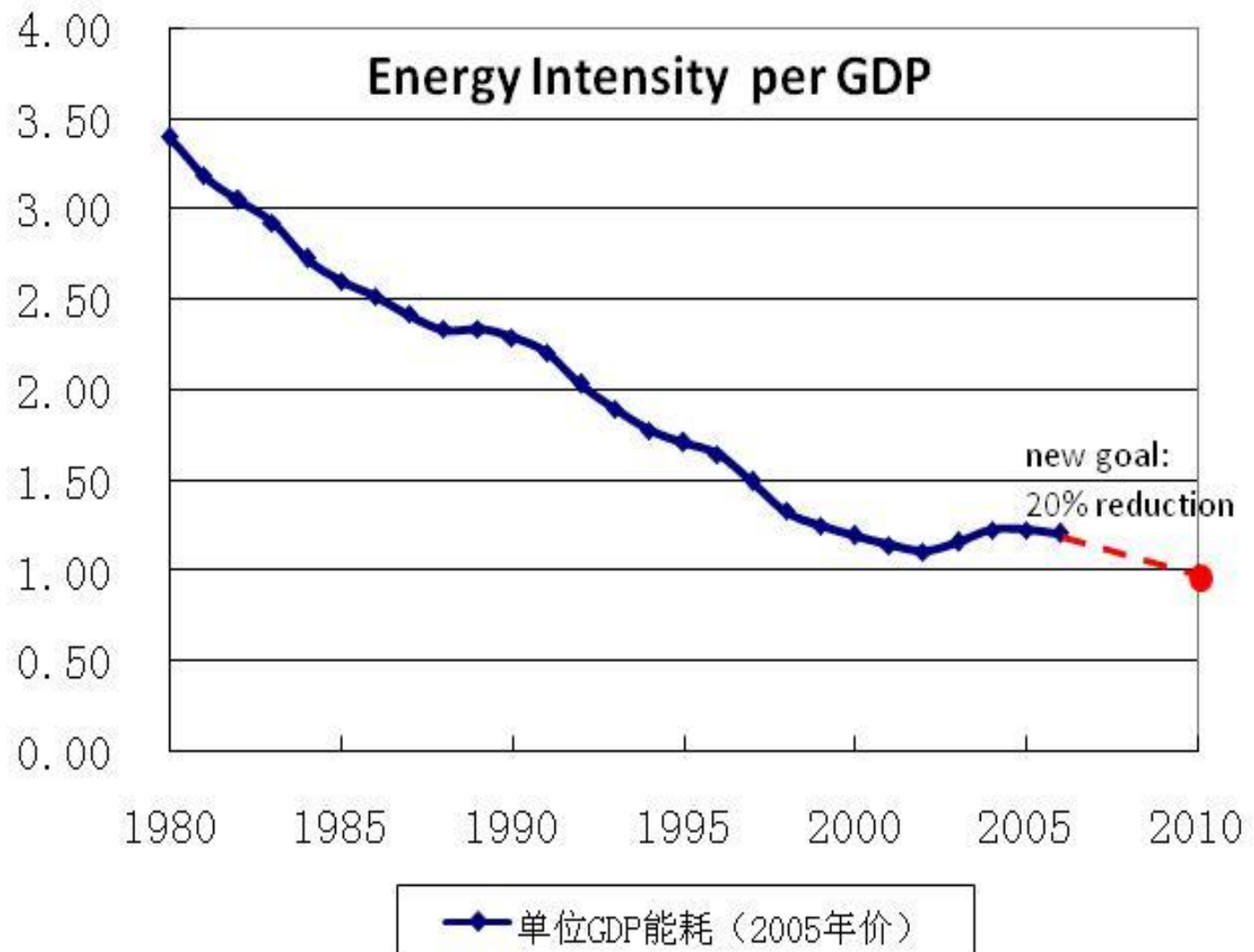

Promotion of energy efficiency in China

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Dec. 17th, 2007

China's Energy Efficiency Progress

■ Long term progress



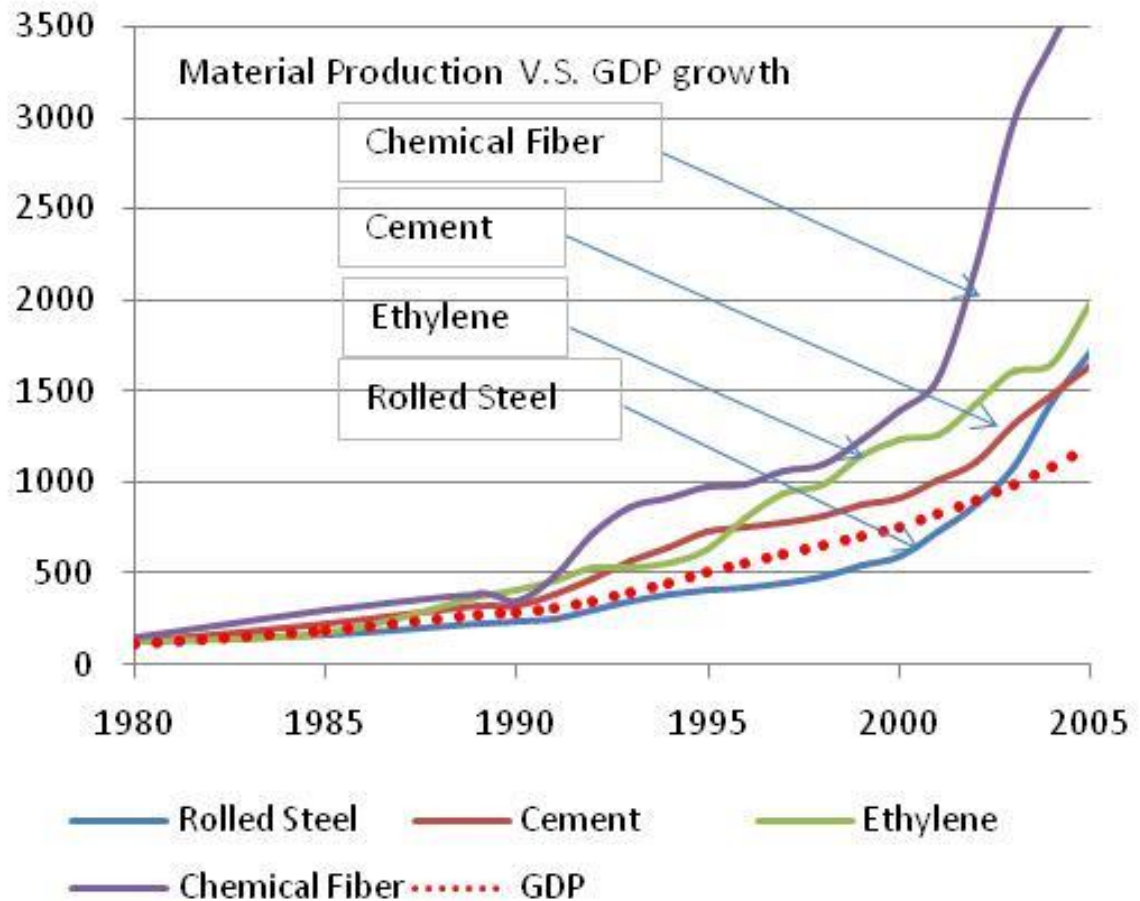
China is facing a great challenge

■ Demand

- ❑ Infrastructure
- ❑ Real Estate
- ❑ Industrial Dev.
- ❑ Manufacture for consumers in developed countries

■ Fast GDP Growth

- ❑ >10% 4 years
- ❑ 10.7% → 11.1%



City Planning --- Shanghai



Containers in Qingdao Port



Iron & Steel



China's Solutions?

■ 1. Setup a new goal for China

□ Long term

- New “National Policy”: Resource conservation
- “Building a Resource Conserving and Environmentally Friendly Society”

