

# China's Low Carbon Energy Transition: the Role of SOEs

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# Content

- China's low-carbon energy transition;
- The role of SOEs in China's Energy Sector;
- The efforts of Chinese government;
- The low carbon efforts of China's energy SOEs.



# China's Low Carbon Energy Transition

## 2020

- Carbon intensity reduce 40-45% compared with 2005 level;
- Share of non-fossil energy consumption increase to 15%;
- Share of natural gas increase to 10% or above;
- Total energy consumption controlled within 4.8 billion tce;
- Total coal consumption controlled within 4.2 billion tce;
- Nuclear power capacity reaches 58 GW.

## 2030

- Carbon emission peaks around 2030;
- Carbon intensity reduce 60-65% compared with 2005 level;
- Share of non-fossil energy consumption increase to 20%.



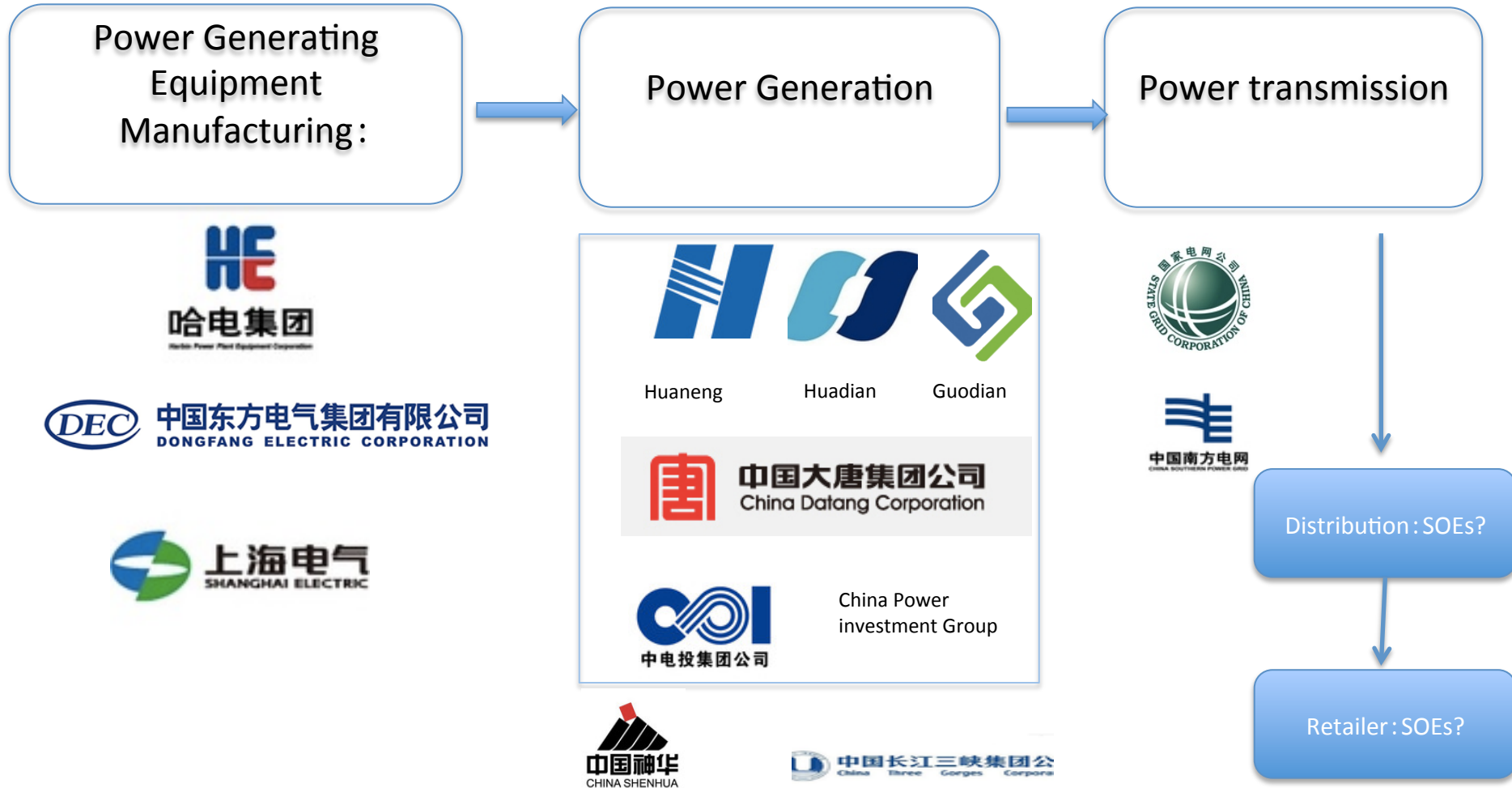
# **THE ROLE OF SOES IN CHINA'S ENERGY SECTOR**

