

# Future Energy Structure in China

2020, 2030 and 2050

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## China Now is Facing Pressure in Energy Supply and GHG Emission



← Serious Air Pollution

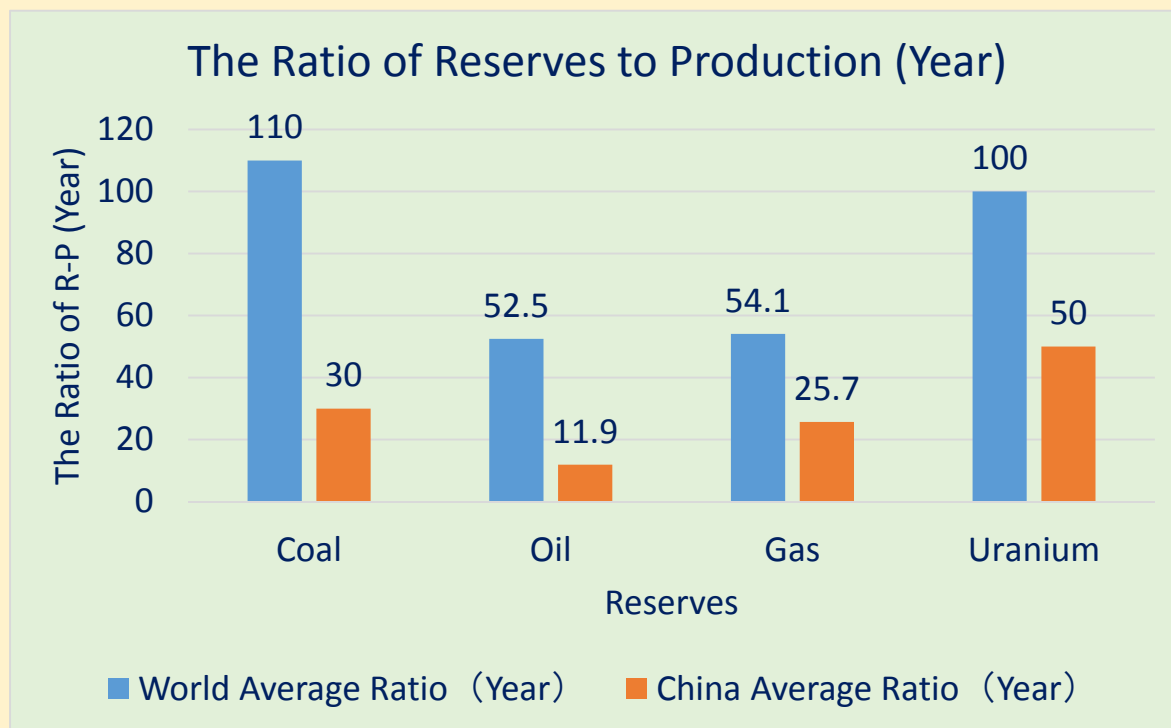
Dirty Fog in Beijing →



**China is Facing Serious Problems in Energy Supply and Air Pollution**

- 1、 The largest country in GHG emission since 2007;
- 2、 The Largest country in energy consumption;
- 2、 The largest producer and consumer of electricity;
- 3、 The largest importer and user of coal;
- 4、 The largest importer of oil and 60% of oil was imported from other countries;
- 5、 Serious shortage in energy supply and serious pollution in environment.