□ Mid term

- 11th five-year plan: reduce GDP

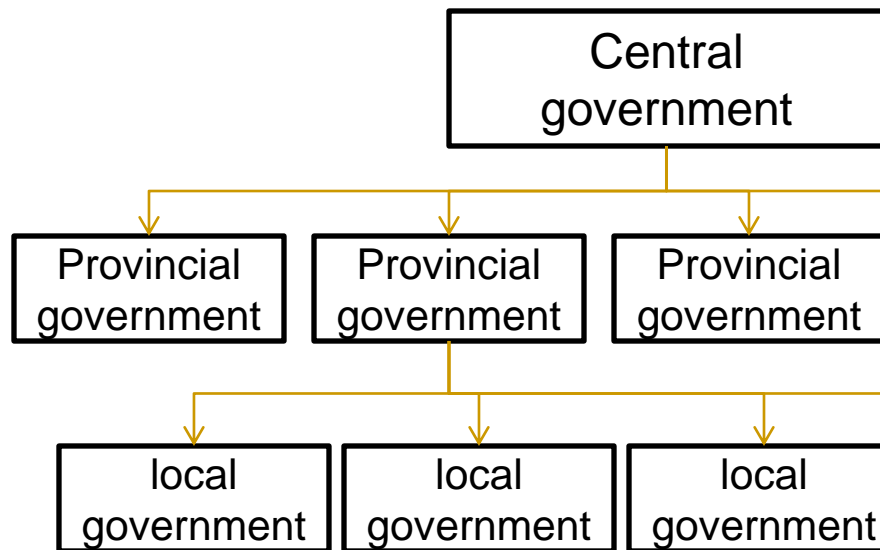
□ Short term

- Annually: 4.4% ↓

国务院印发节能减排综合性工作方案的通知进一步明确实现节能减排目标



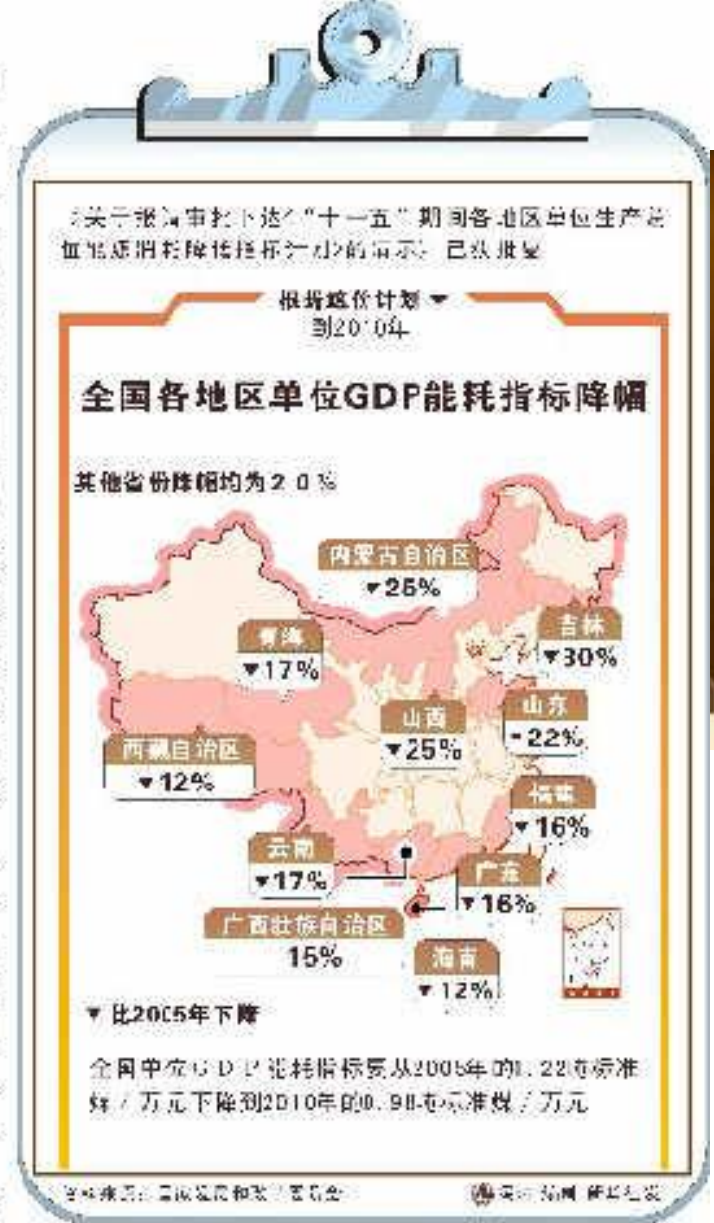
China's Solutions?



□ Disintegrate the “20% goal” in

- Central gov.
- Provincial governors
- Local gov. leaders

「十一」五
我国节能降耗指标已分解到各省份



China's Solutions?

- 2. Identify responsibilities and raise awareness
 - Sign Commitment with:
 - Provincial government
 - State Owned Enterprise Leaders
 - Key energy users
 - energy manager
 - Social campaign
 - News, TV, website ...
 - Interviews, survey ...



China's Solutions?

- 3. Adjust economic structure
 - Promoting high tech industries
 - Exportation structure adjustment
 - Eliminate old and inefficient equipment
 - Iron and steel
 - Cement
 - Power generation
 -
 - Measures: using law and standard + difference price + sign commitment with local government+



China's solution?

- ❑ Five Year Planning for the Elimination Action
- ❑ The goal of year 2007 is mostly realized

Industry	Content	Unit	5 year goal	Year 2007
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Small cement plant



