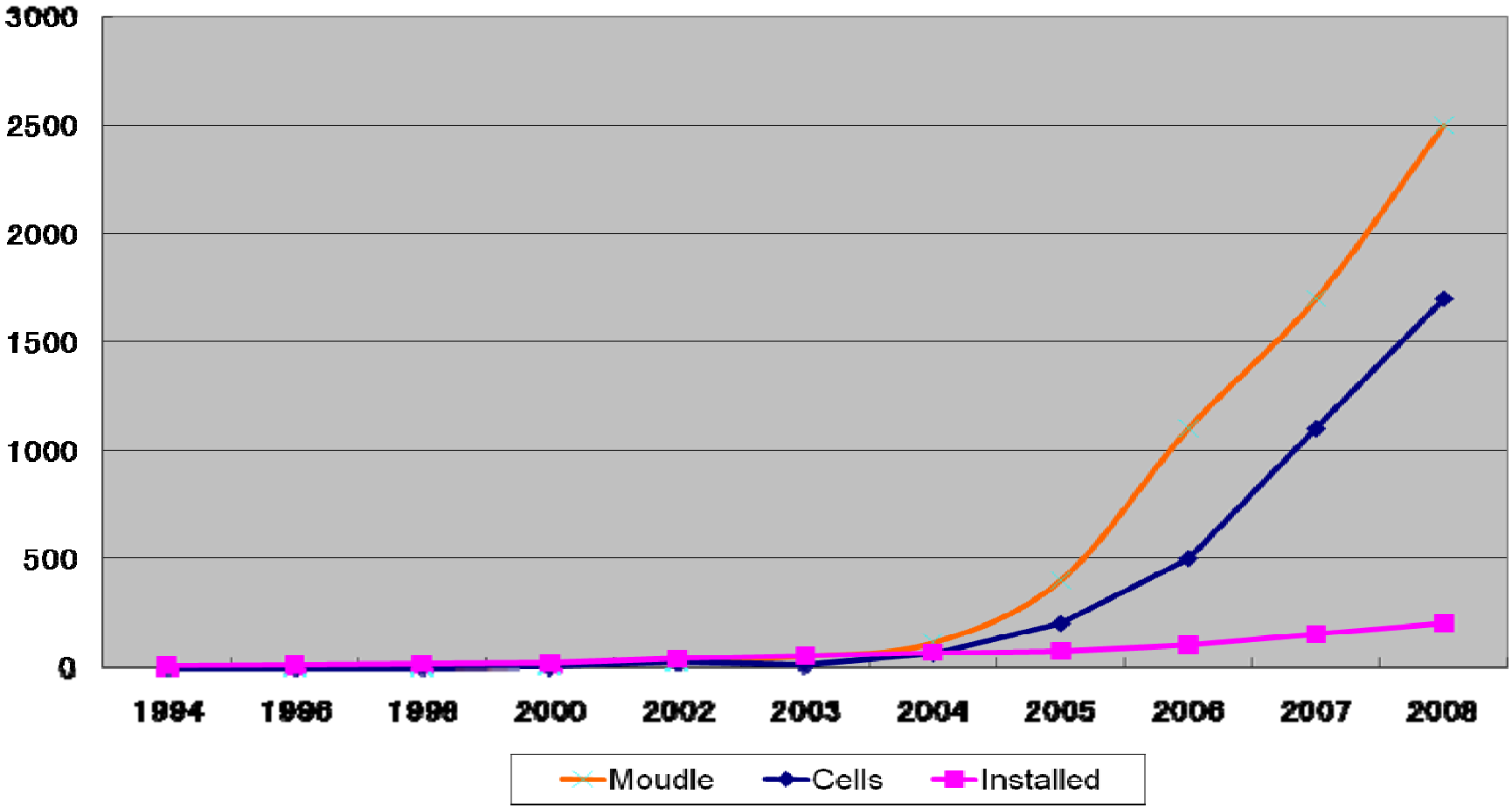
Renewable energy development review

Fast growth after 2005, after the renewable energy law to be issued

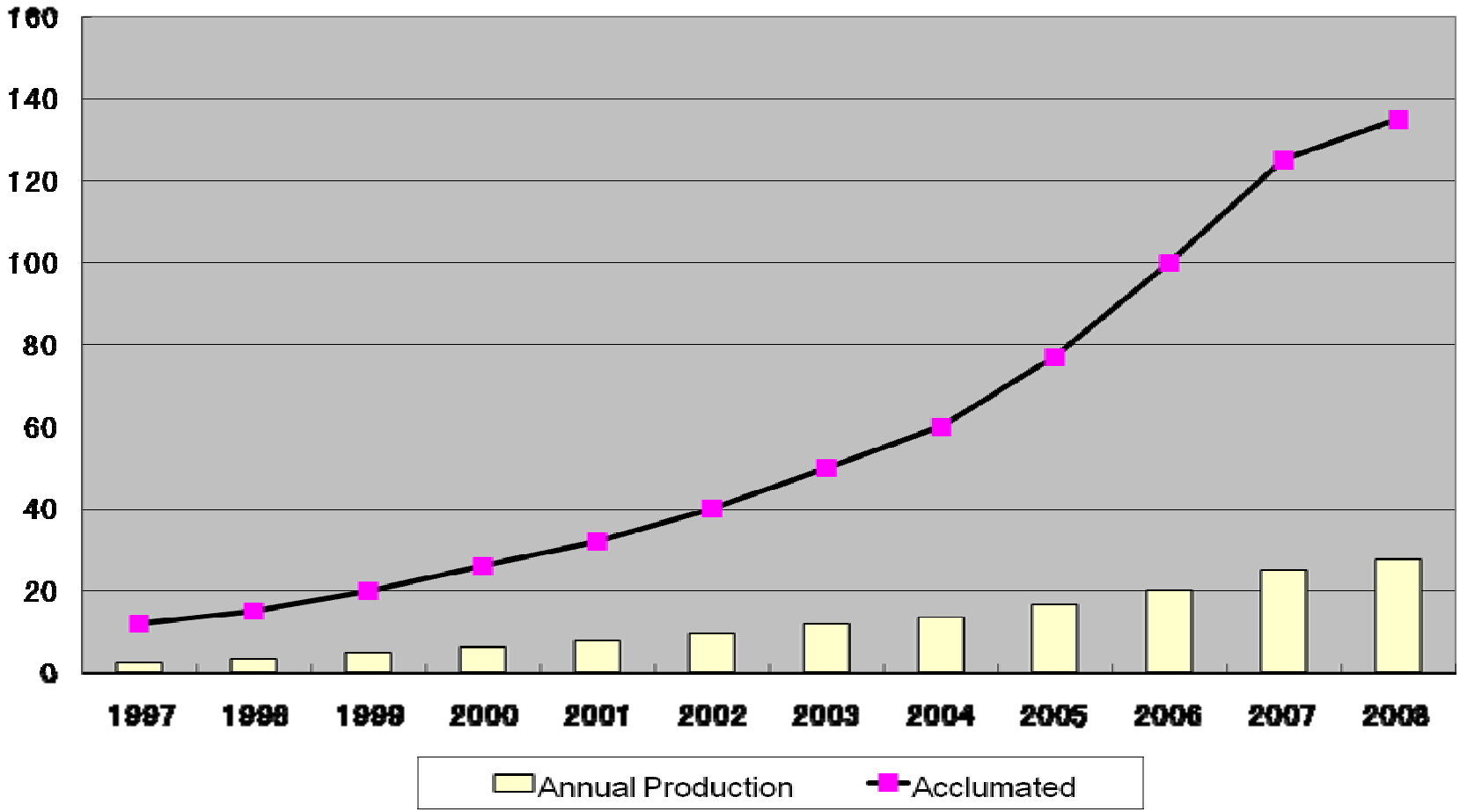
Wind development review



Solar PV manufacture status



Solar hot water system



Renewable energy position of China

- Wind: the forth large after USA, Germany, Spain and India
- Solar PV: the first large in the world
- Solar hot water system: the 65% market share of the world total
- Total renewable energy investment was ranked 1st in 2008 in the world

National target and policy of renewable energy development in China

National target 2020 and beyond

- target of 2020
  - Wind, 1000 GW or more
  - PV many 20 GW or more, current is 1.8 GW
  - Solar hot water system, 300 million squire meter or more
  - 15% or more of the total energy consumption
- Target beyond 2020
  - By 2030, 20%
  - By 2040, 30%
  - By 2050, 35 to 40% of energy from renewable energy

National policy

- national target mentioned above
- Fixed tariff for power
  - Wind 5 to 6 EURO cents
  - Solar 40 EURO cents
  - Biomass 3.5 EURO cents added on coal fired power bench mark price
- Subsides for fuels and building energy use from renewable
  - 3.5 billion RMB for biogas
  - 2 billion RMB for bio-fuels
  - 20 RMB per Wp of solar PV for buildings
- No food for fuels project after 2006.

Legal documents for renewable energy

- Renewable energy law in 2005
- Renewable energy planning for 2020, in 2007