# China's Energy SOEs: Oil & Gas



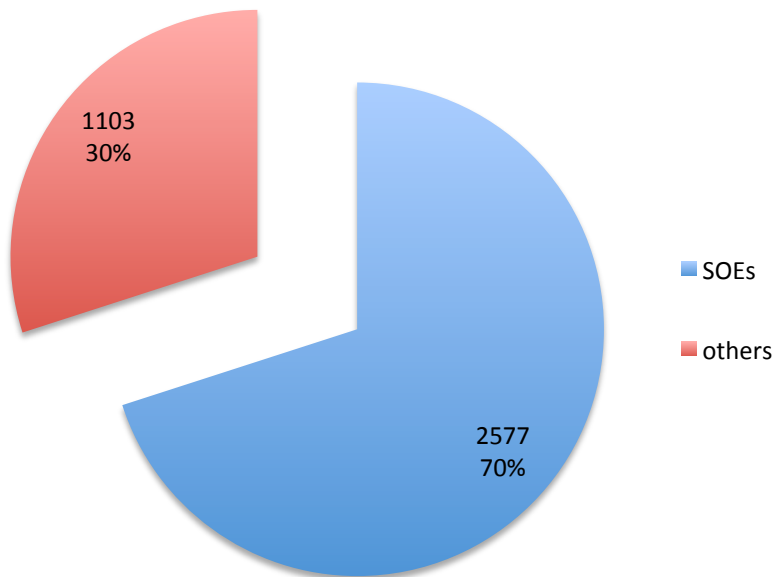
- Concentration rate of China's Oil & Gas Industry is **more than 90%**;
- Non-SOEs are mostly in the middle and lower reaches of the industrial chain, such as oil product sale, urban natural gas supply, equipment manufacturing and supply, and only small portion of non-SOEs operate in exploration and development.

# China's Energy SOEs: Power Industry



# China's Energy SOEs: Coal Industry

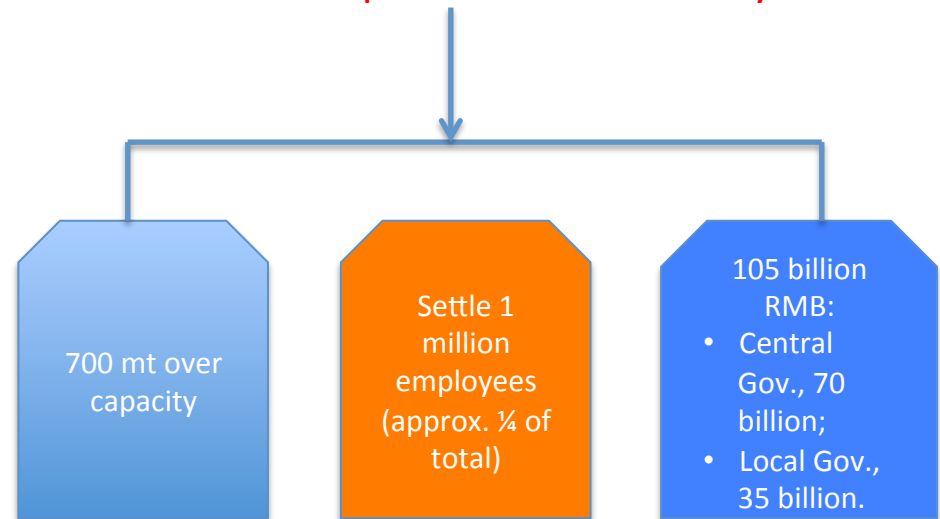
China's Coal Production 2015 (million tons)



