Overview of China's Energy Industry Development

National Energy Administration

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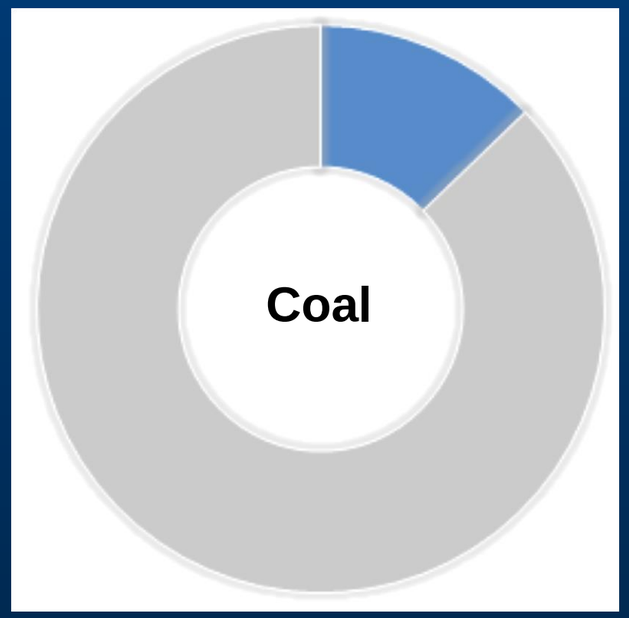
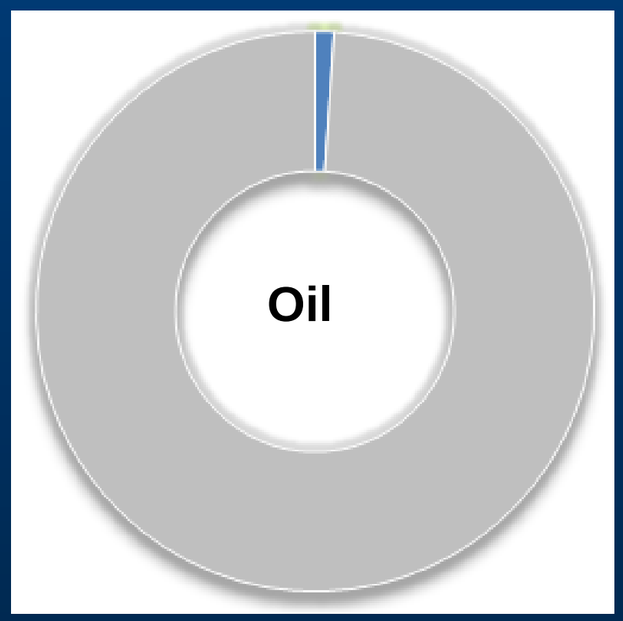
(一) Overview of China’s energy sector

For a long time, coal dominates China’s energy structure due to energy resources

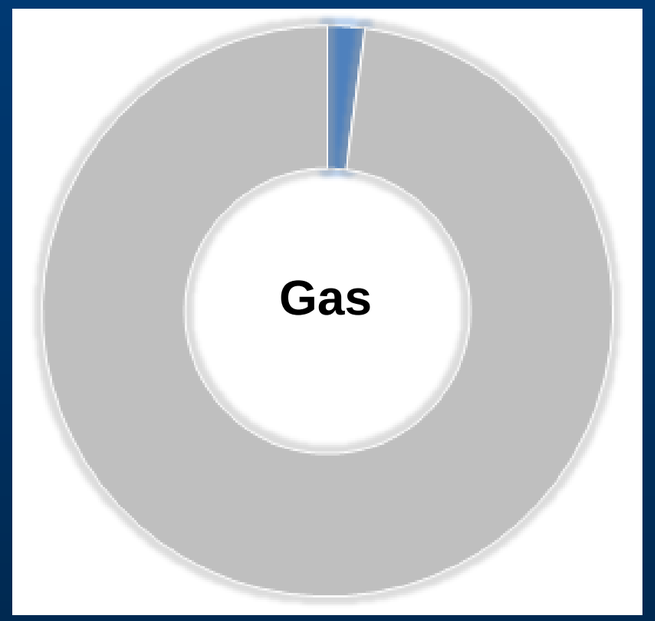
Proved reserves of coal、oil and nature gas of China by the end of 2015



