

Trends in Financing Energy Efficiency in China

Jeffrey Logan

Pacific Northwest National Laboratory

Advanced International Studies Unit

www.pnl.gov/aisu

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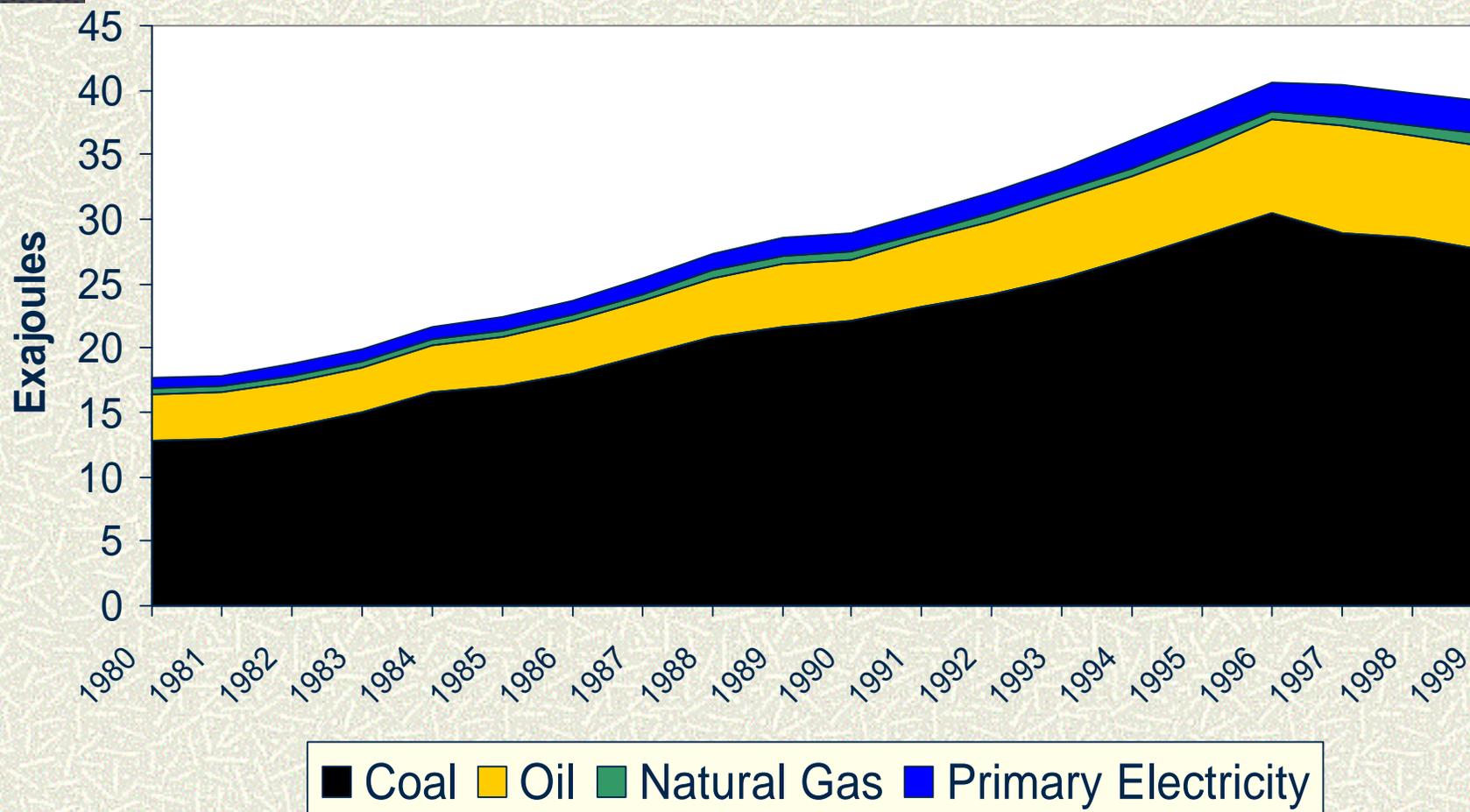
Today's Talk

- # Recent trends in energy/economic reform
 - # Investing in energy efficiency
 - # Focus on ESCOs and natural gas
 - # Barriers and opportunities
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China's Energy Economy