Source: China Coal Industry Yearbook 2016

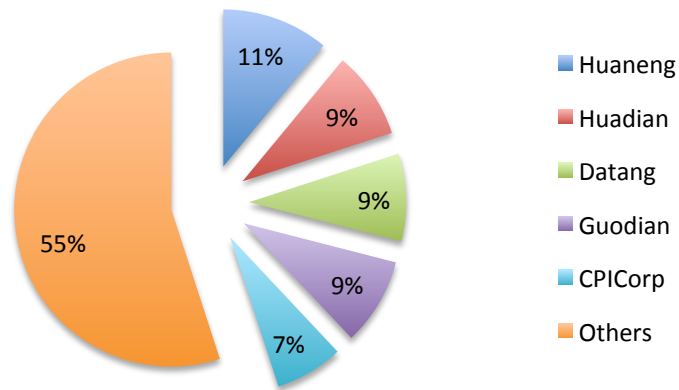
In 2015, China has 5700 million tons of the coal production capacity, with over capacity of 1700 million tons.

## Government Proposal for the next 3 years

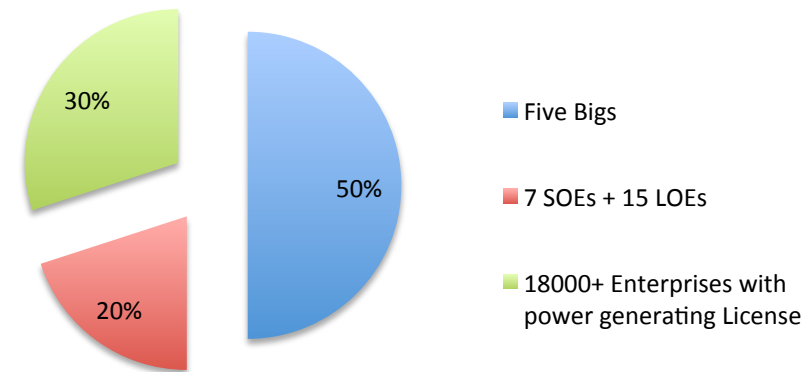


# China's Energy SOEs: Power Industry

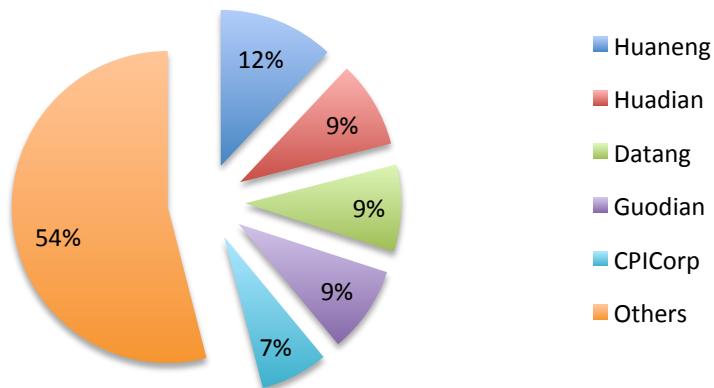
Share of Generating Capacity of the Five Bigs (Power Generating Groups) 2014



Approximate Share of Power Generation by Types of Generators



Share of Power Generation of the Five Bigs (Power Generating Groups) 2014



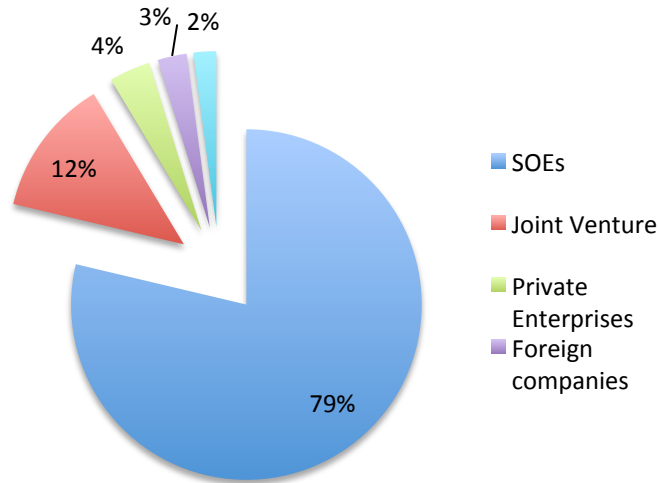
Source: data from China Electricity Council;

Note that 7 SOEs include Shenhua Coal Corp, Three Gorges Corp and others; 15 LOEs means Locality Owned Enterprises.



