

CHINA'S RISE

CHALLENGES AND OPPORTUNITIES

TREVOR HOUSER
VISITING FELLOW, PETERSON INSTITUTE
DIRECTOR, ENERGY & CLIMATE PRACTICE, RHG

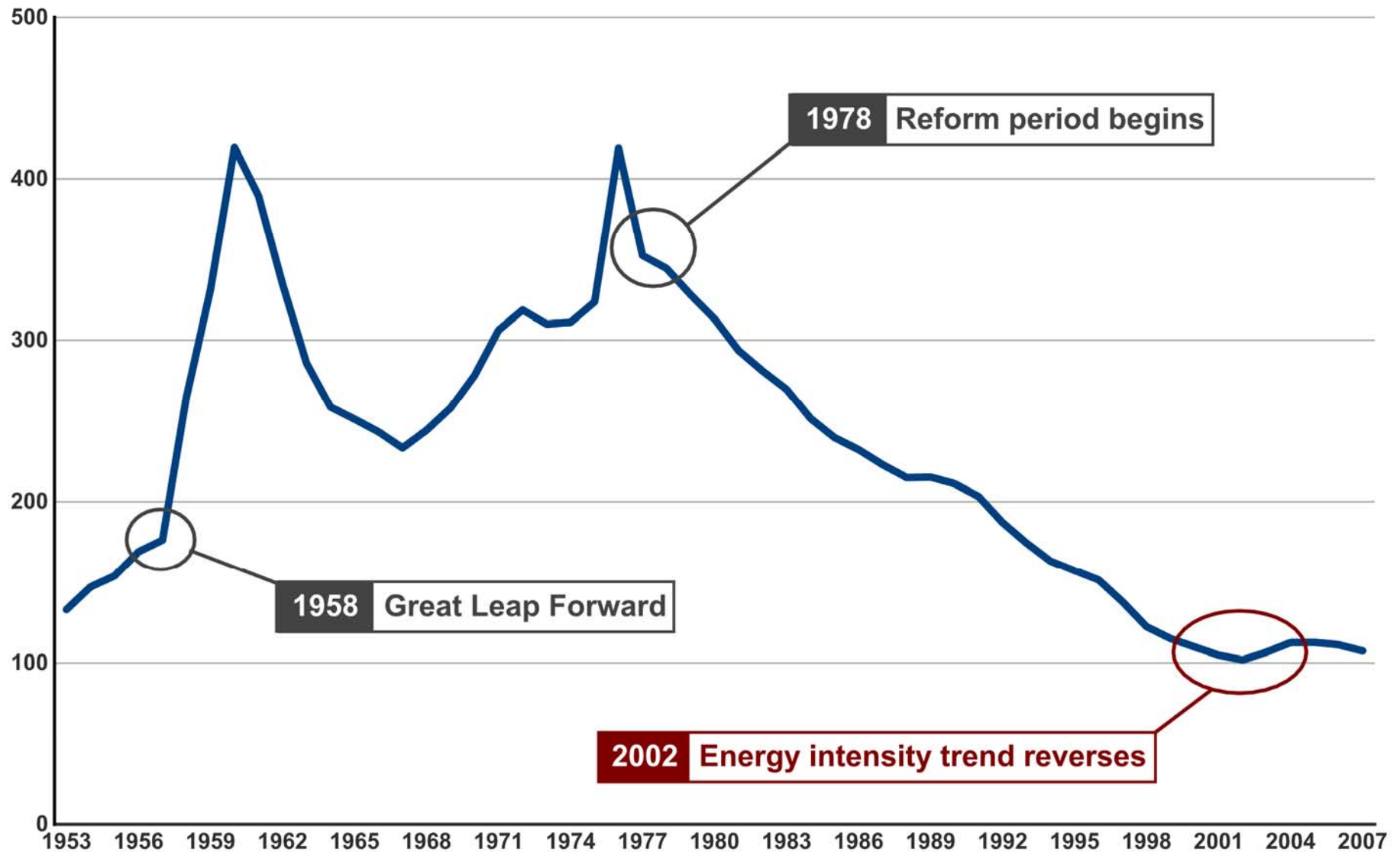


WASHINGTON, DC
NOVEMBER 24, 2008



Energy Intensity of Chinese Growth

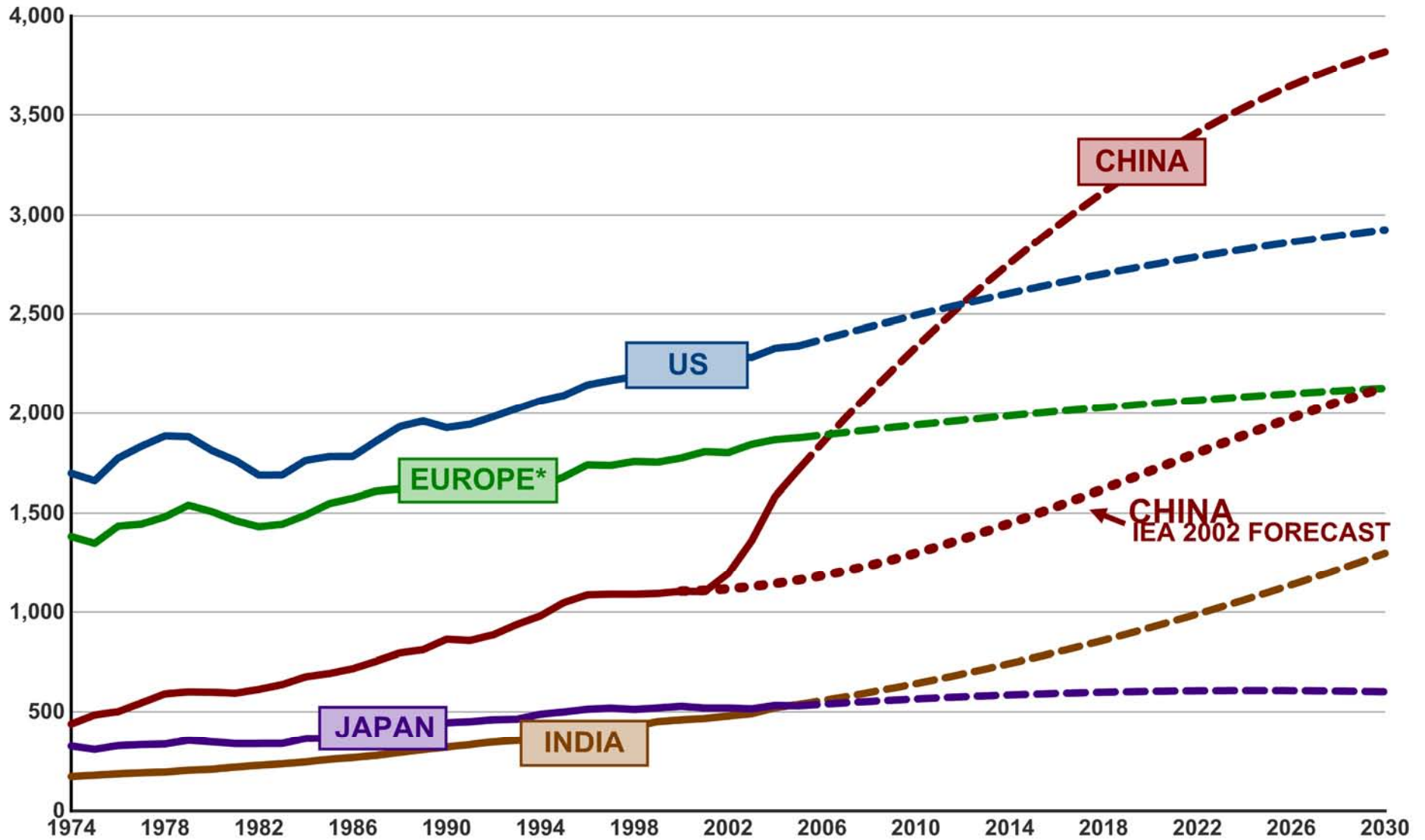
tons of coal equivalent per million real RMB