1145x10^{8}t,12.8%



25x10^{8}t,1.1%



3.8x10^{12}m^{3},2.1%

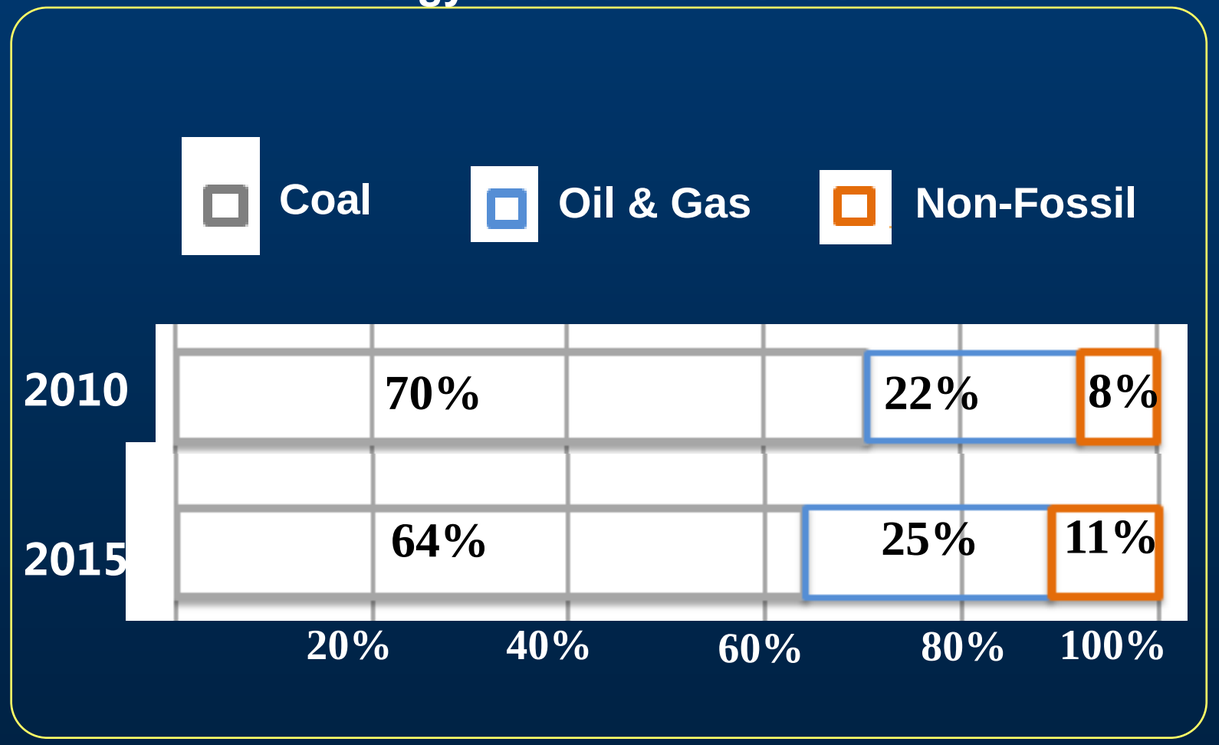
From: BP Status Review

Coal plays an important role in China’s energy supply, coal also is the important guarantee of China’s energy security