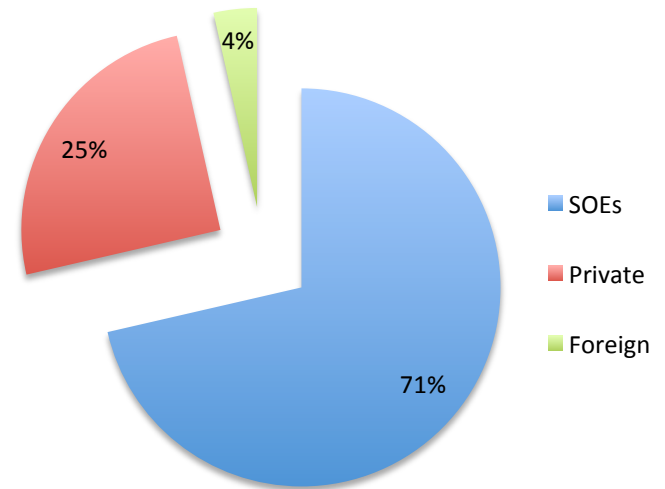
# China's Energy SOEs: Wind Power Generation

Market Share of Wind Power Developers in China  
2013



Source: China Large-scale Wind Power Equipment Industry Report 2014

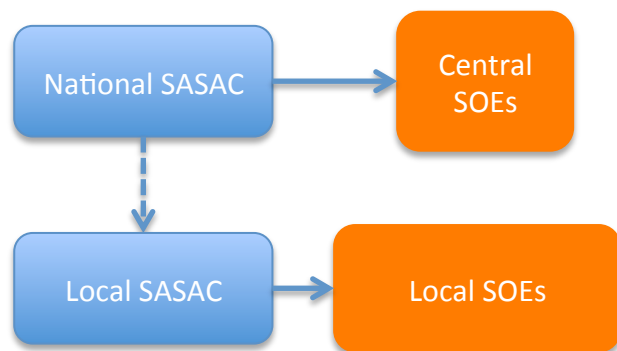
Share of Production of China's Top 15 Wind Power  
Equipment Manufacturers (2010-2013)



Source: by Presenter based on data of Chinese Wind Energy Association

# China's SOEs: Governance, Performance and Characteristics

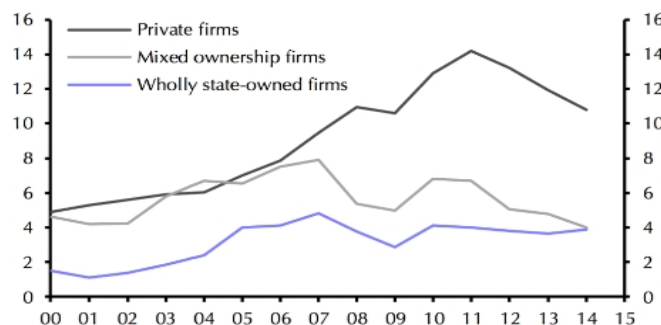
## Governance



## Characteristics

- No entrepreneur. Leaders of SOEs are government official with political status.
- Leaders of SOEs are supervised by both SASAC and Party's HR department;
- The resource of SOEs are given by the government, instead of market;
- Incomplete power. Board and executive level don't have complete power for decisions on human resource, financing and asset management;
- **Preferential access to loans from state banks;**
- **Protection from competition.**