Source: CEIC from China Statistical Yearbook

A New Chinese Energy Future

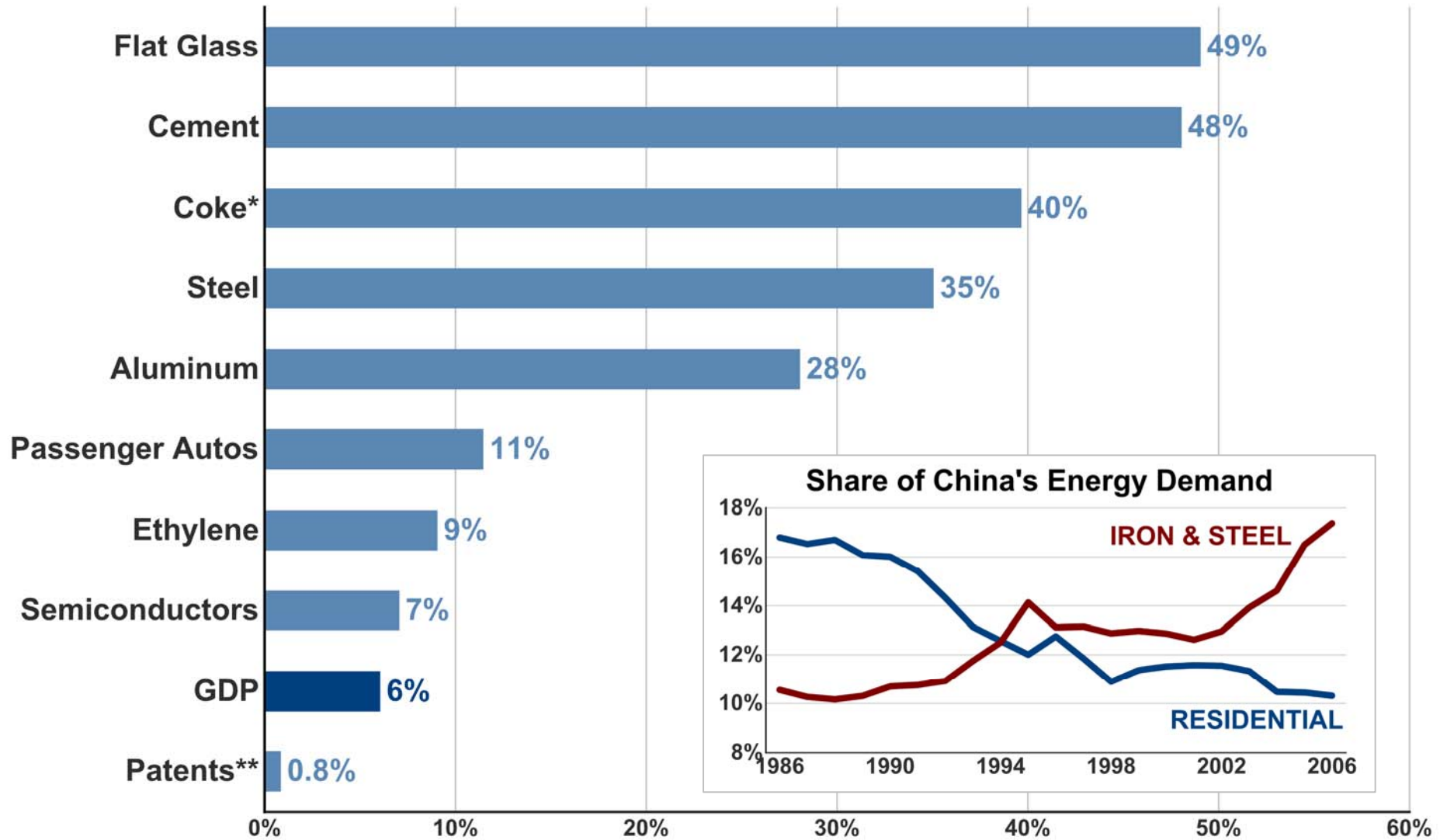
IEA 2007 demand projections, million tons of oil equivalent



Source: Historic data from IEA World Energy Statistics and Balances 2007. Projections from the IEA World Energy Outlook 2007. Europe refers to OECD Europe.