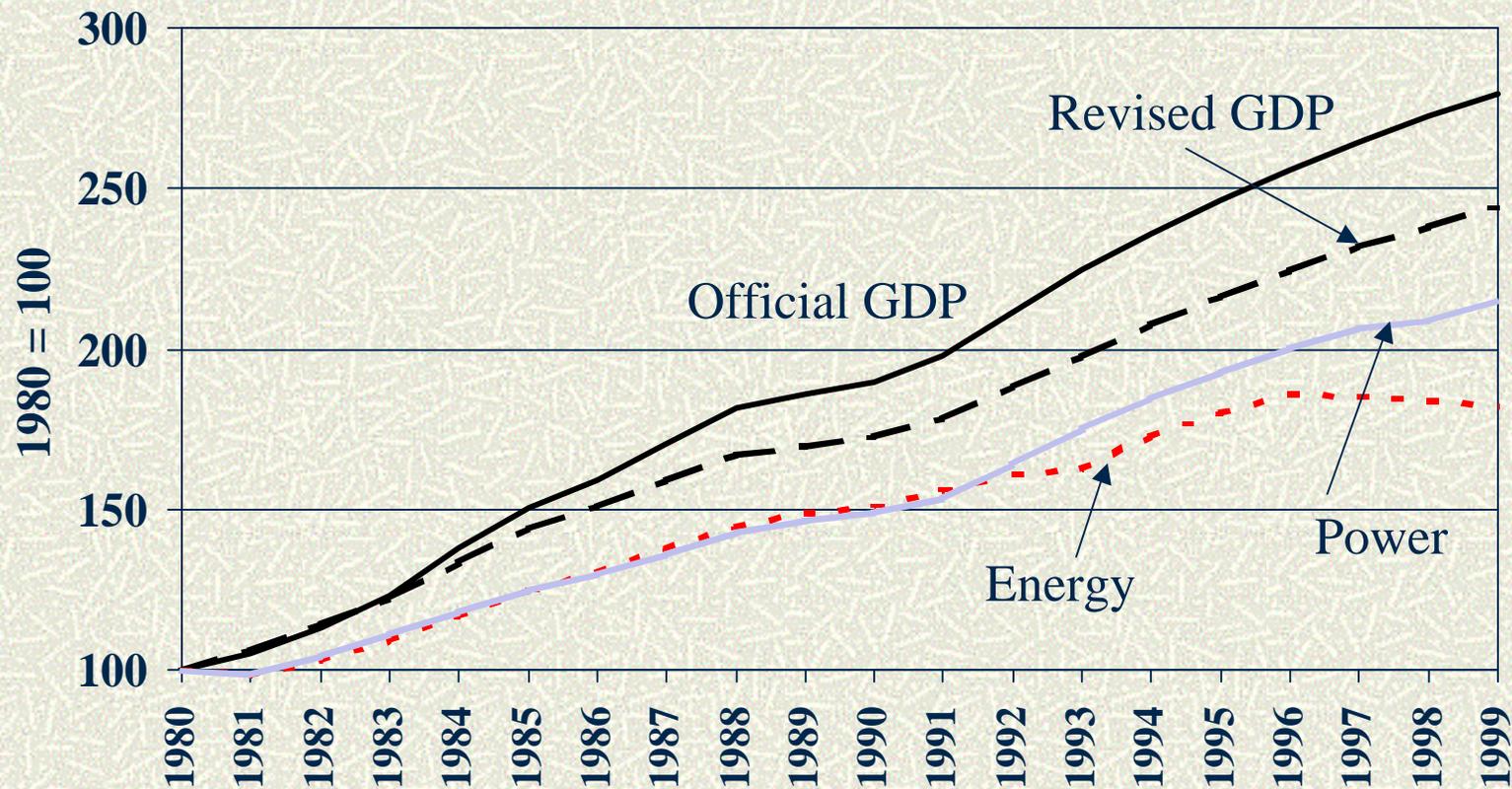
- # Massive reform of state-owned enterprises/banks
 - # Oversupply of many commodities
 - # Heavy, but declining, reliance on coal
 - # Focus on expanding natural gas utilization
 - # Continued support for energy efficiency
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Energy Consumption in China



Source: China Statistical Yearbook, 1999. Values for 1999 estimated.

Energy and GDP in China



Source: China Statistical Yearbook 1999, Maddison, 1997.

Selected Energy Intensity Comparisons

Sector	Chinese Level	International Level	Difference (%)
Steel (kgce/ton)	1034	629	64
Cement (kgce/ton)	201	113	78
Power (gce/kWh)	427	331	29
Boilers (%)	65	80	19

Source: *China Energy Development Report 1997*.

Impact of WTO Accession

- # Import tariffs on industrial products will decline from 17 to 9 percent by 2005
 - # Massive SOE and market reform to keep domestic enterprises competitive
 - # Banking reform
 - # Energy costs are significant
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History of Energy Efficiency Finance in China

- # 1970s and 80s: State-owned banks offer grants for conservation. Gradual conversion to subsidized loans.
 - # 1980s and 90s: China Energy Conservation Investment Corporation helps direct policy loans.
 - # Today: Commercial loans pushed, but barriers slow transition.
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ESCO Initiative

- # \$200 million World Bank/GEF program to catalyze ESCO development in China
 - Converts 3 formerly-state-owned energy management companies into for-profit ESCOs
 - Capitalizes each for (partial) self-financing
 - Uses performance contracting
 - Extensive training and outreach
 - Demonstration phase complete (~35 projects)
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Natural Gas Infrastructure

- # Massive drive to boost gas use from 22 bcm (1998) to 200 bcm (2020)
 - # Foreigners can hold over 50% equity in pipelines/distribution networks for first time
 - # Need market demand anchors: combined-cycle plants, district heating, cogeneration
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Barriers

- # Loan guarantees for private sector
 - # Transparency
 - # Legal status of ESCOs (bank or engineering company?)
 - # SOE's accustomed to subsidized loans
 - # Many non-performing loans
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Opportunities

- # Nearly all energy is now priced by market
 - # Serious attention to environmental damage
 - # High physical energy intensities
 - # Huge entrepreneurial potential
 - # WTO accession will catalyze investment
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