

Competing Gas Uses

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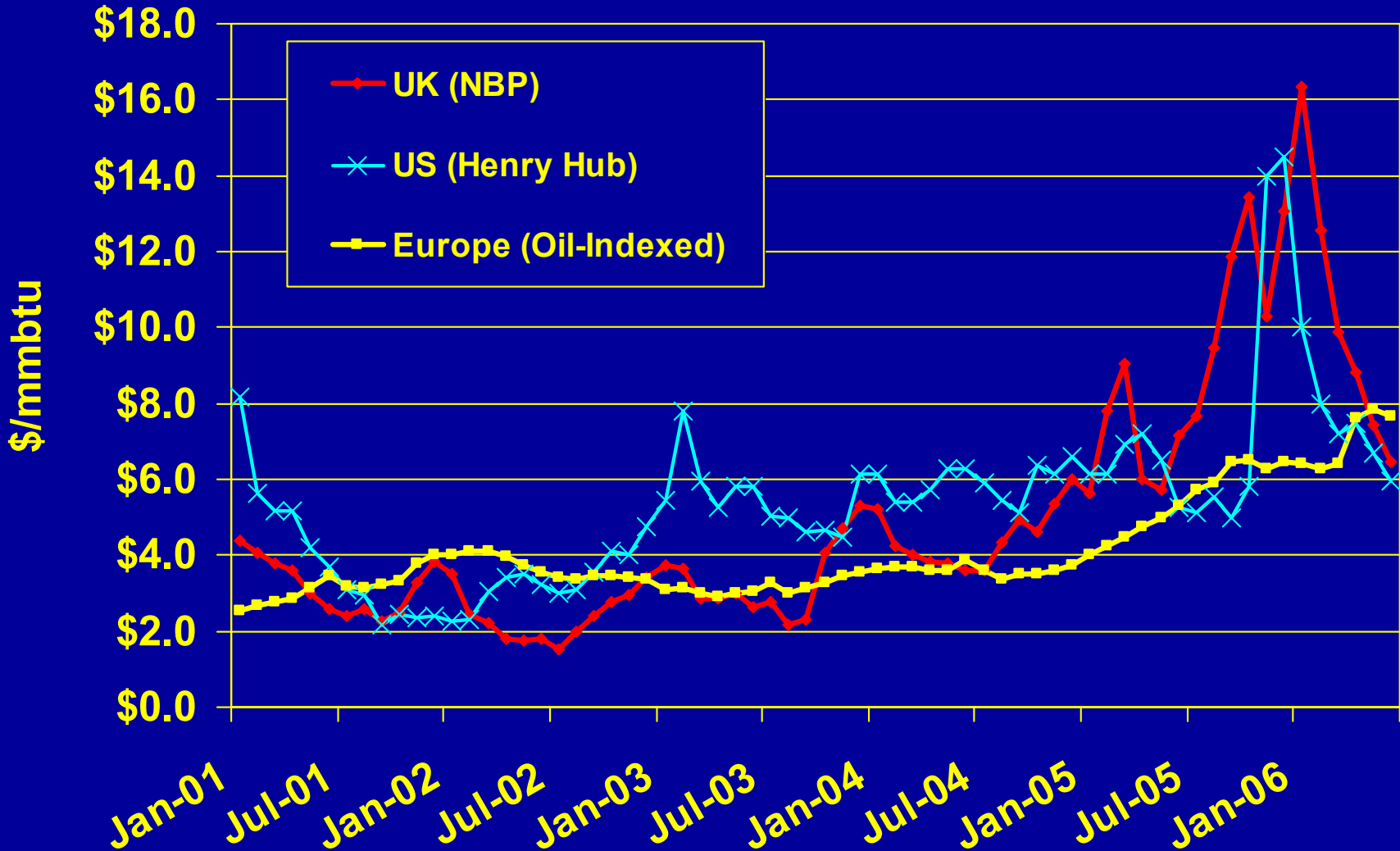
India's Expanding Gas Markets
New Delhi, India

April 16, 2006

Outline

- 1) **Natural Gas Pricing:** Lessons from the U.S. experience
- 2) **Uses of Gas and Competition**
- 3) **Supply and Pricing:** Supply of gas to the world market
- 4) **China:** Rival for LNG supplies?