China's Share of Global Production

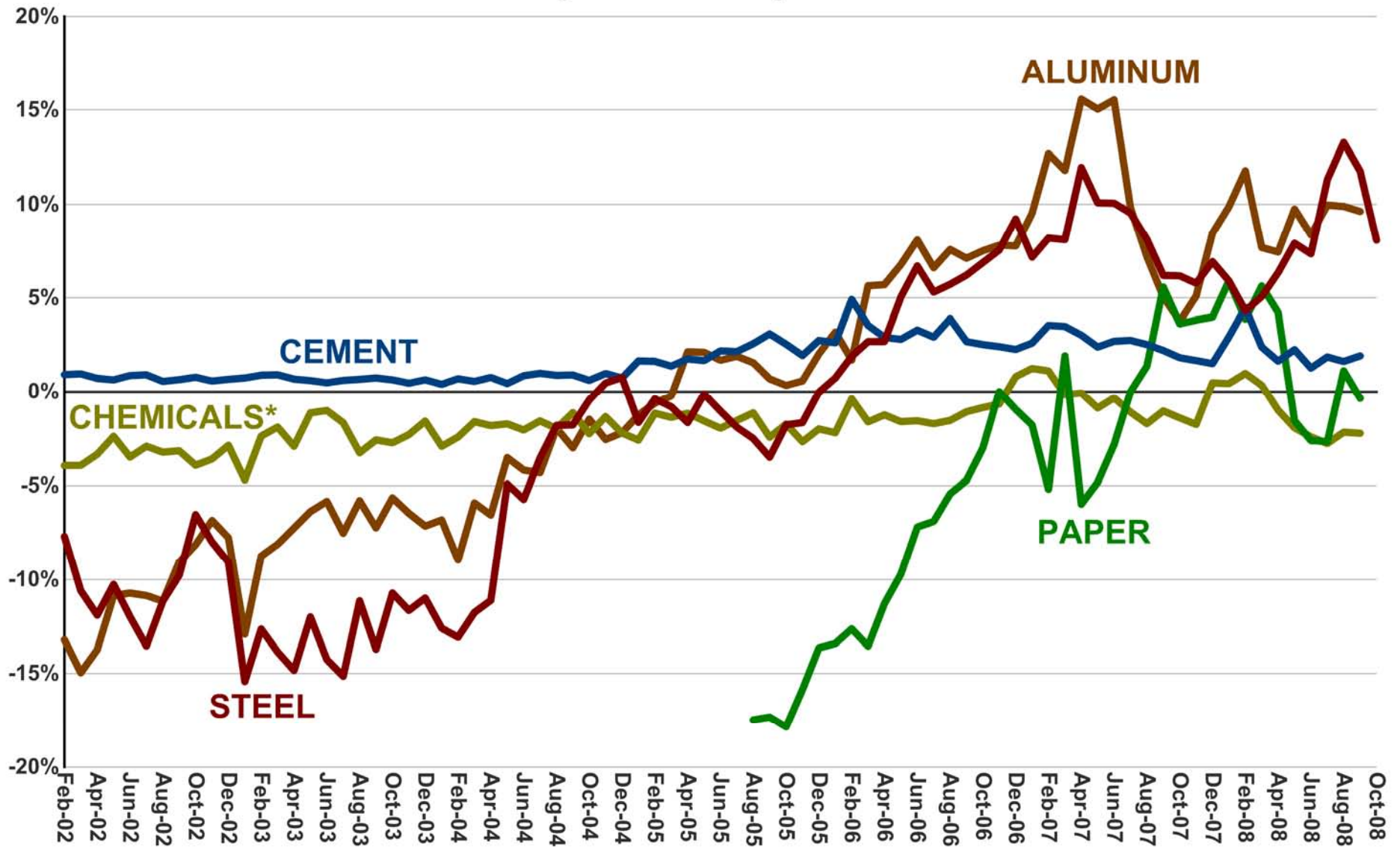
2006



Source: Source: CEIC, USPTO, IEA, Pilkington, IISI, USGS, Comtex, Abare Economics and author's estimates. * refers to 2005 estimates
 ** Refers to share of US Patents awarded to foreign countries

Changing Trade Balance in Energy-Intensive Goods

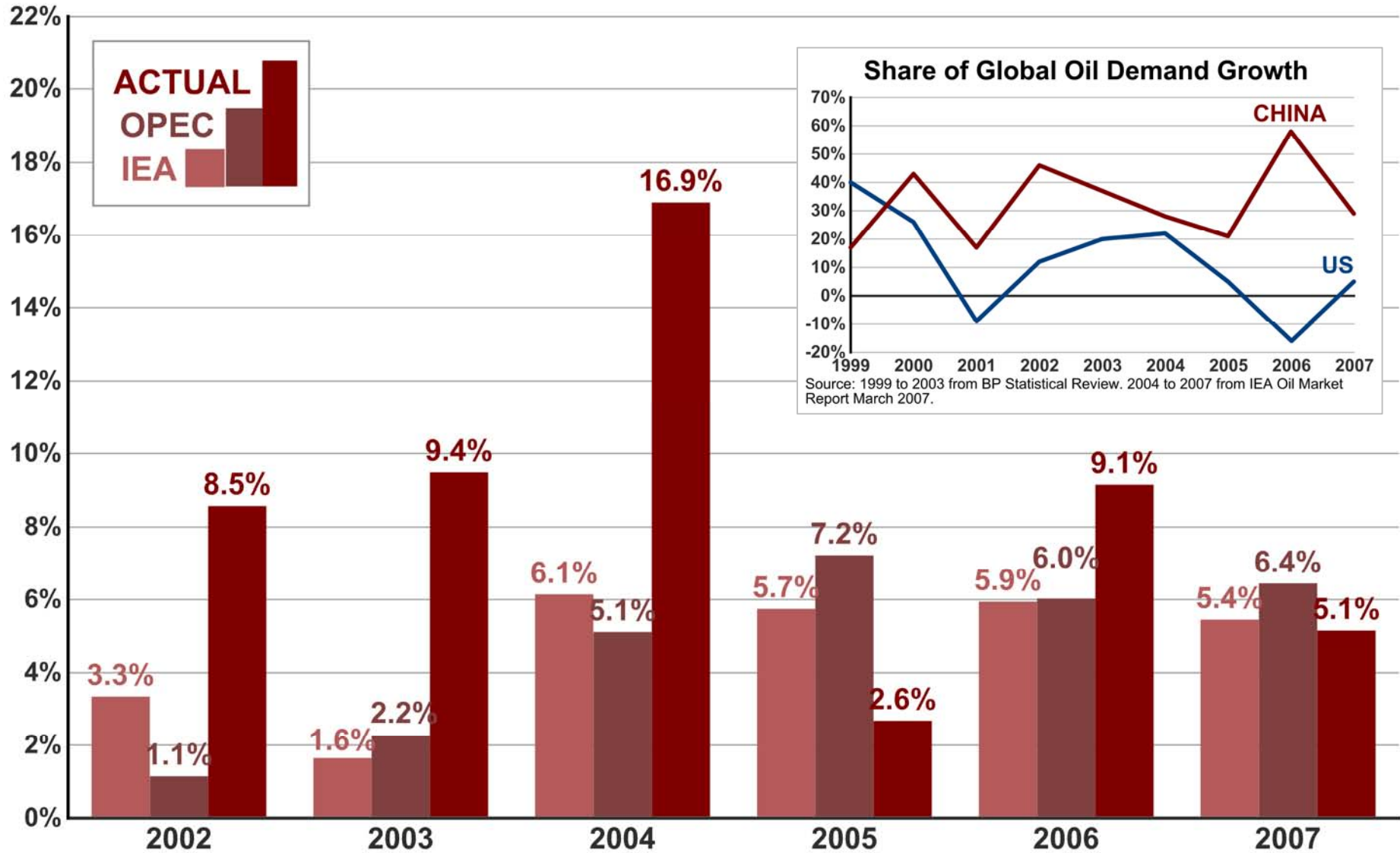
Net exports as share of production



Source: CEIC and RHG estimates. * Chemicals include only key energy-intensive products:

Volatility in Global Oil Markets

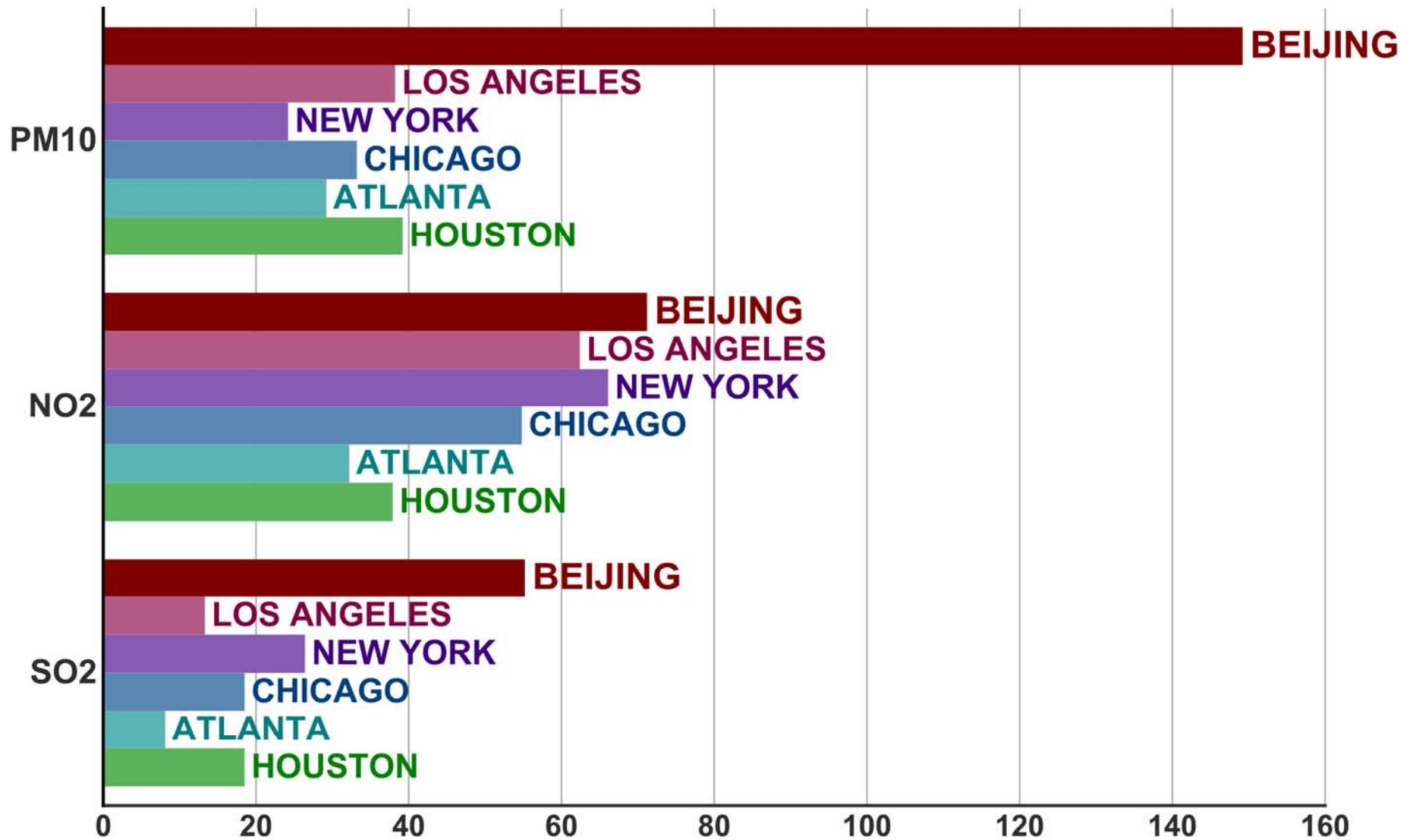
China oil demand forecasts and actual level



Source: Start of year forecasts from IEA and OPEC Monthly Oil Market Reports. Actual demand is from China Statistical Yearbook via CEIC.