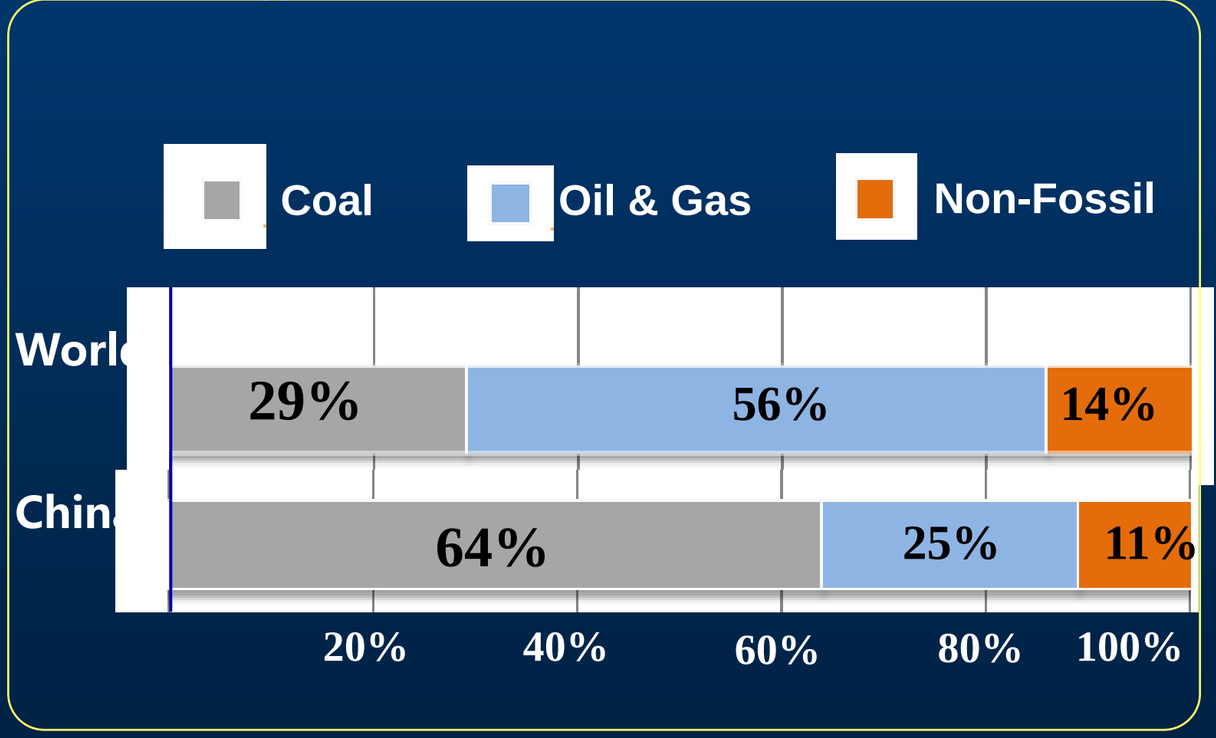
(一) Overview of Chinese Energy Sector

China is the largest energy consumer in the world, the total energy consumption in 2015 reaches 4.3 billion tons of standard coal ,takes 23% of the world.