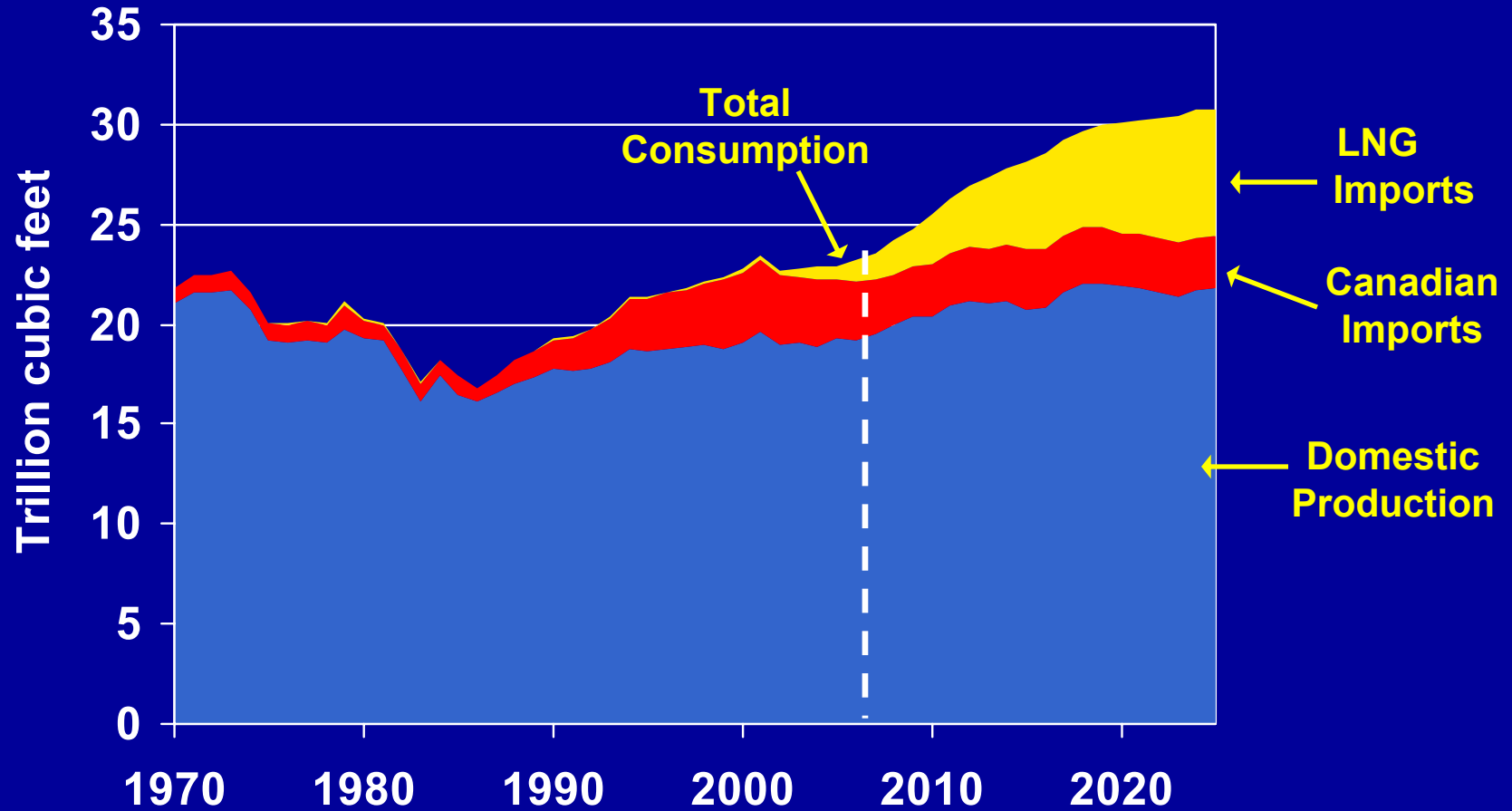
U.S. & U.K. spot, European Contract Prices