## The Ratio of Reserves to Production of China



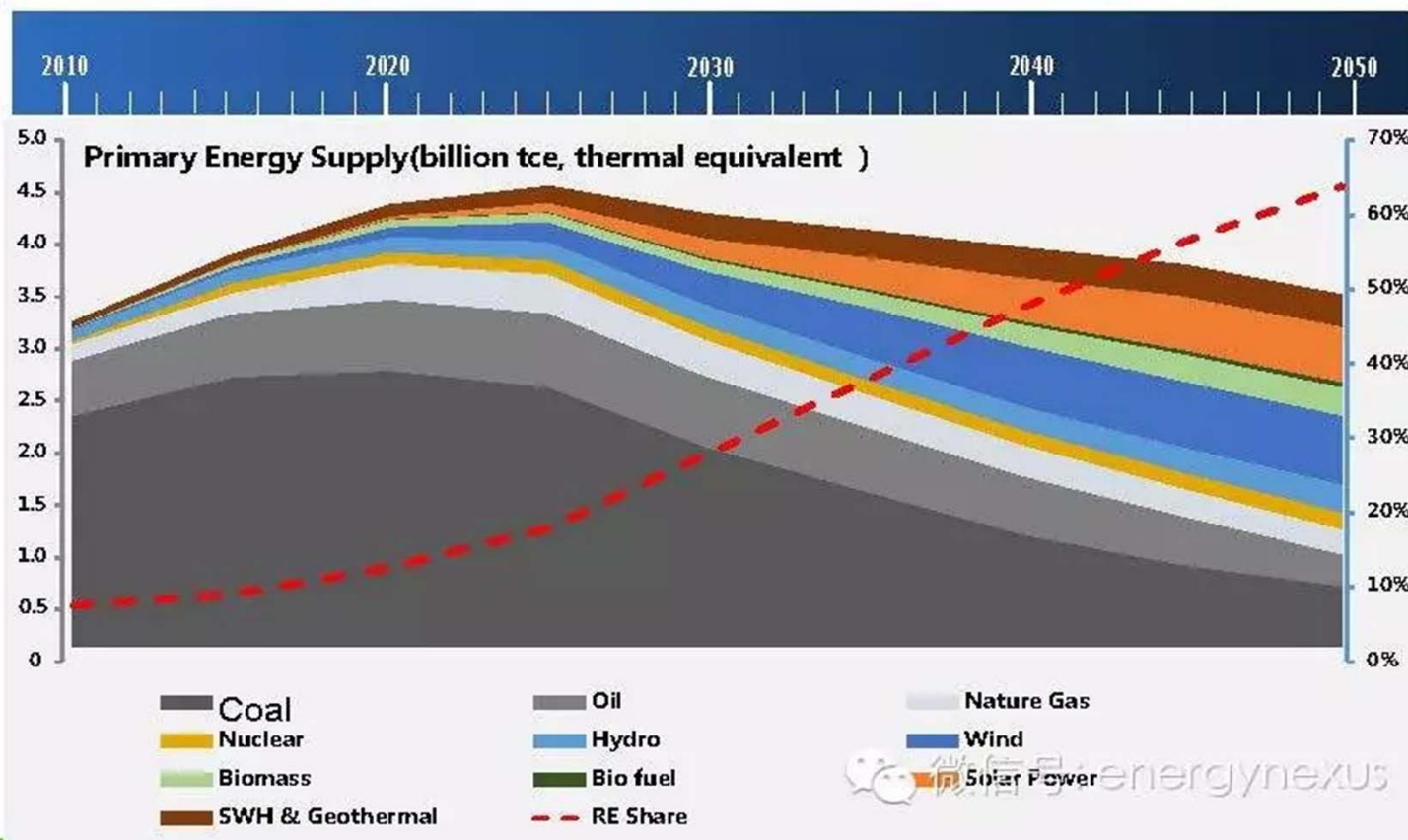
In another **30 years**, there will be no coal, no oil and no gas in China!

China must complete the transforming of energy structure within **next 20-30 years**, and based on solar and other RE.

Reserves	Coal	Oil	Gas	Uranium
World	110	52.5	54.1	100
China	30	11.9	25.7	50

Source: BP Statistical Review of World Energy June 2015

## BY 2050, RENEWABLE ENERGY COULD MEET MORE THAN 60% OF PRIMARY ENERGY DEMAND



Coal consumption will reach to the peak by 2020; primary energy consumption will reach to the peak by 2025 (4.5 billion Tce) and the CO<sub>2</sub> emission will reach to the peak by 2030. By 2050, China primary energy consumption will be 3.4 billion Tce, 60% will come from renewable energy, 90% of electricity consumption will come from the non-fossil fuels, the share of electricity from total energy consumption will be raised from less than 30% today to more than 60%.

# Questions and Answers

- ◆ Which elements are part of a future energy system?

High penetration of RE ( $\geq 60\%$ )

- ◆ What are the major drivers shaping the future?

Energy Supply and Climate Change

- ◆ Which disruptive factors will have the biggest impact? In what way?

Energy Storage and Super-Grid