China's energy structure in 2010 and 2015



energy structure of world and China in 2015



（二）The situation of energy regulation in China

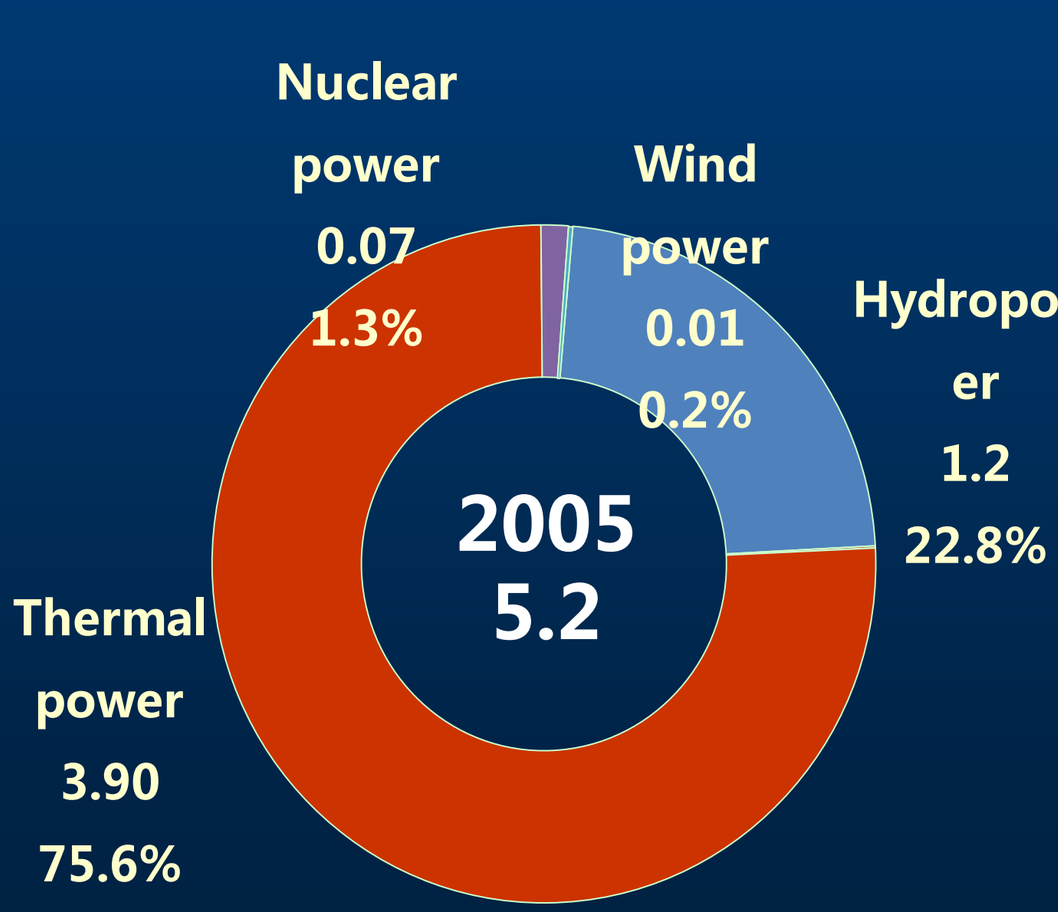
- In the first half of 2013, Chinese government has recombined energy administrative institution, founded the new state energy bureau(NEA), now NEA has 12 departments and 18 regional regulatory agencies.
- The regulation fields have been expanded to the entire energy industry from the original electric power regulation. The energy administrative functions has become more centralized and the efficiency is improved.