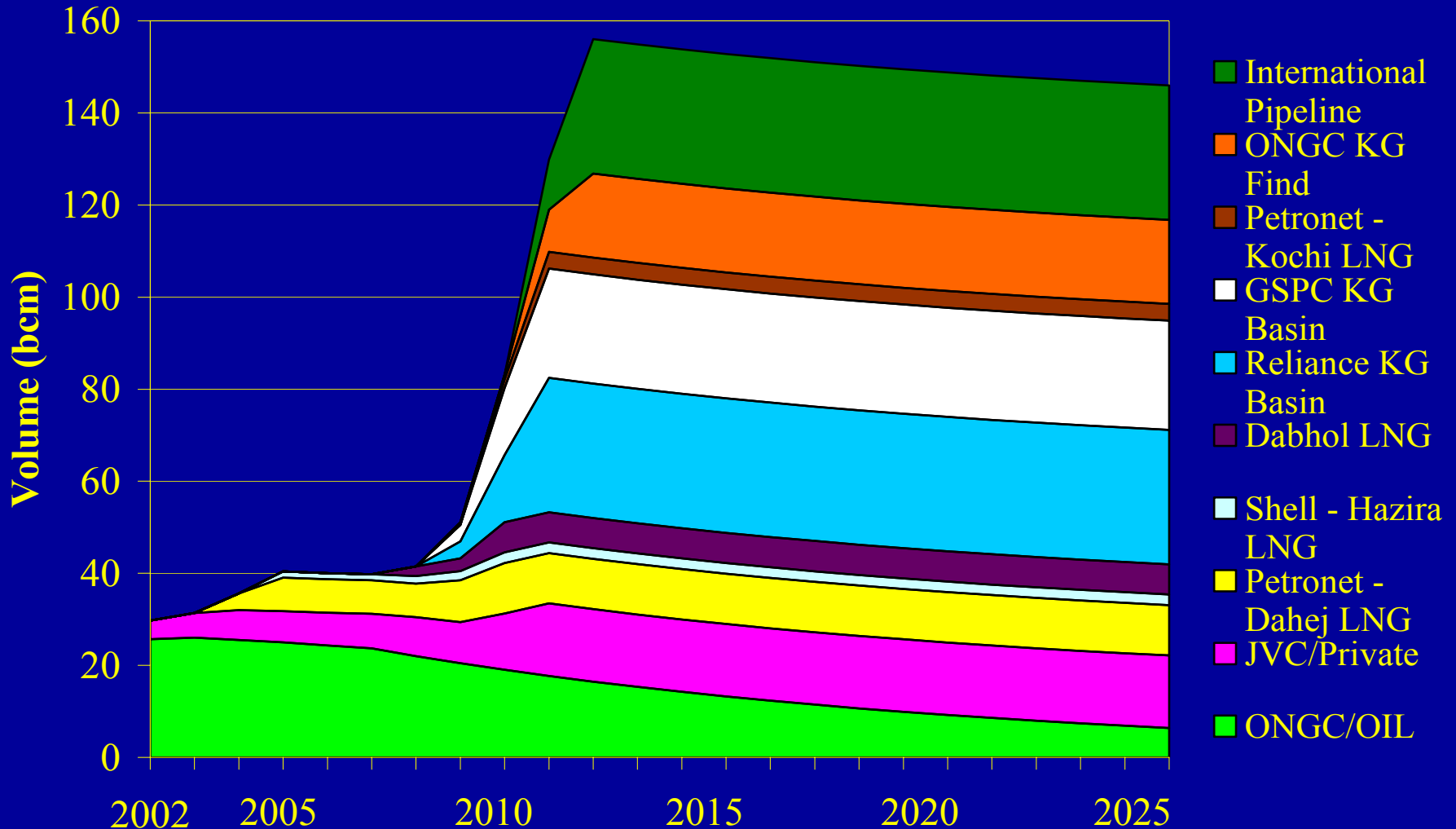
Source: Heren, Bloomberg

Projected U.S. Natural Gas Supply Sources

EIA-AEO 2005



Potential Gas Supplies in India



Source: Jackson/PESD estimates based on company statements, consultant reports, and government projections

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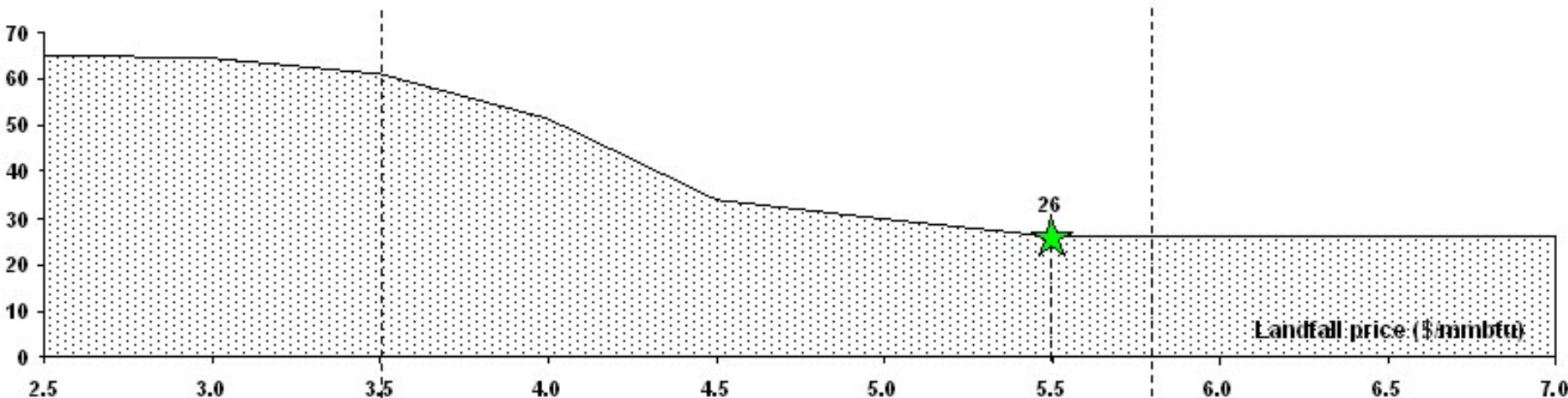
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The gas demand from Industrial segment is expected to be fairly price elastic at low to moderate gas prices