Small power plant

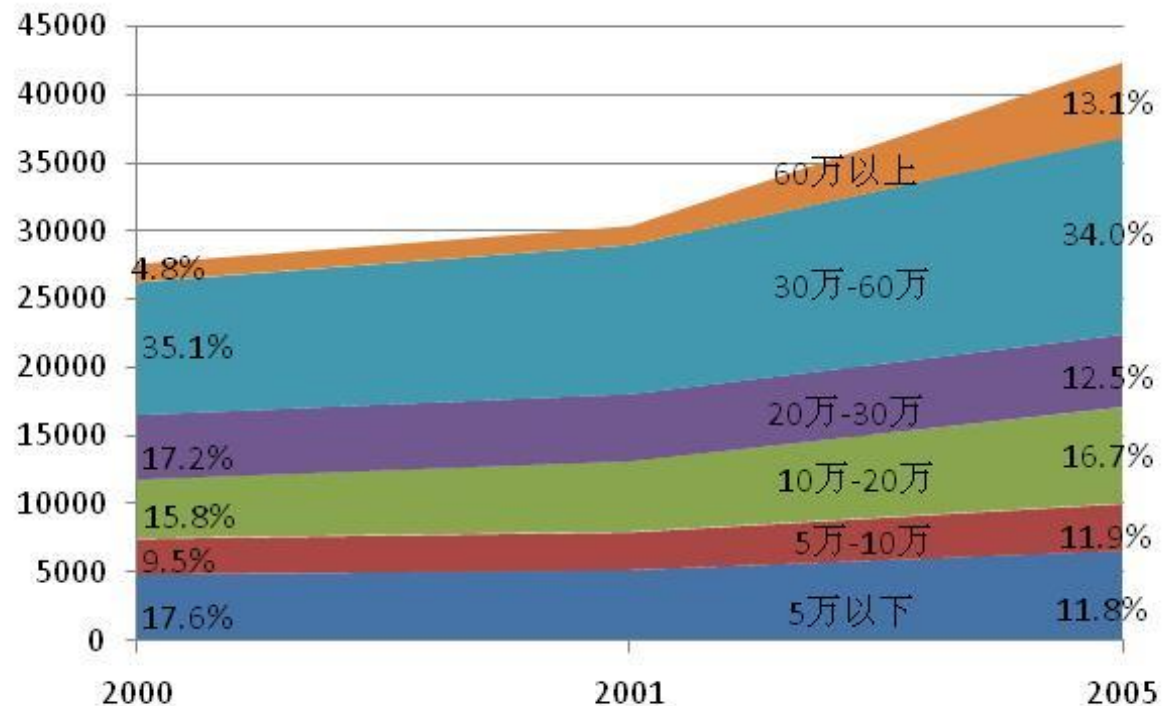


China's solution?

■ Introducing modern EE equipment

□ Power generation

- Super Critical
- Ultra-SC
- > 600 MW



China's Solutions?

■ 4. Focusing on key energy users

■ **Ten Energy Efficiency Projects**

□ Target

- To form EC capability of 240 million tce
- To form EC capability of 50 million tce in year 2007

□ Content

- Coal based Boiler (Furnace) project
- Co-generation Project
- Waste Heat & Waste Pressure Recovery Project
- Oil Saving and Substitution Project
- Motor System Energy Conservation Project
- Energy System Optimization Project
- Green Light Project
- Building EC project
- EC of Government Agencies
- Capacity Building of EC Technical Assistant System

China's Solutions?

- 4. Focusing on key energy users
- **Top-1,000 Enterprise Action**
 - Object:
 - Industrial enterprises above 180 thousand tce/a
 - Consume about 700 mil tce/a
 - target: **100 mil tce/a**
 - Measures
 - Sign EC mission commitment
 - Energy Auditing
 - Compose EC plans
 - Compose 1000 enterprises energy utilization situation report
 - Benchmark....
 -
 - Achievement: year 2007, **20 mil tce/a**

The strong measures are effective

■ 5. Big stick & Golden carrot

- Big stick **Government force** v.s. market force
 - Official's Annual Assessment —— Indicator system
 - Leader of State Owned Enterprises
 - EE Assessment for NEW project ratification
 - Different electricity price for Energy Intensive Industries
 - Low on-grid price for small power plants
 - Publicize GDP indicator progress
 -
 - Energy Conservation Law enforcement
 - Energy efficiency standard enforcement
 - Product
 - Industrial process
 - Building

The strong measures are effective

■ 5. Big stick & Golden carrot

□ Golden Carrot -- long term mechanism

■ Central government, year 2007

□ 21.3 bil RMB (2.9 bil US\$) for EC+EP

□ 9 bil RMB (1.23 bil US\$) for Ten EC project

■ Local government investment

■ Social investment

□ GEF/UNDP/NDRC: EUEEP project -17 mil. USD for 4 years

□ WB/NDRC: loan

■ Being study:

□ Tax deduction / discount

□ Subsidy etc.

Progress and achievement

- GDP intensity in year 2006
 - decrease 1.33%
- GDP intensity in first 2 Q, 2007
 - 2.78% ↓ compared to 2Q, 2006
 - Energy intensive Industries
 - Iron & steel: 6.49% ↓
 - Coal prod.: 7.76% ↓
 - Buil. Material: 7.84% ↓
 - Power generation: 2.57% ↓
- GDP intensity in first 3Q, 2007: 3% ↓



Thank You!

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