Urban Air Quality

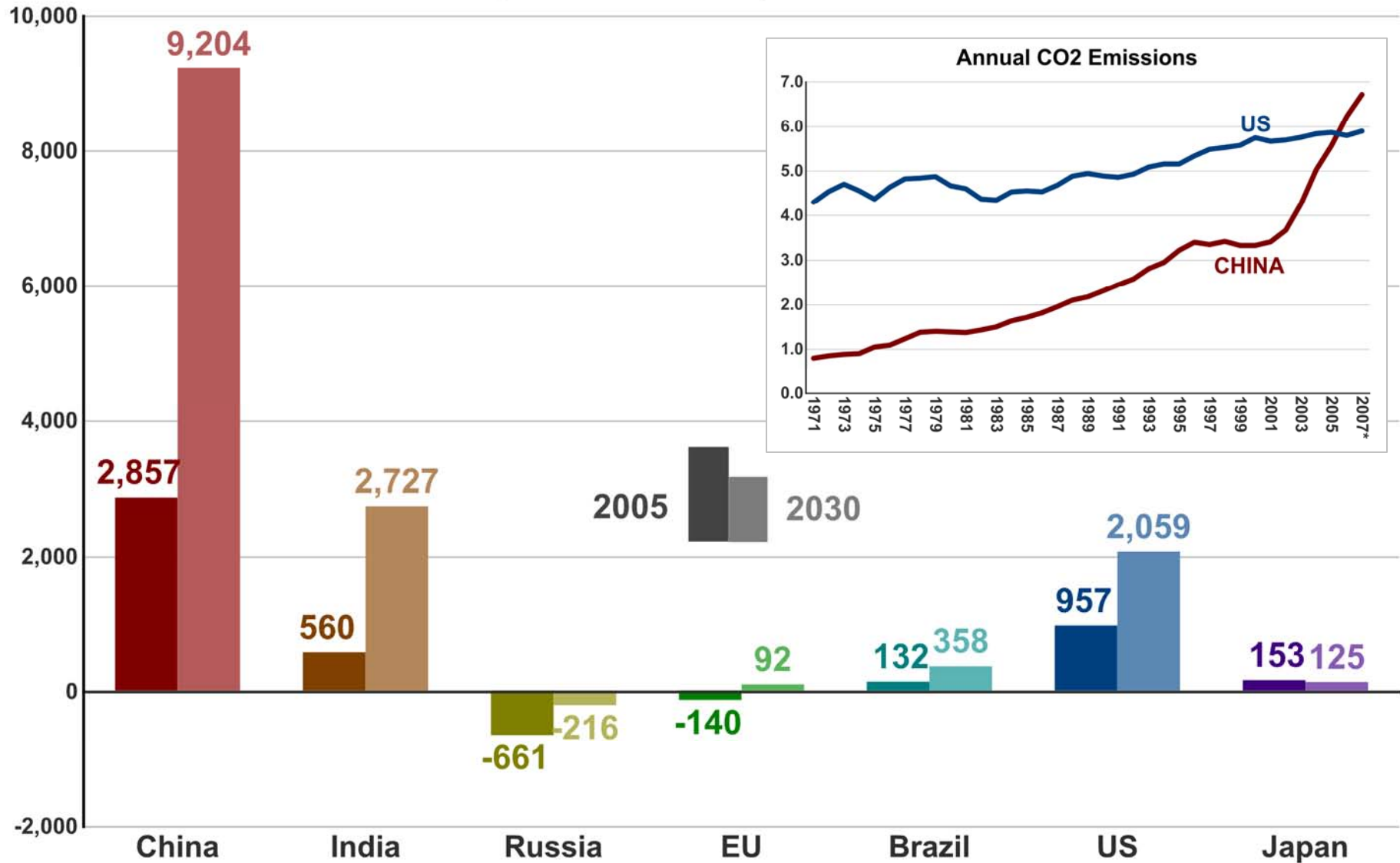
micrograms per cubic meter, 2004



Source: All values are in micrograms per cubic meter. US values for SO2 and NO2 have been converted from ppm using standard temperature.

Growth in Annual CO2 Emissions

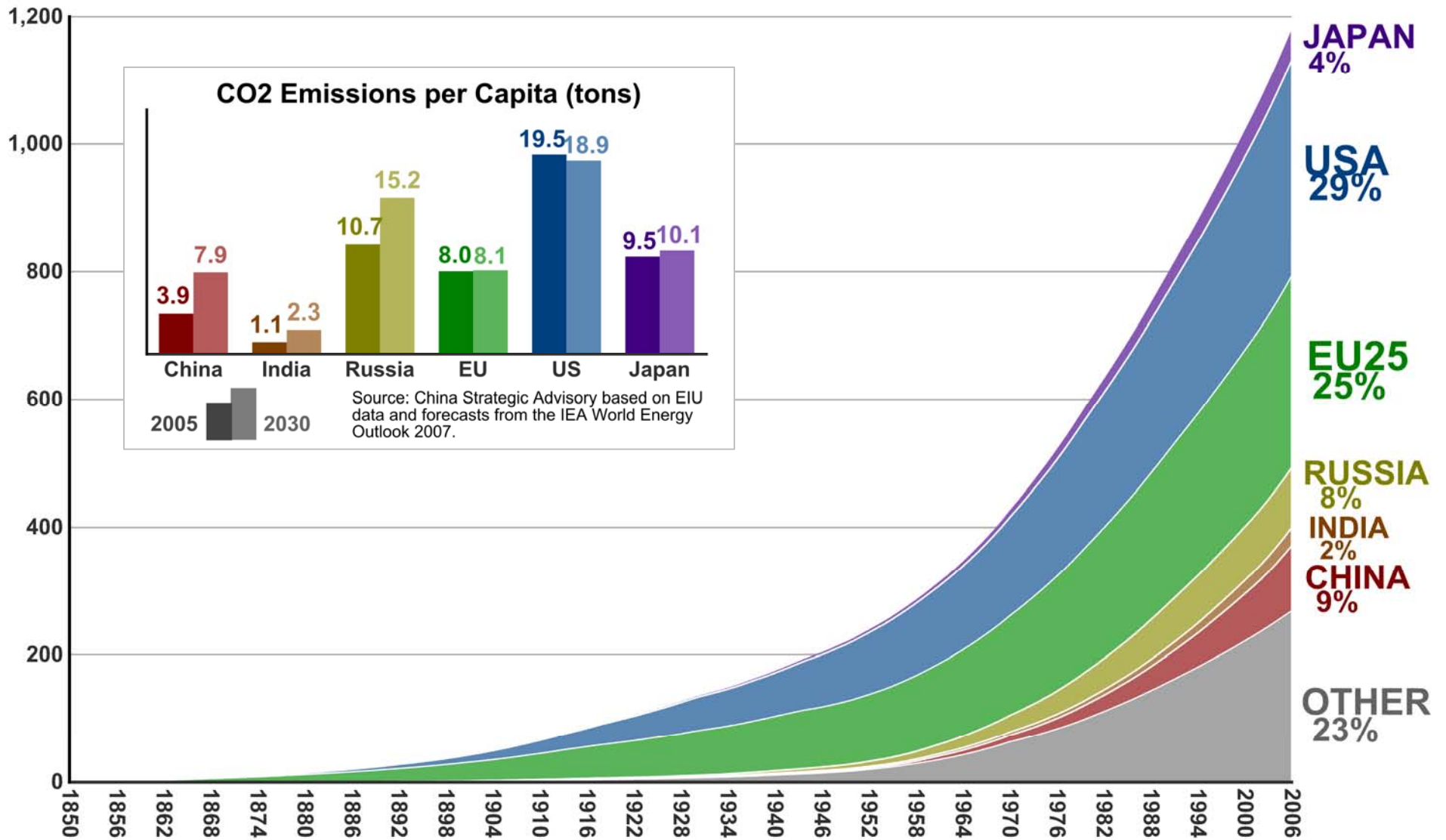
Change over 1990 baseline, million metric tons