Preliminary Outputs from
A.T.Kearney – Stanford Study

Gas demand curve – Industrial sector (2025)

(bcm)



Low Gas Prices

- Gas demand high as it is competitive to all fuels including coal
 - Conversion of coal/liquid fuel based units

Moderate Gas Prices

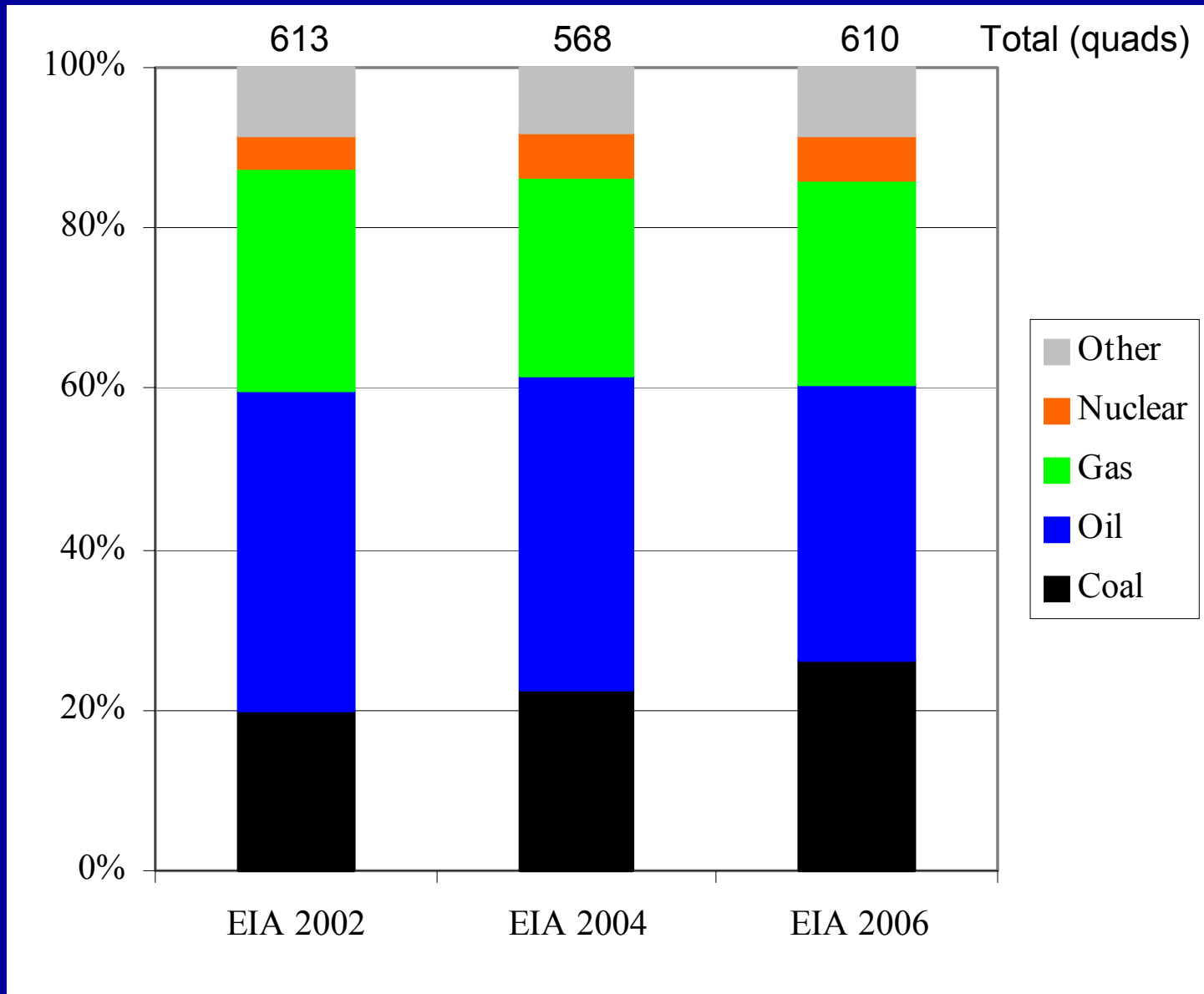
- Gas demand very elastic especially in the lower range
 - At higher prices, gas becomes uncompetitive for conversion of coal based capacities
 - Gas prices attractive for conversion of liquid based capacities
 - Gas provides an attractive option for incremental capacities
 - As the price increases, viability of conversion reduces