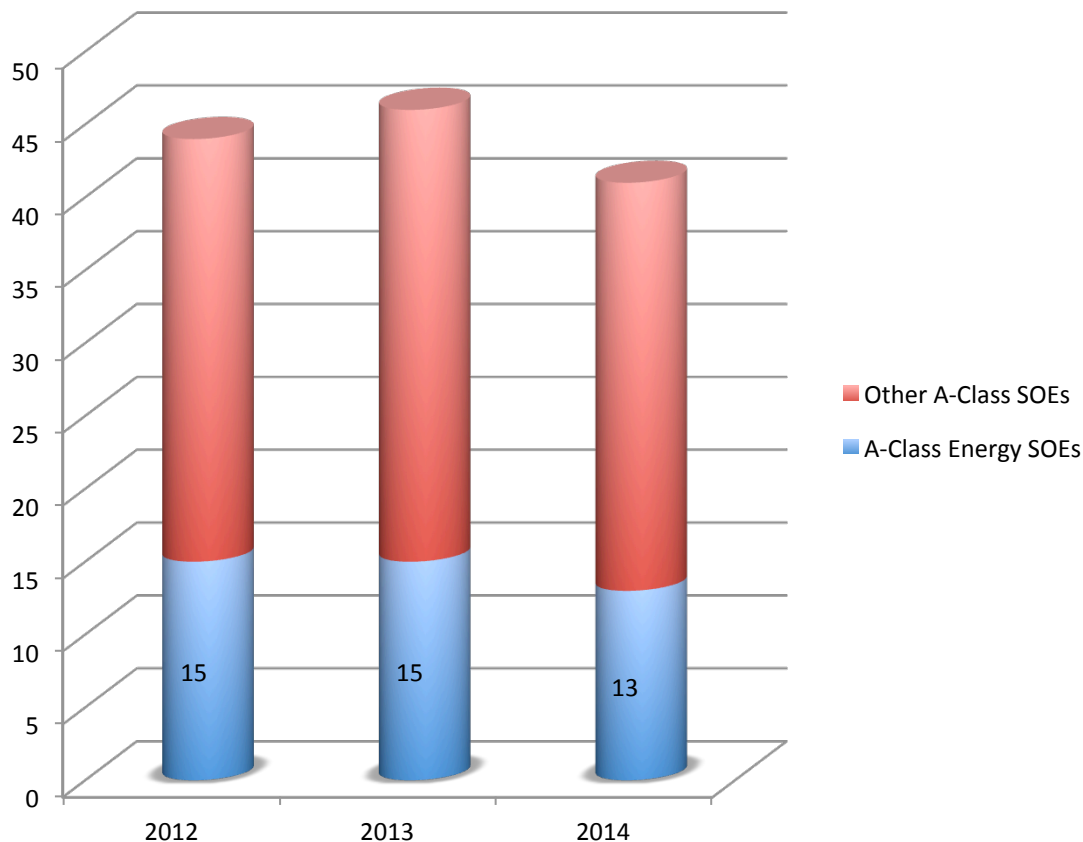
## Performance (return on asset)



Data source: CEIC, Capital Economics in [Fortune](#). 16 September 2015.

# Performance of China's Major Energy SOEs

Number of A-Class Energy SOEs 2012-2014



State-owned Assets Supervision and Administration Commission (SASAC) manage and supervise 128 super-size SOEs, among which there are 3 oil companies, 5 power generating companies, 2 power grid companies, 2 power equipment manufacturers, 3 coal companies, 1 energy conservation company and others.

The classing considers both economic performance and the capability of sustainable development in the mid-and-long term future.