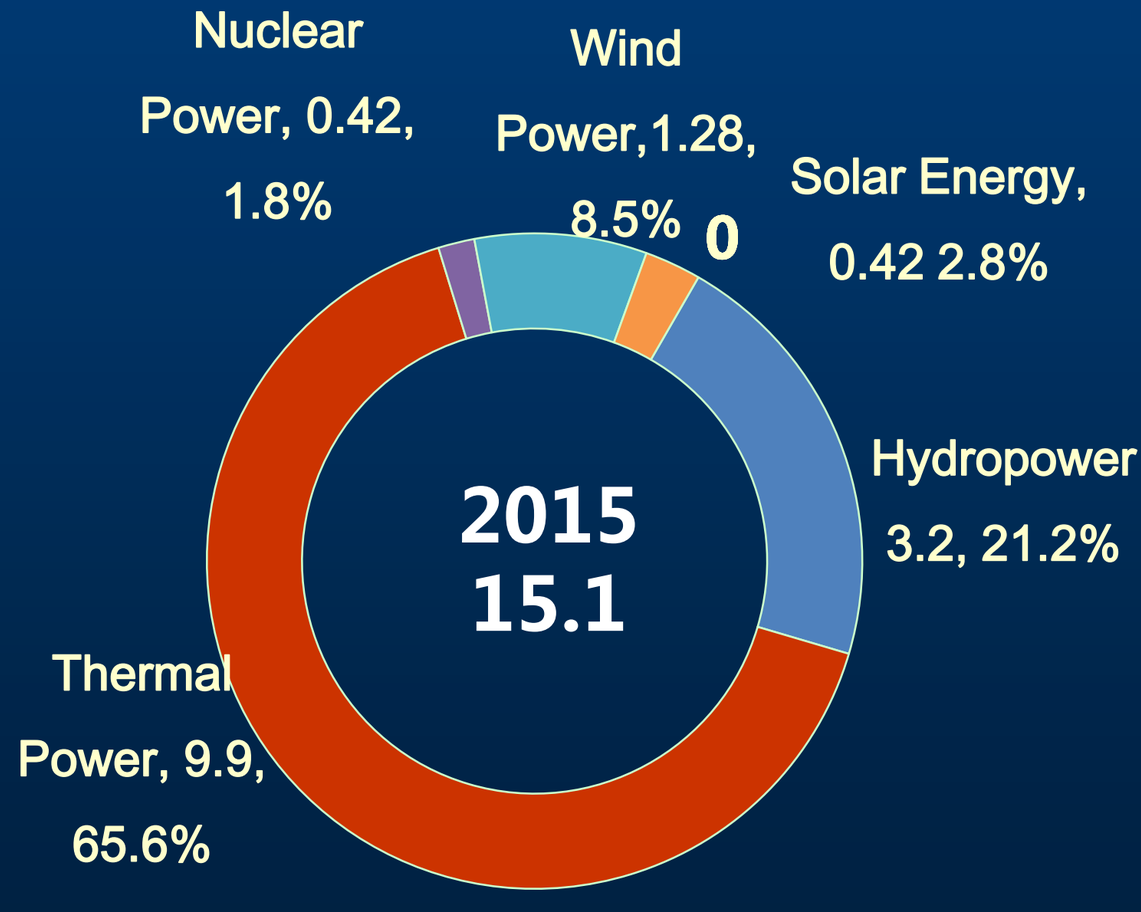
（二）The situation of energy regulation in China

- Control the total volume of energy consumption. promote the high efficient utilization of coal cleaning, facilitate the rapid development of renewable energies, guarantee the stable supplies of energies.
- Build the united, open and orderly competitive energy market system, ensure the implementation of energy strategies, plans and policies.
- Regulate the market subject behaviors, enhance the regulation on power grid, oil and gas pipeline and other monopolistic links.

（三）Power sector development situation

Due to structure optimization of electric power supply, the proportion of thermal power has decreased to 70% since 2013. Further decrease to 65.6% in 2015.