High Gas Prices

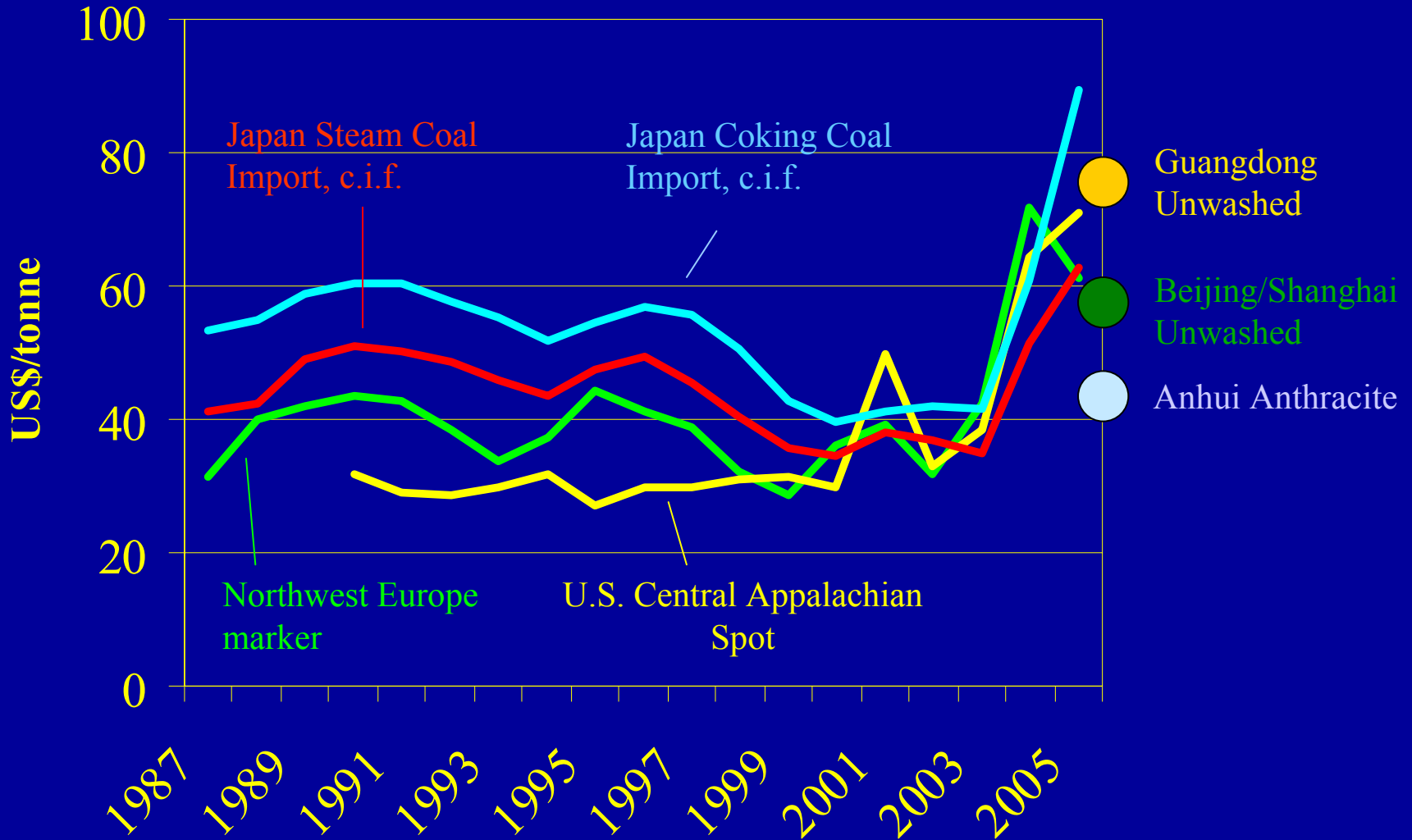
- Gas demand inelastic
 - Demand mainly from existing gas based capacities and liquid fuel conversions is sustained due to superior economics
 - Prospects of attracting new capacities on gas reduces in the higher ranges

