



# Regulatory Framework for the Electricity Industry in China

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# Key Features of the Electricity Industry in China (1)

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- The industry is vast and growing quickly  
At the end of 2006, total installed generating capacity reached up to 622,000,000 KW.  
In the past five years, the new installed generating capacity and national electricity production increased by 13.1 percent and by 13.8 percent in average every year respectively.



# Key Features of the Electricity Industry in China (2)

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- State-owned enterprises dominate in the market.
- In the generation sector, more than 90 percent of total installed generating capacities are state-owned.
- In the transmission sector and distribution sector, 99 percent of assets are owned by the central government.
- In the sector of retail supply, more than 80 percent of electricity is supplied by state-owned enterprises.

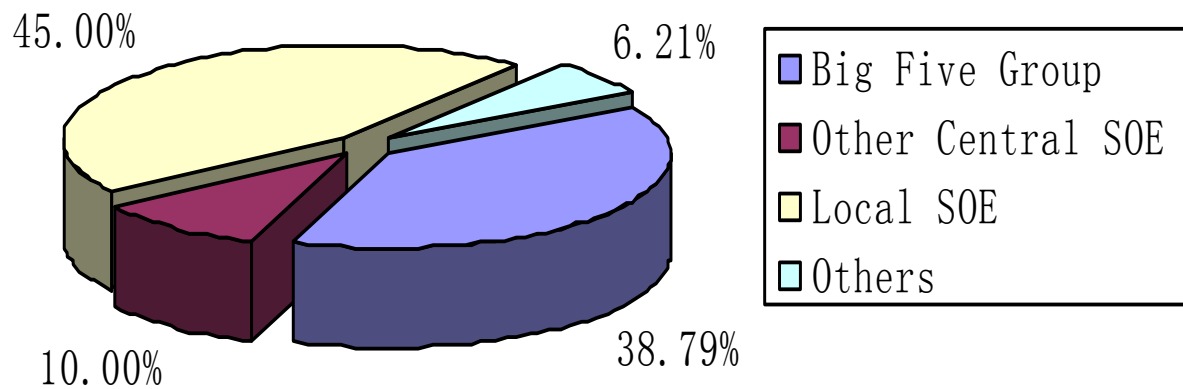
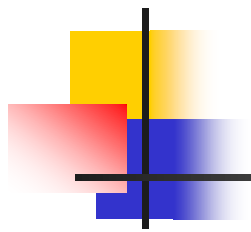


Figure 1 Installed Generating Capacity Share in 2006

# Key Features of the Electricity Industry in China (3)

- The generation fuel mix has been dominated by coal.

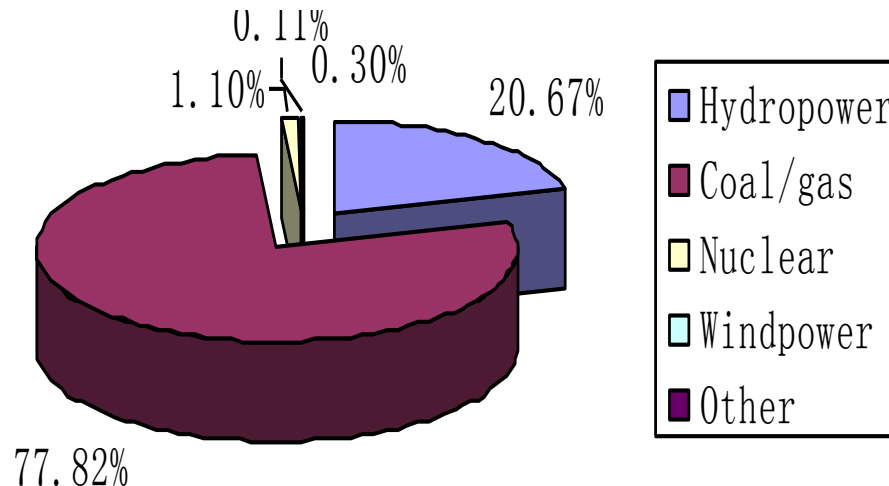


Figure 2 Generation Fuel Mix in 2006



# Key Features of the Electricity Industry in China (4)

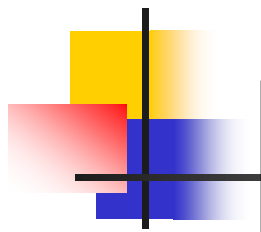
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- The market has been historically dominated by vertically integrated utilities. But now it aims to introduce more competitive forces.
- In the generation sector, generators can compete with each other. But there is only a single buyer, one of two grid companies, SGCC and CSPG.
- The transmission sector is monopolized by SGCC and CSPG respectively.
- In the distribution and retail sector, more than 80 percent of electricity is supplied by the SGCC and CSPG. Every retailer is also the only seller in the area.