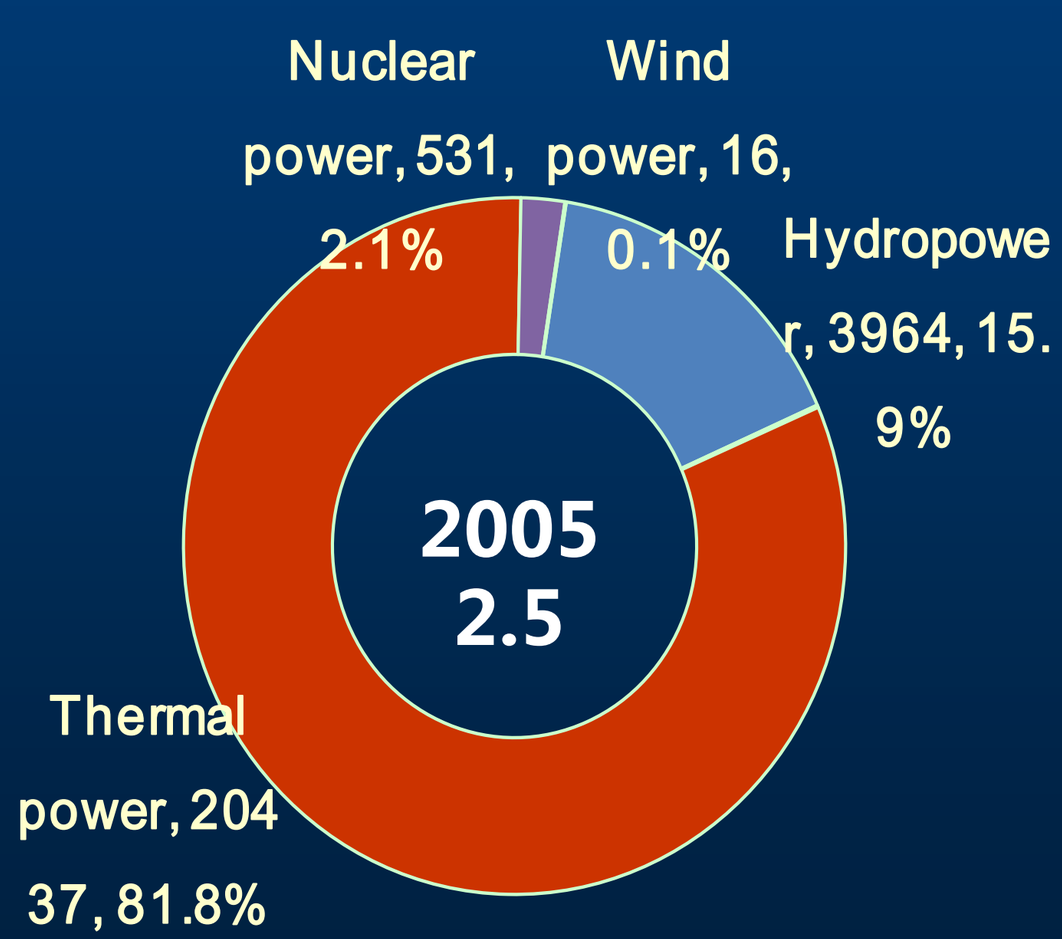


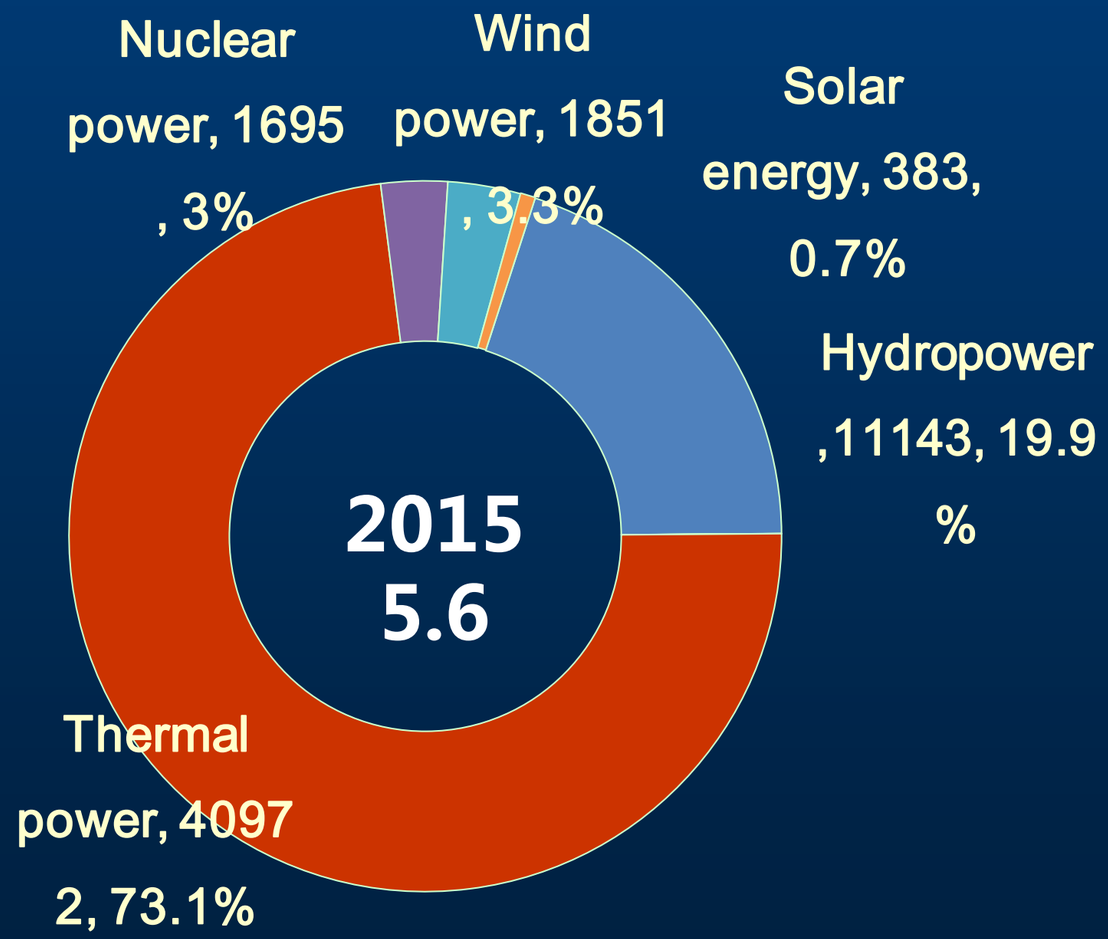
Unit: 100GW

Change of installed generation structure

（三）Power sector development situation

Power generation structure is still dominated by thermal power, while generation from renewable energy occupied 24%. It will keep an upward tendency .