Source: A.T.Kearney Analysis

The Resurgence of Coal: Price Effects



International Coal Prices



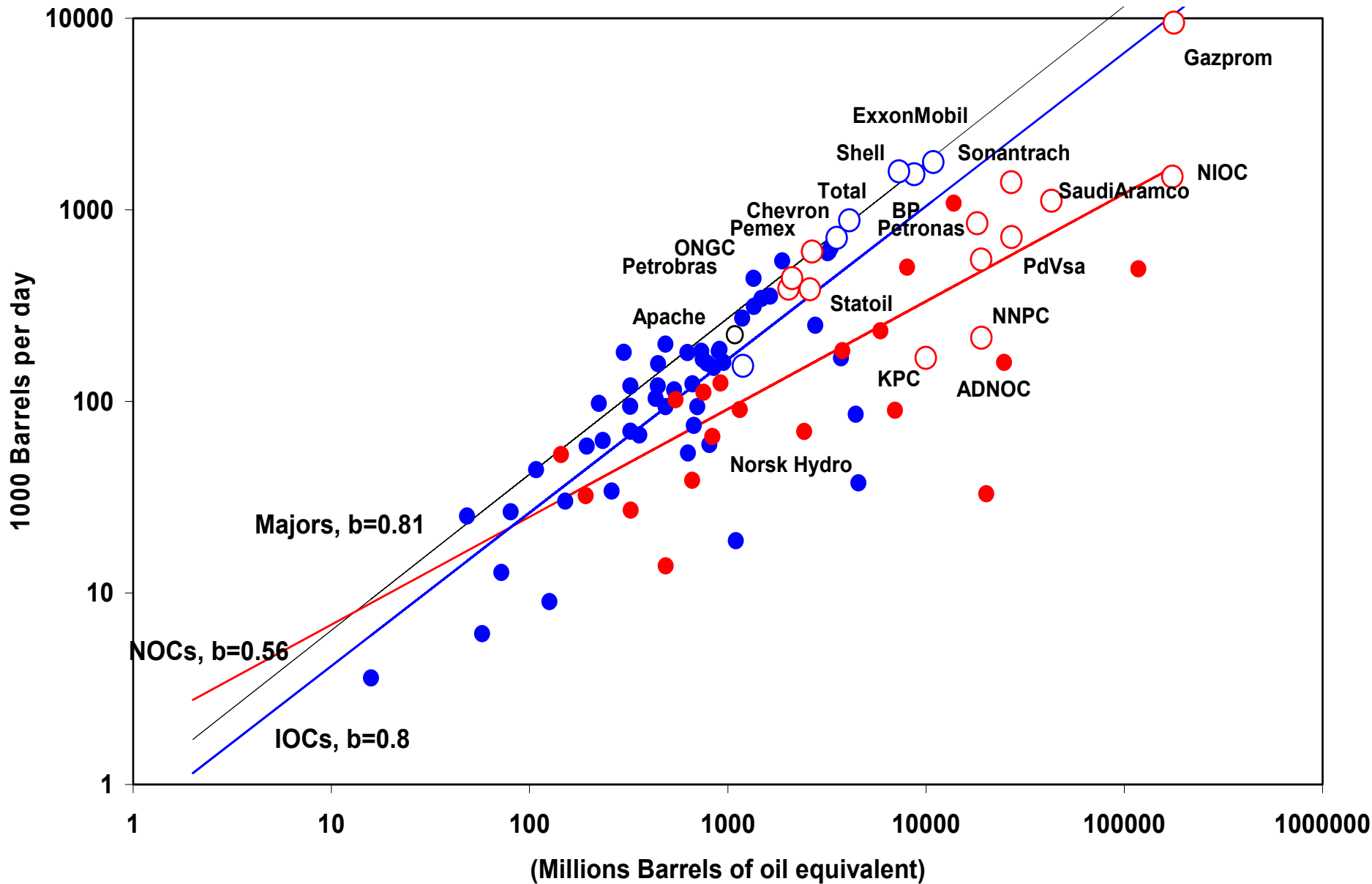
Advanced Coal Technology: Ultra-supercritical in China