- 12 detailed regulation for promoting renewable energy development, during 2006 to 2008
- Renewable energy and energy efficiency listed as the main options for reduction of GHG by NC4 in China

Technologies needs for RETs

- Wind
  - Turbine Design
  - Blade design
  - Bearing production technologies and equipment
  - Special materials
- Solar PV
  - Silicon manufacture technologies with low emission
  - Thin film production technologies
- Bio-fuels
  - Non-food liquid fuel production technologies
- R&D capability, such as national center and laboratory

Financial needs assessment

- No money need for market driving, since commercial investment and FDI channels are woring
- Major financial support should go to technologies transfer and R & D
  - The failure of technologies transfer under UNFCCC
  - Successful of technologies transfer of market based
- UNFCCC's role for technologies transfer and financial support in renewable energy should be discussed
  - ?
  - ?

Summary and conclusion

- Summary
  - Renewable energy become a important role of energy supply in the recent year
  - Renewable energy is also a option for GHG reduction in China
- Conclusion
  - Renewable energy is the power for China's development both in short and long term
  - China is the largest market of renewable energy technologies in the world in the next 10 to 30 years.

Thanks for the attention

Tel: +86 10 68002615
Fax: +86 10 68002674
Email: lijf@eri.prg.cn
Website: www.creia.net