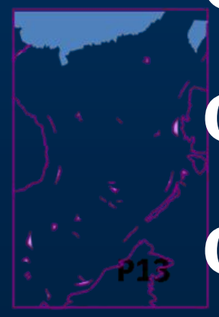




Unit: KWH

Change of power generation structure

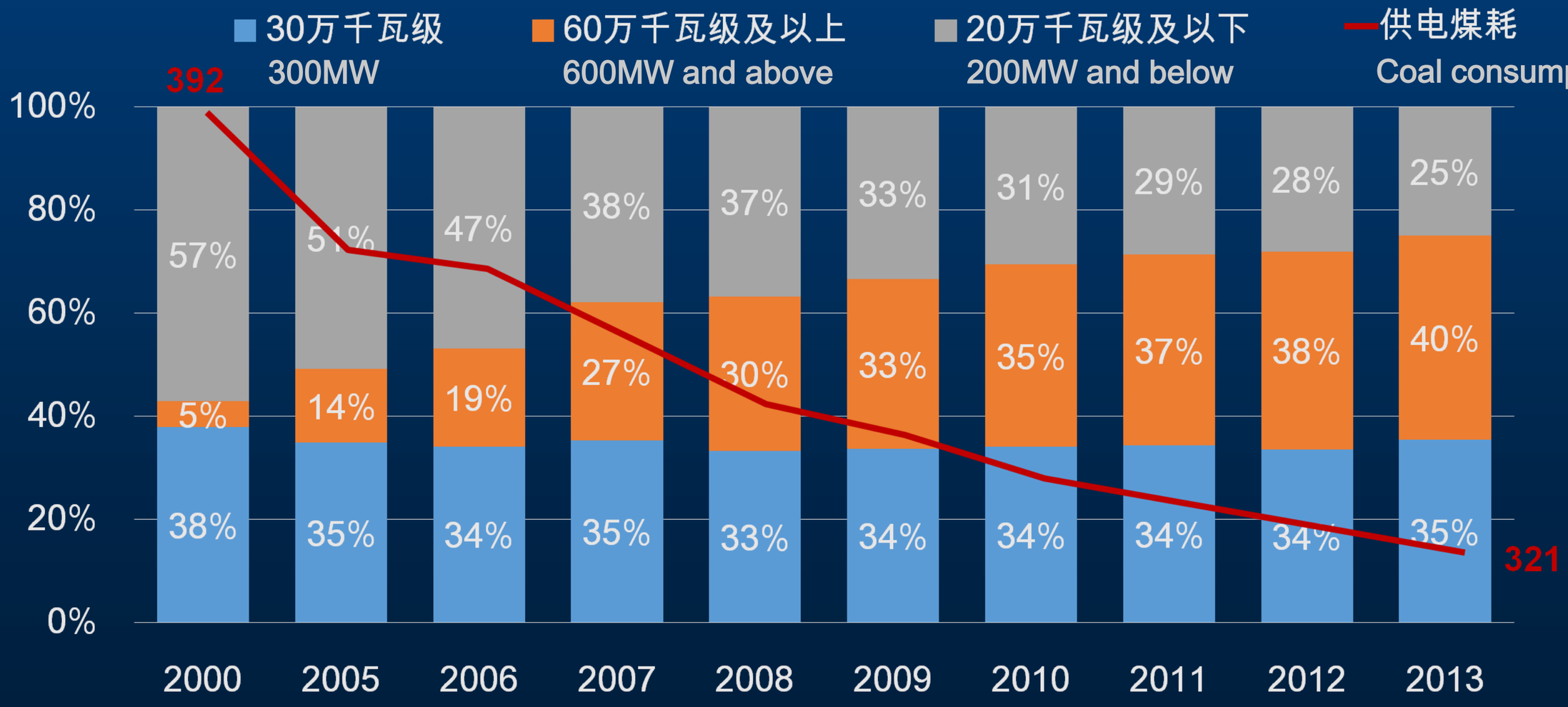
（三）Power sector development situation



So far, Chinese power grid is constituted of six regional grids, including North China Grid, East China Grid, Central China Grid, Northeast China Grid, Northwest China Grid , Southern China Grid. State Grid Corporation of China and China Southern Power Grid lead its operation.

（三）Power sector development situation

With more optimizations being done on coal-fueled power structure , the proportion of 200MW units has significantly decreased to 1/4 of before.The average coal cost of generation units has dropped to standard coal 315 g/KWh in the year of 2015, which was at advanced world level.



（三）Power sector development situation

Markable Projects

交流输电 AC Transmission Projects

直流输电 DC Transmission Projects

火电技术 Thermal Power

核电技术 Nuclear Power

水电技术 Hydropower

Southeastern Jin ultra high voltage

First ultra HV project

UHVDC in Yunguang、Xiangshang

First ±800 kV HVDC in China

Jinping Hydropower Station

The highest dam in the World,305m

Sanmen、Taishan、Haiyang

The third generation of nuclear power plant, in construction

Multi-terminal HVDC in Nanao、Zhoushan

First flexible multiterminal DC project in the World

Yuhuan Power Plant in Zhejiang

First 100 MV coal plant in China

Ningwu Power Plant in Ningxia

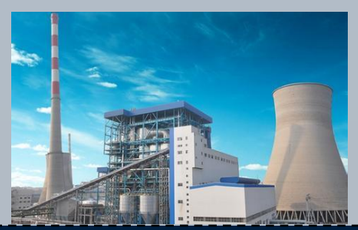
First 100 MV air-cooled coalplant in China

IGCC in Tianjin

First 25 MV IGCC units in China

Baima CFB in Sichuan

First 60 MV CFB generation plant in China



（四） Prospective

- **Promote energy consumption revolution, energy supply revolution, energy technology revolution and energy system revolution and international cooperation**

➢ **Vigorously developing non-fossil energy generation & optimizating energy structure**

➢ **Accelerating the upgrading efficiency of energy conservation & developing the coal power with low pollution.**

➢ **Fostering international cooperation in electricity power industry.**

（四）Prospective

- China and Russia, Central Asia, Pakistan, the United States, France to achieve new breakthroughs in energy international cooperation.
- The international market share of Photovoltaic, wind power, thermal power, hydropower, coal, oil and gas equipment continues to expand.

（四）Prospective

- **Singing ceremony of Hinkley Point nuclear plant 2016.9**

Thank You !