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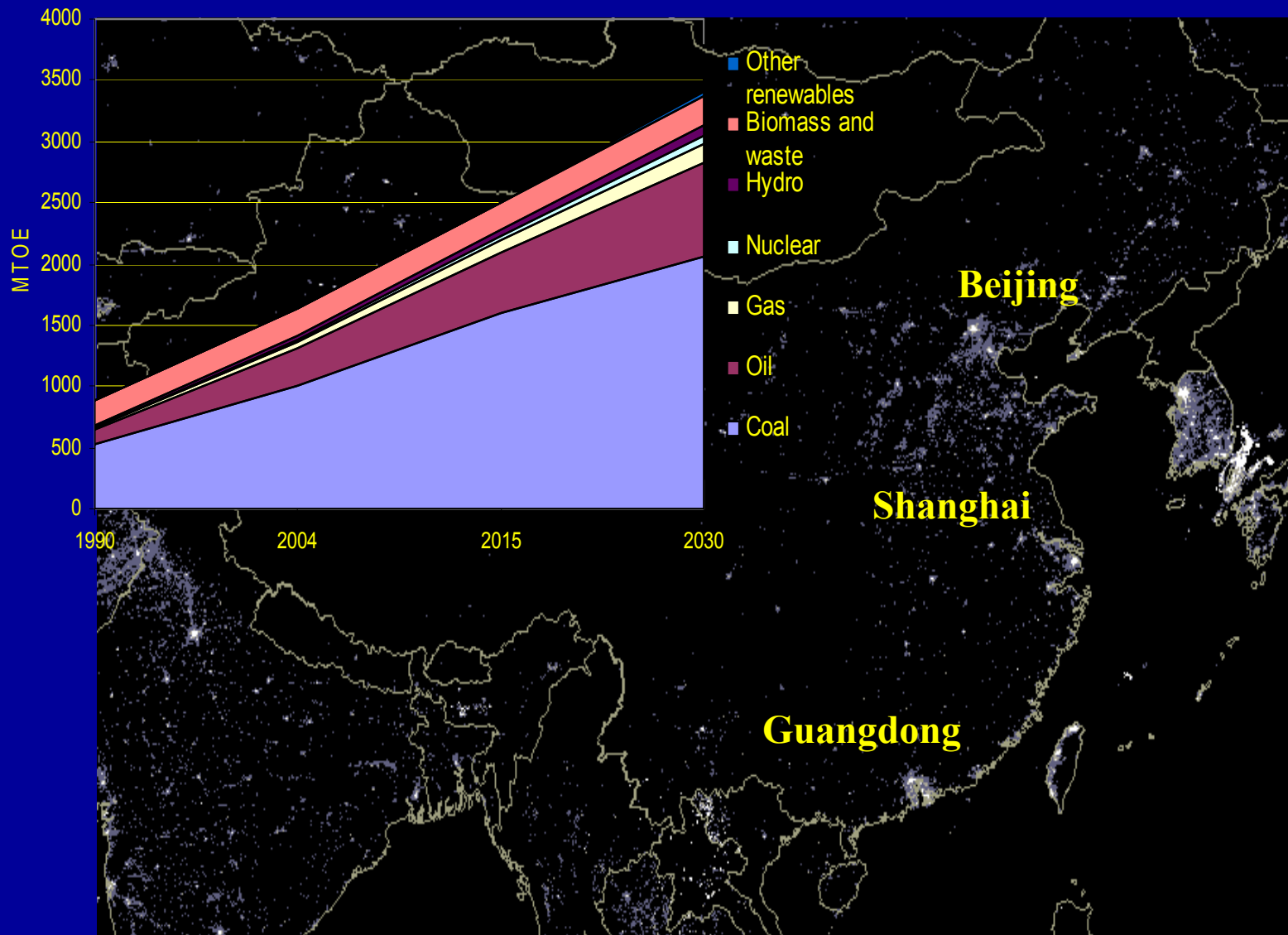
100 Oil Companies: Gas Output versus Gas Reserves in 2004



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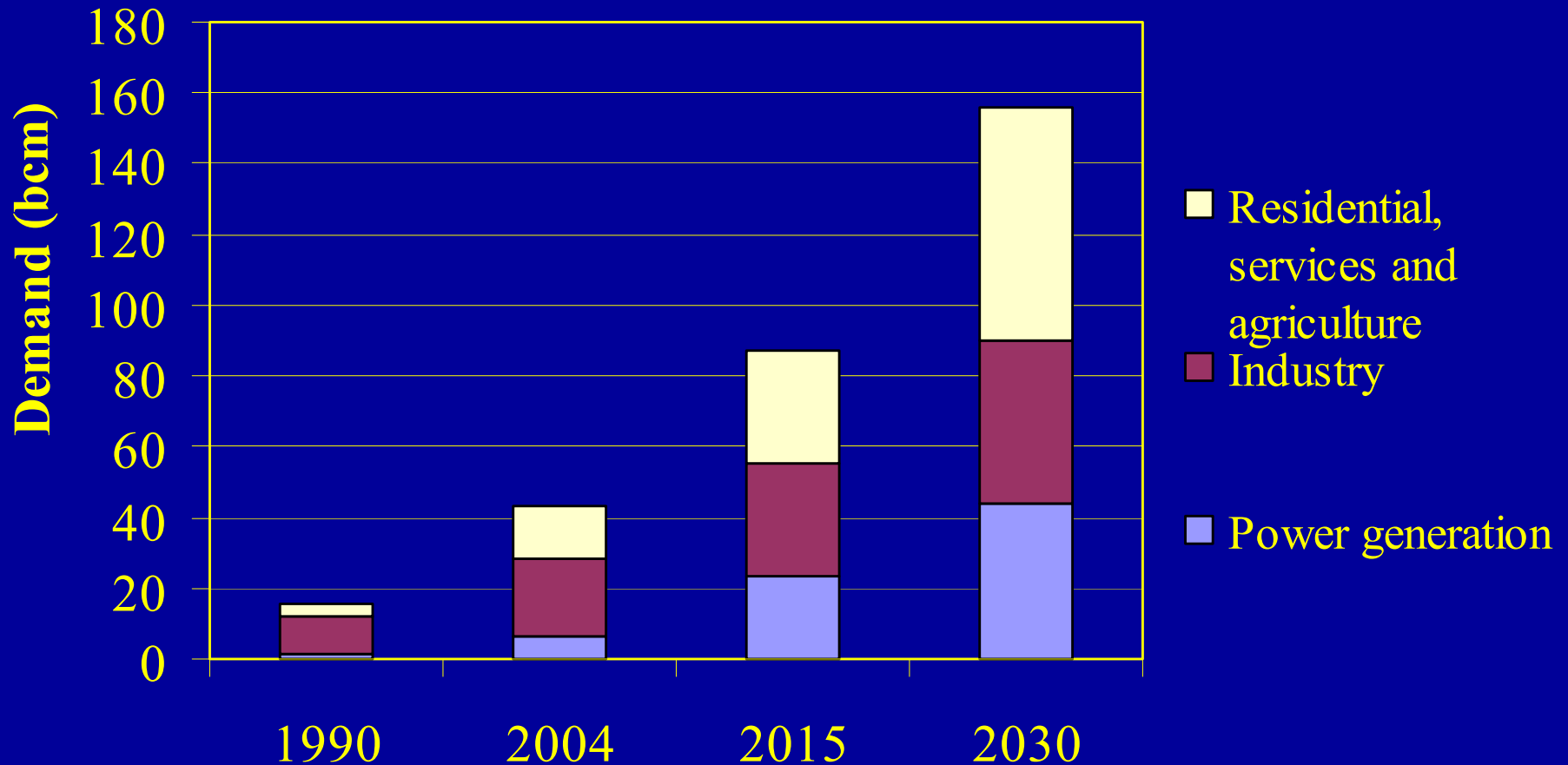
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China: Energy Demand and Energy Balance