Source: IEA WEO 2007 and CSA estimates

Cumulative CO2 Emissions

billion metric tons of carbon dioxide

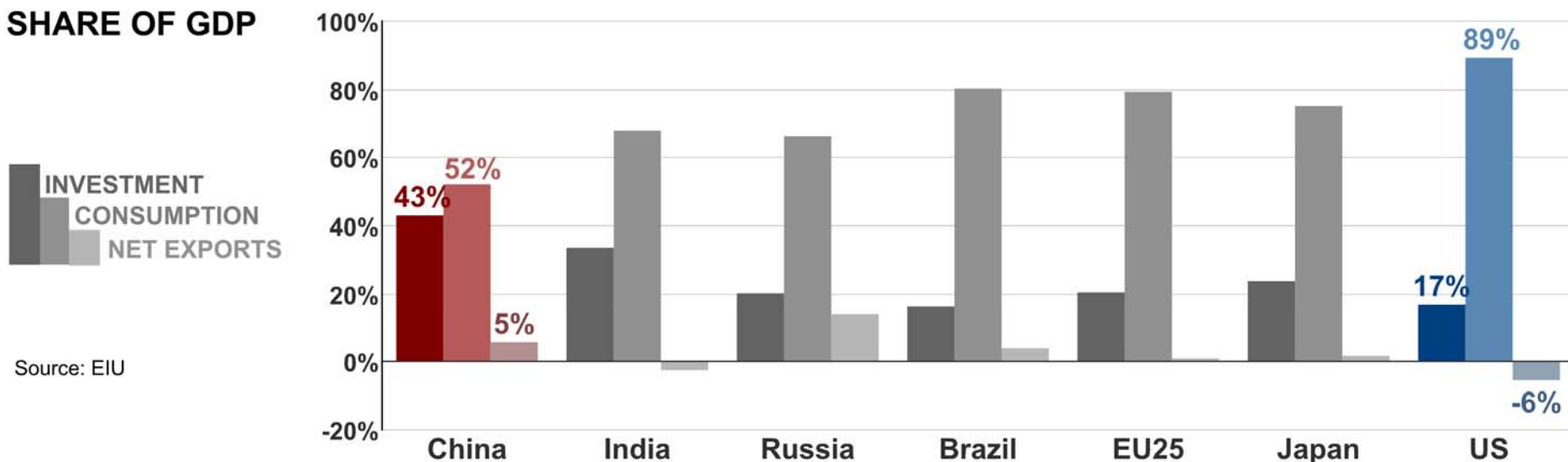


Source: WRI CAIT, IEA and Netherlands Environmental Assessment Agency

China and the US: Mirror Challenges

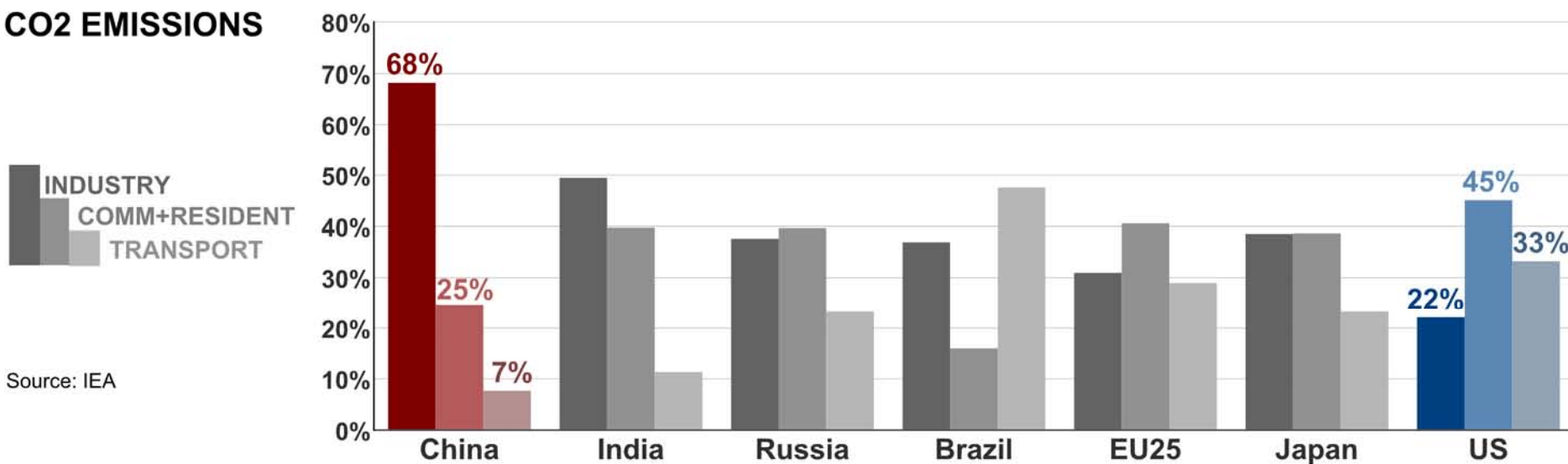
Economic Structure and Source of CO2 Emissions