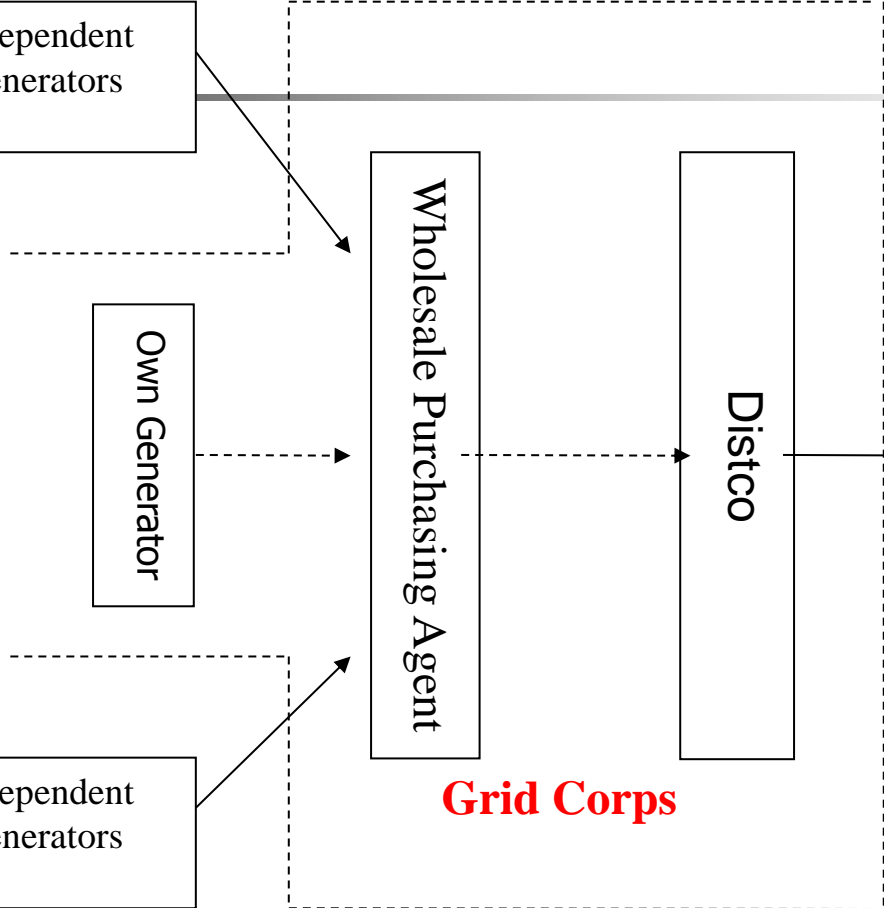


**Figure 3. 'Big Five' Market Share in China 2006**

	Huaneng	Datang	Huadian	Guodian	CPI
<b>Value of Asset (Million RMB)</b>	285572	226616	196100	187972	181165
<b>Market Share</b>	12.90%	10.23%	8.86%	8.49%	8.18%
<b>Installed Generating Capacity (Million KW)</b>	57.1850	54.0595	50.0461	44.4525	35.4991
<b>Capacity Share</b>	9.17%	8.67%	8.02%	7.13%	5.69%
<b>Total Generation (TWH)</b>	2820.35	2516.21	1995.11	2259.10	1725.04
<b>Generation Share</b>	9.90%	8.83%	7.00%	7.93%	6.05%



Independent  
Generators



Own  
Generator

Independent  
Generators

Wholesale  
Purchasing  
Agent

Distco

Customers

Independent  
Generators

Customers

Own  
Generator

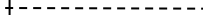
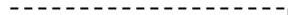
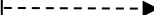
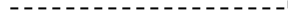
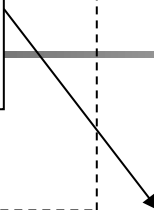
Independent  
Generators

Wholesale  
Purchasing  
Agent

Distco

Customers

**Grid Corps**







# Legal and Regulatory Framework (1)

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## ■ Legislation

### The Electricity Act of 1995, NPC

Objectives: to protect and develop the electricity industry, to protect the interest of investors, enterprises and users /consumers, to ensure the safe and reliable operation of electricity.