Source: IEA, 2006

China: Gas Demand

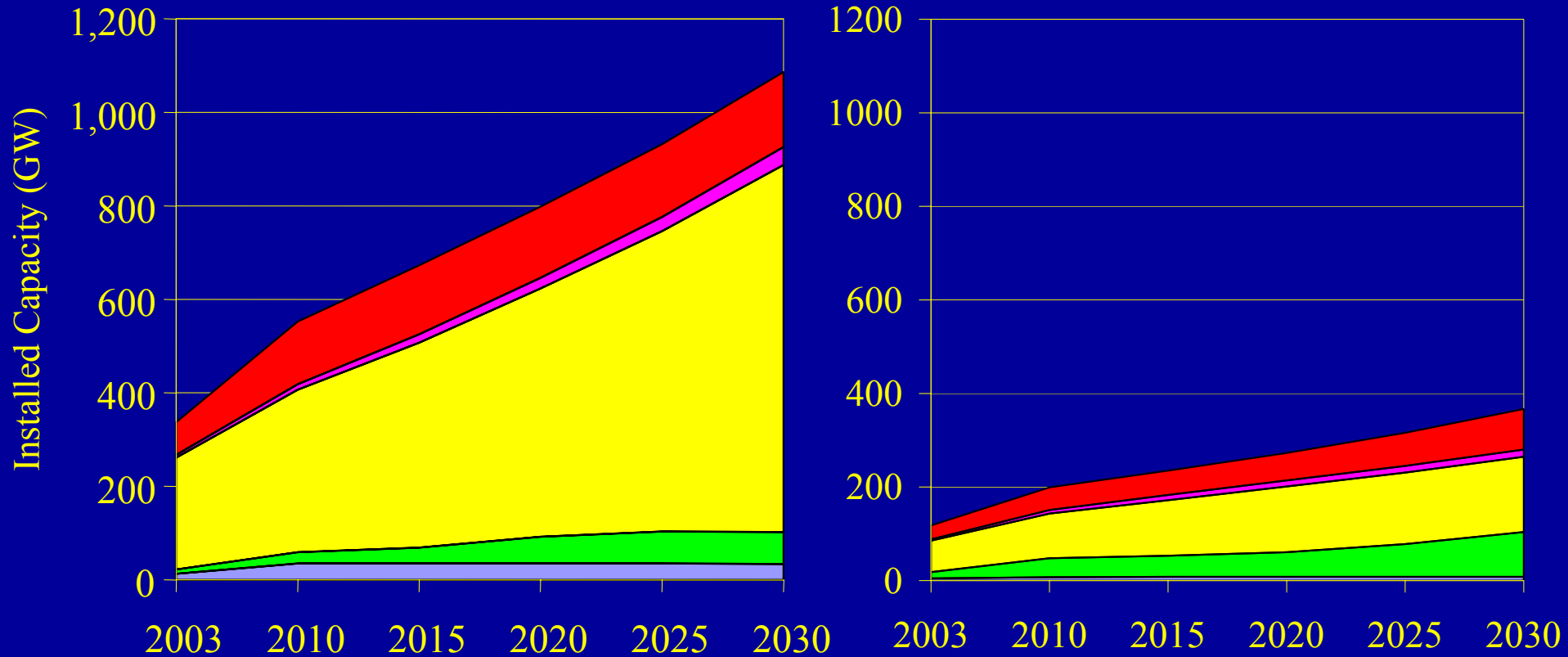


Source: International Energy Agency, 2006.

Electricity Generating Capacity

China

India



Source: IEA WEO 2006

■ Diesel ■ Natural Gas ■ Coal ■ Nuclear ■ Renewables (incl. Hydro)

Thank you