SHARE OF GDP



Source: EIU

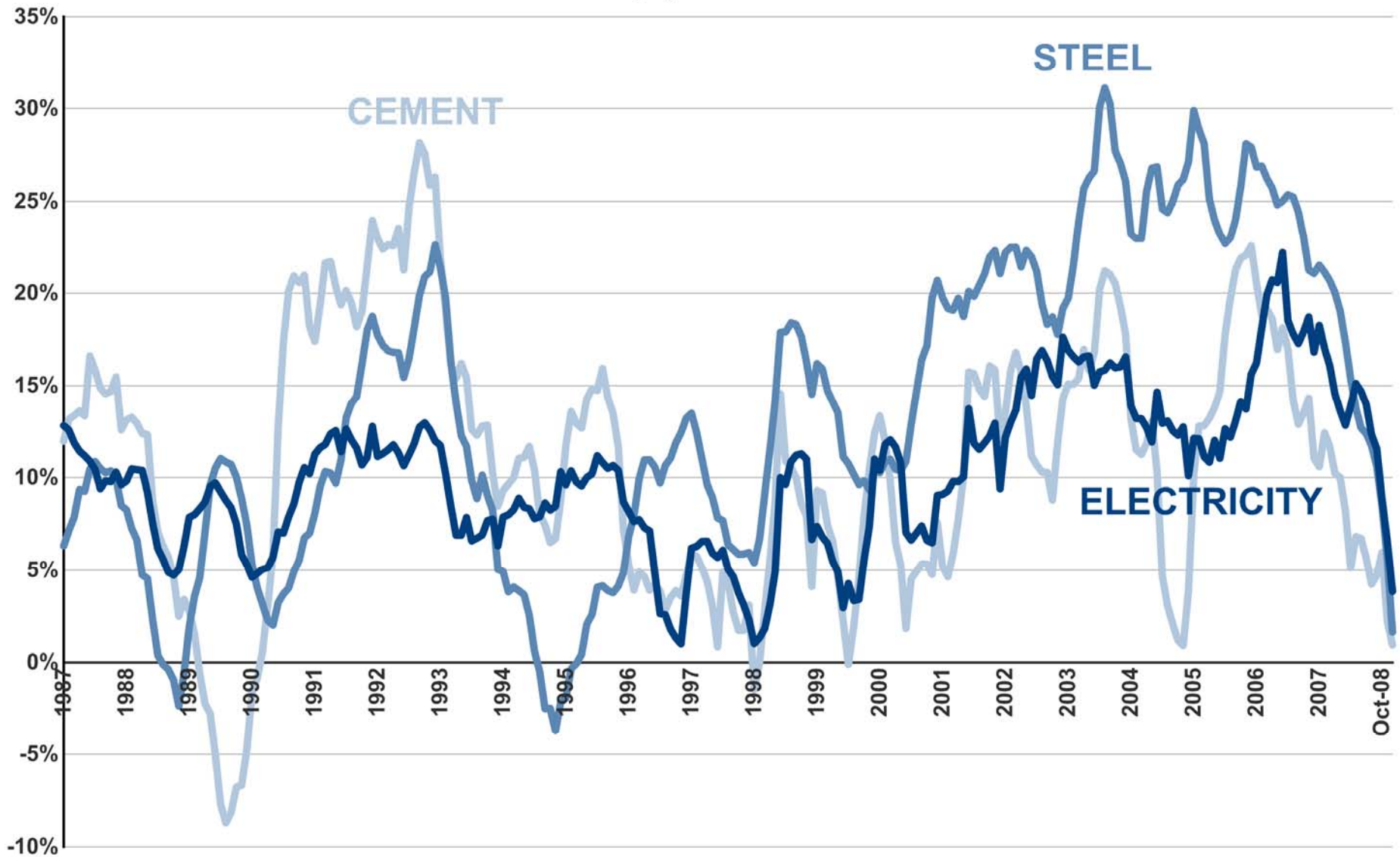
CO2 EMISSIONS



Source: IEA

Electricity, Steel and Cement Production Growth

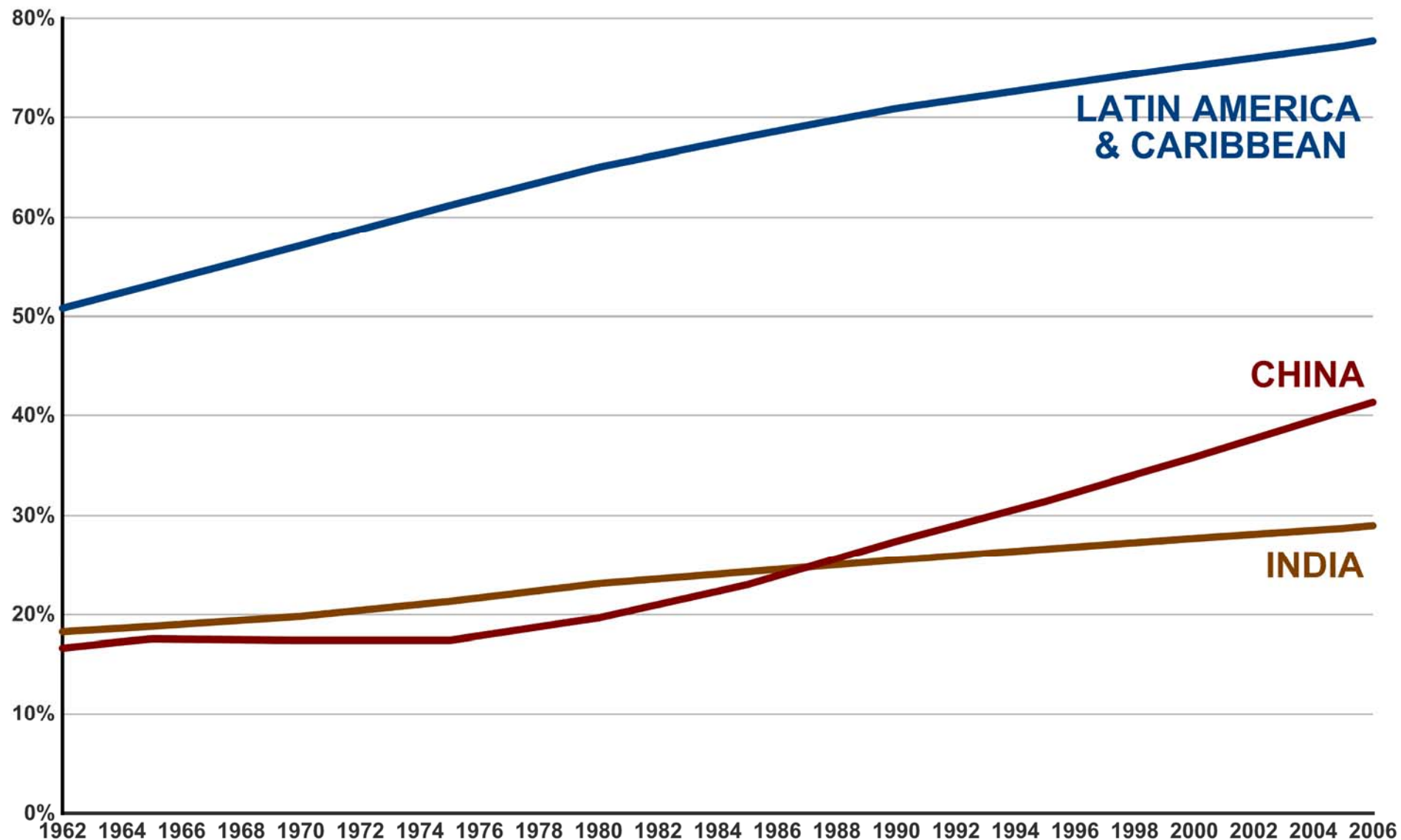
yoy 6mma



Source: CEIC and RHG estimates

Urban Population as Percentage of Total

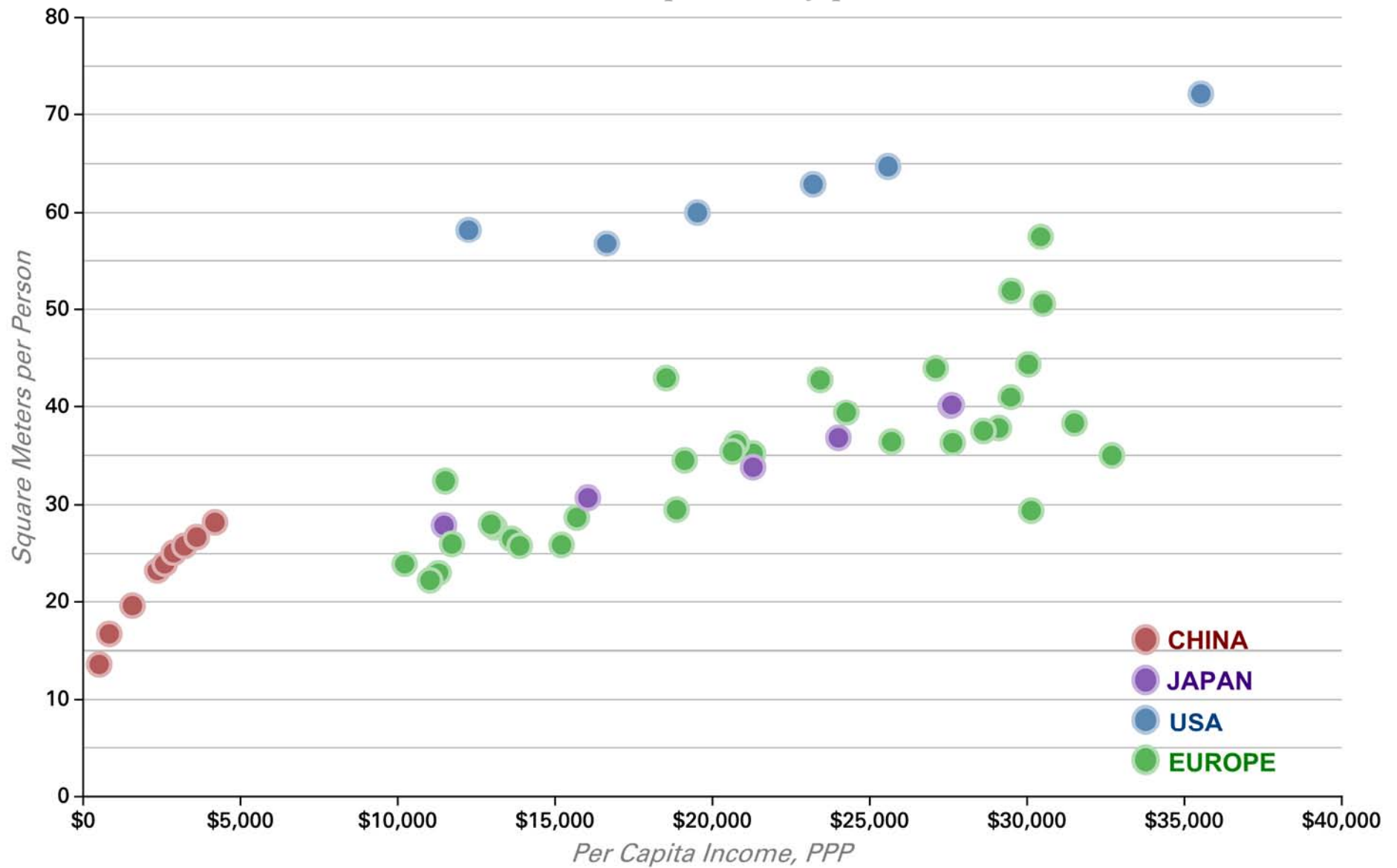
1962-2006



Source: World Bank, World Development Index

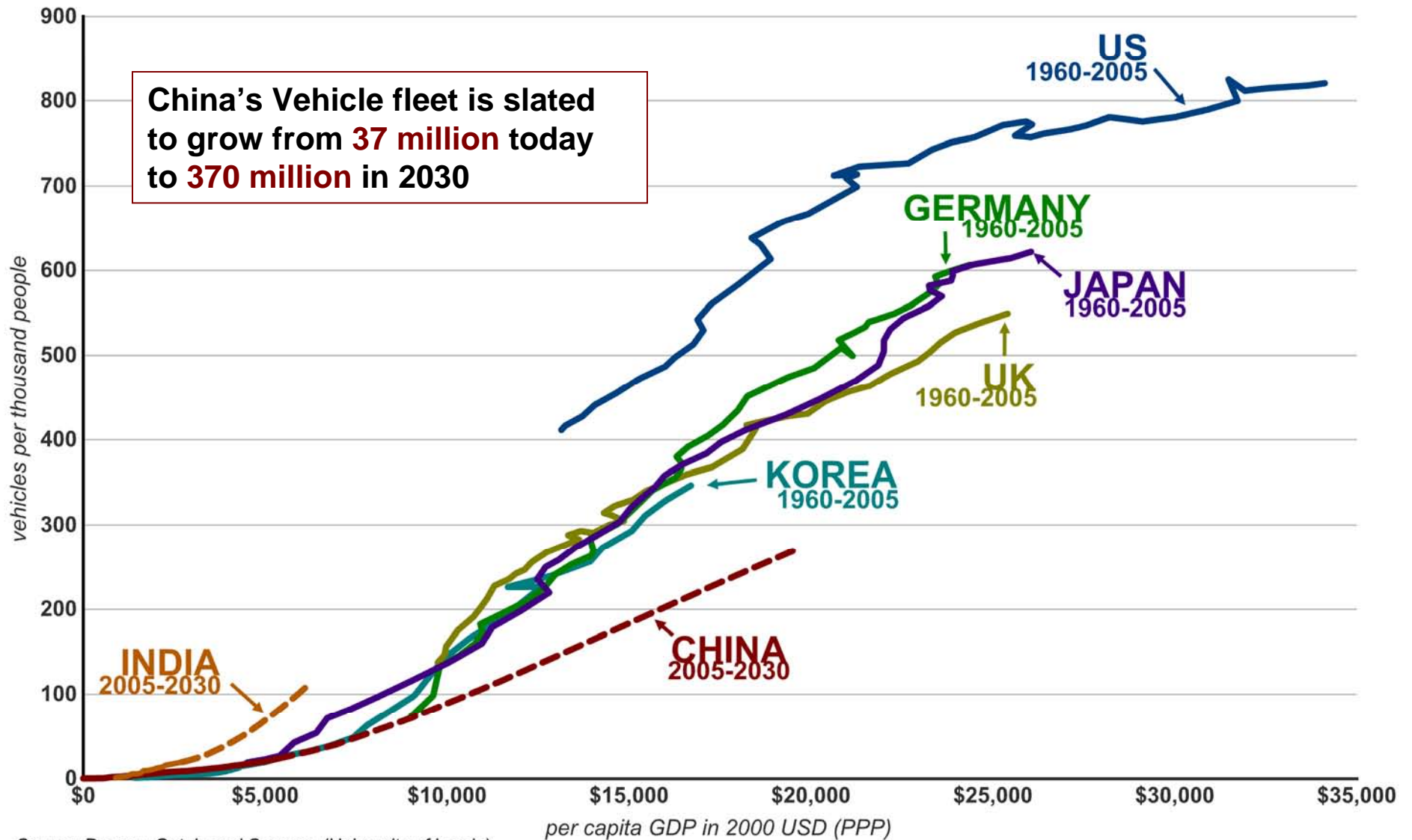
Growth in Square Footage

China, Europe, US and Japan



Auto Fleet Projections

vehicles penetration as an income function



China's Vehicle fleet is slated to grow from **37 million** today to **370 million** in 2030

Source: Dargay, Gately and Sommer (University of Leeds)

CHINA'S RISE

CHALLENGES AND OPPORTUNITIES

TREVOR HOUSER
VISITING FELLOW, PETERSON INSTITUTE
DIRECTOR, ENERGY & CLIMATE PRACTICE, RHG



WASHINGTON, DC
NOVEMBER 24, 2008