The act governs the investment, generation, supply of electricity.

Its main provisions include prior approval for investment (Development plan of electricity), regulation on generation and grid, regulation on supply and use of electricity, price regulation (uniform pricing, Rate of Regulation), electricity supply in rural areas, protection of assets for electricity industry, inspection and punishments for violation.



# Legal and Regulatory Framework (2)

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- Key Regulations:

- The Electricity Regulation of 2005 (the State Council)

- Objectives: keep the electricity market in order, protect the interest of investors, enterprises, users (consumers) and public interest, ensure the safe and reliable operation of electricity, facilitate healthy development of the industry.

- It delegates power to the State Electricity Regulatory Commission (SERC) and its local branches, stipulates the jurisdiction of the SERC and the regulatory tools for the SERC, regulatory enforcement and punishment for violations.

# Legal and Regulatory Framework (3)



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- Electricity Pricing Reform Rules (NDRC, 2005): three attachments, *Pricing Rules for Electricity Sold to the Grid*, *Pricing Rules for Electricity on Transmission and Distribution*, *Pricing Rules for Electricity on Retail Sector*
- The Electricity Supply Regulation (State Council, 1996)  
It regulates the retail sector. It divides business areas and only allows one retailer in one business area. It also imposes obligations on the users to properly use the electrical power.



# Regulatory Institutions (1)

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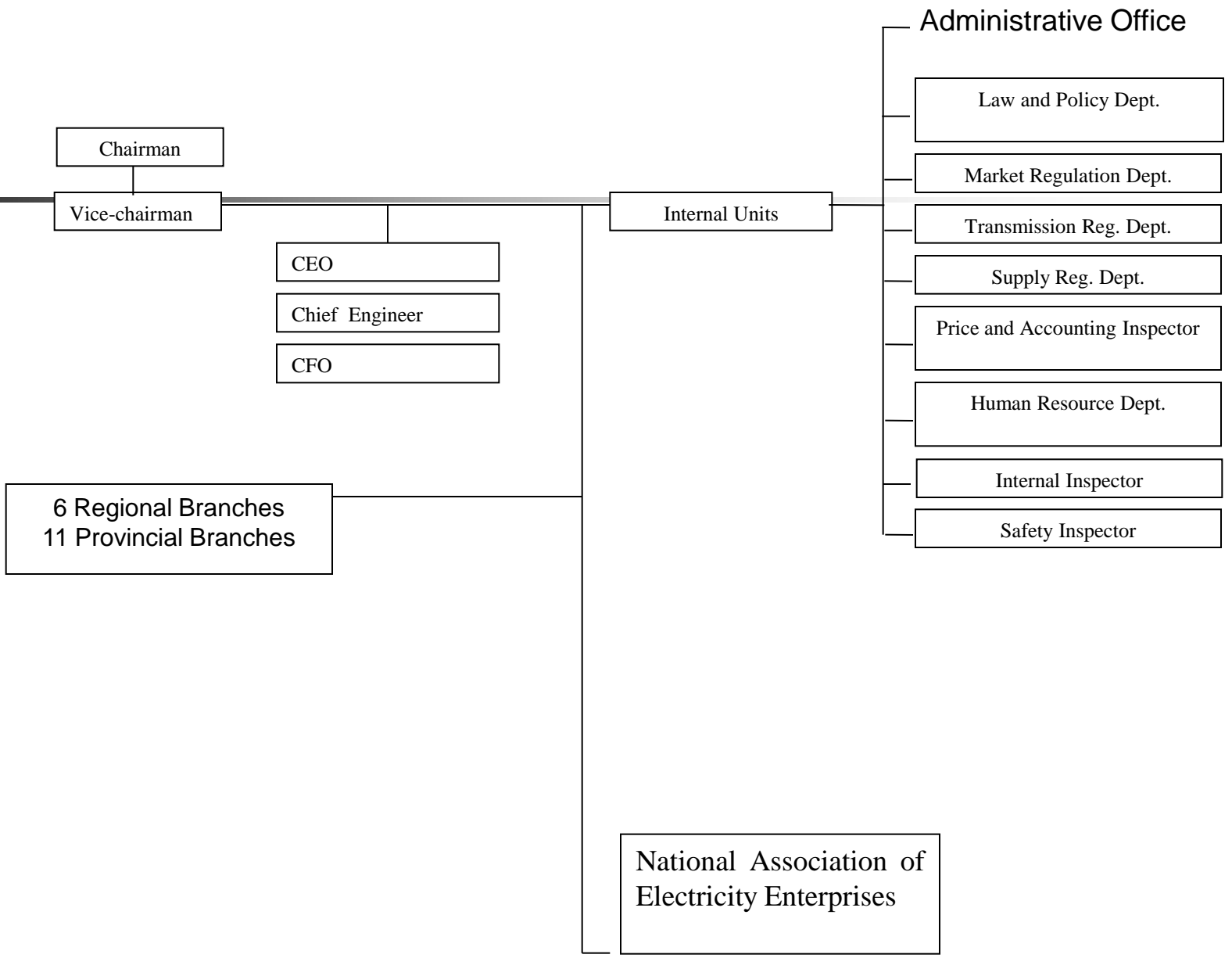
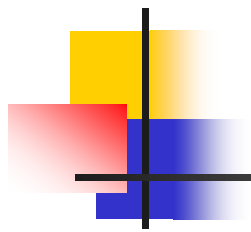
- The State Electricity Regulatory Commission (SERC)
- It is empowered by the State Council. It regulates national electricity sector and exercises direct leadership over its regional branches. Its main jurisdictions are:
  - to establish regulations and rules for the industry.
  - to participate in formulating a development plan for the industry; propose development plans for electricity markets and regional markets. Review operational structure for the electricity market and electricity trading arrangements.
  - to ensure orderly and fair competition in the market, regulate transmission, distribution and generation businesses.
  - to participate in formulating and enforcing safety and technical standards, quantitative and qualitative codes for electricity industry, issue and renew business licenses, enforce environmental laws, regulations relevant to the electricity industry in collaboration with relevant environmental protection agencies.