# Priorities of China's Energy SOEs

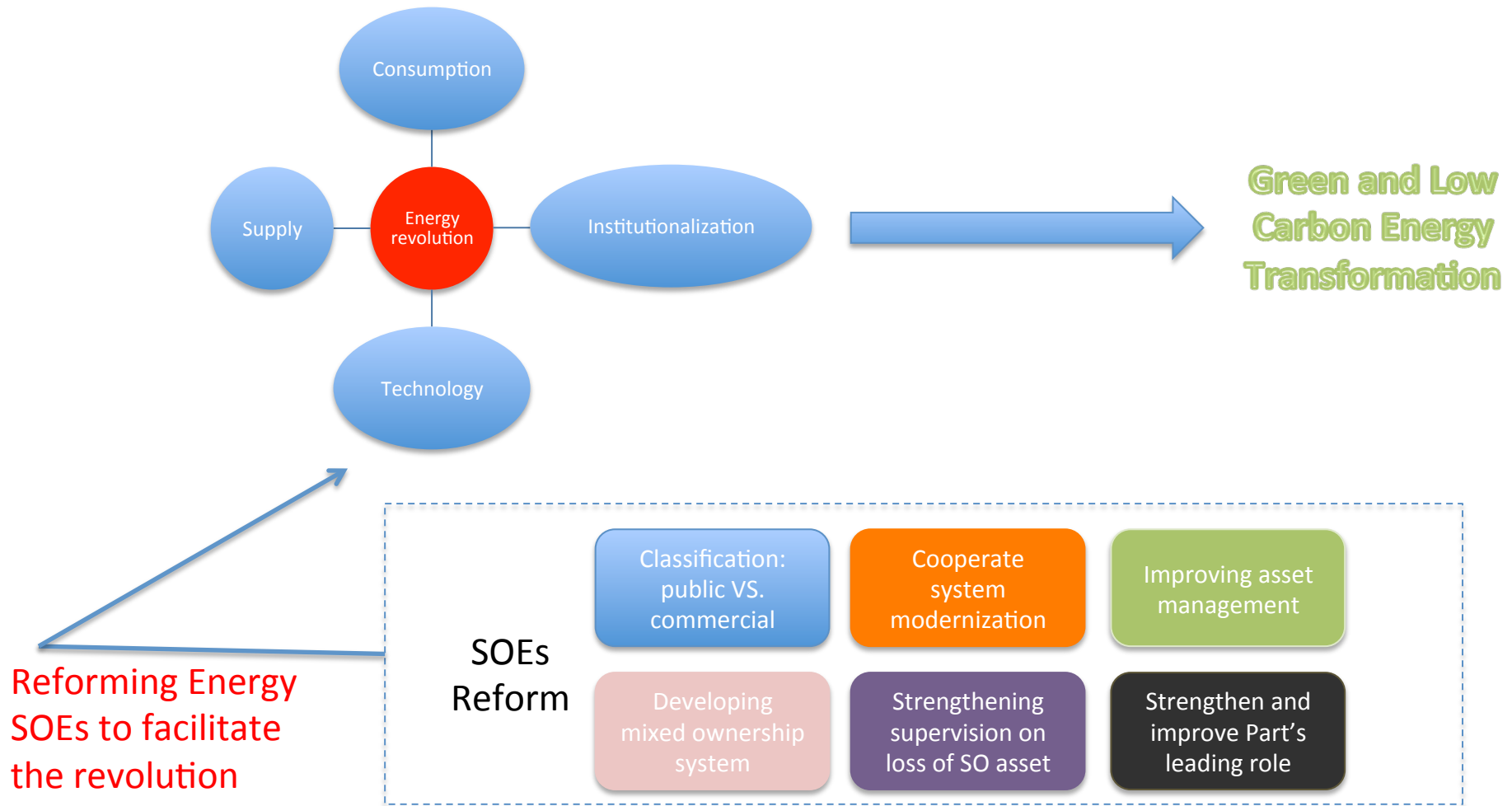
## Enterprises perspective

- Economic performance;
- Social responsibility;
- Political visibility.

## Government perspective

- Energy security;
- Energy access;
- Competitiveness of market environment;
- Social impact: such as Energy price; job creation;
- Environmental impact: such as pollutants, climate;

# Energy Revolution and SOEs Reform



# The efforts of Chinese government in incentivizing Energy SOEs to low-carbon development

- Administrative approach, such as:
  - Strengthen supervision – SASAC Supervision and Monitoring Method for the Energy Efficiency and Emission Reduction of SOEs;
  - Renewable electricity safeguarding purchase ;
  - Green dispatch.
- Market-based approach, such as:
  - Carbon market;
  - Environmental tax ;
  - Green bond.

# The efforts of China's Energy SOEs on low-carbon energy transition

- CCS demonstration
  - Power companies – Huaneng (green gen project), Datang (gas-fired power plant CCS project)
  - Oil & Gas companies – PetroChina (Shanxi 1 million tons full-chain project), Yanchang Oil
  - Coal companies – Shenhua (coal chemical plant CCS project)
- Renewable energy promotion: more SOEs capital invested in Renewables.
- Energy efficiency promotion: 10000 key SOEs Energy Efficiency Program;
- Global Energy Interconnection: State Grid



# Conclusion

- SOEs play significant role in China's energy industry;
- Their influence differs in different energy sectors, in terms of industries' rate concentration;
- Administrative approach may be relatively more effective to drive China's Energy SOEs towards low-carbon path under the current governance system, while it may gradually change along with the SOEs reform.