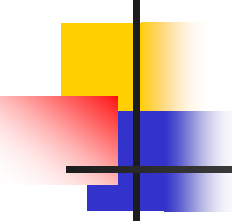


# Regulatory Institutions (2)

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- to propose tariffs and adjustments to government pricing authority on the basis of market conditions, review tariff levels and regulate fees and charges for ancillary services.
- to investigate any violations of laws and regulations and resolve disputes with them.
- to safeguard the implementation of universal service policy; propose to revise such policy and provide statistics and information of electricity market.
- to organize to implement sector reform programs in accordance with the direction of the State Council and propose options to further reform.
- to complete any other assignment delegated by the State Council.





<b>Regulatory functions</b>	<b>SERC</b>	<b>Other Departments</b>
Price Regulation	√	NDRC
Investment Prior Approval (Financial Viability)		NDRC
Entry Licensing	√	
Operational separation	√	NDRC
Accounting and costing principles	√	MoF
Dispute resolution	√	
Market rules	√	
Control of Anti-competition behavior	√	NDRC, ICAB
Control of Mergers and acquisitions	√	SASAC
Reliability	√	
Technical and quality standards	√	Technical and quality regulation departments
Environment protection	√	MEP

**ICAB:** Industrial and Commerce Administration Bureau. **SASAC:** State-owned Assets Supervision and Administration Commission



# Weakness of Current Regulatory Framework

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- Less use of market mechanism, too much regulations.
- The regulatory jurisdictions have been inappropriately allocated to different regulatory bodies, which makes regulatory enforcement problematic .
- Outdated legislations conflict with new regulations which accommodate more market force. The SERC finds it difficult to implement its regulatory reform.
- Interest conflict of the central government and local governments makes regulatory enforcement more problematic.





# Proposed Regulatory Reform (1)

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- Objectives:

To keep market competition fair and orderly, ensure the safe and reliable operation of electricity.

To help investors' returns stable, make the development of industry sustainable, meet the demand of economic growth

To generate the reasonable pricing mechanism, make the industry more efficient and protect the interest of consumers.



# Proposed Regulatory Reform (2)

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- Relies more on market mechanism, introduces more competitive forces (allow more private investors?).
- Properly allocates jurisdictions to different regulatory bodies, e.g. that of price regulation to the SERC.
- Updates the primary legislation and other regulations to accommodate more market forces.
- Enhances the capacity of the SERC on regulatory enforcement (more training, more experts).