



**Let Natural Gas Become
the Main Source of Energy in China**

Major Viewpoints

In the process of global energy transition, natural gas shoulders the burden of restructuring global energy mix and realizing clean energy mix. It is far beyond a bridge fuel to a **main energy source** of the world in the future.

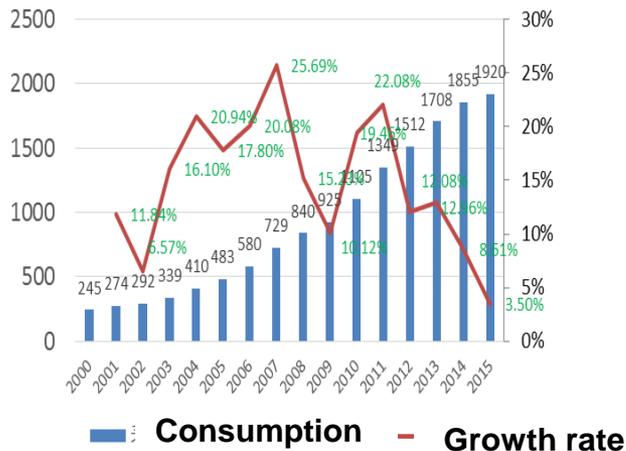
China's natural gas market is one of the most potential markets in the world and is of **particular significance** to natural gas promotion.

China is home to **abundant natural gas resources and has a huge demand.**

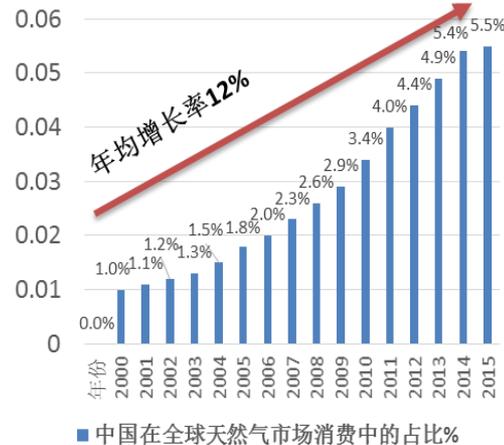
While natural gas development in China has its own difficulties, there has been a number of demonstration projects launched. If there are more **favorable policies, we have faith** to make natural gas **the main source of energy in China.**

In last decades, China's natural gas development grows rapidly and its role in international market is increasingly crucial and **has become the driving force for global natural gas development.**

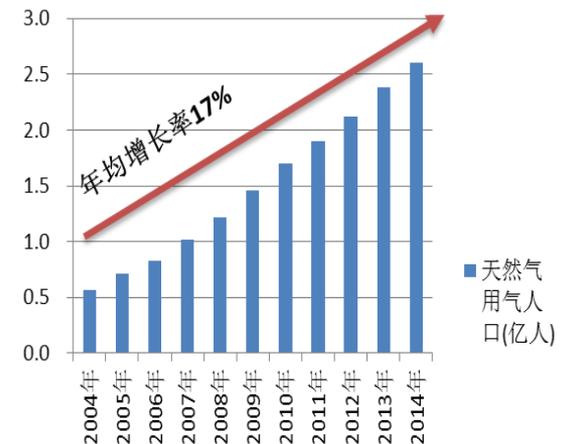
China's annual natural gas consumption



China's annual natural gas consumption and its share on the global market

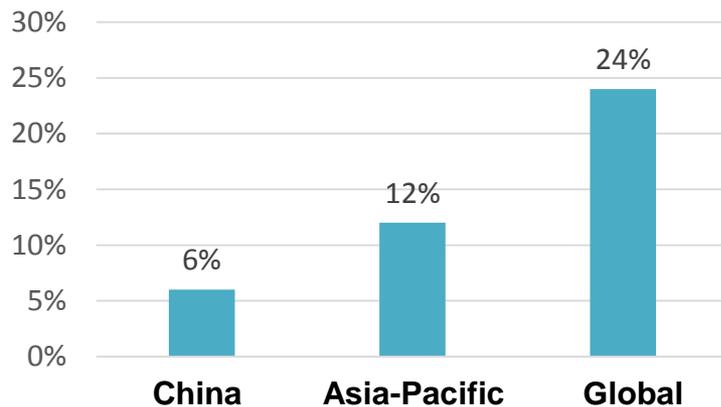


Natural gas users (100 million)

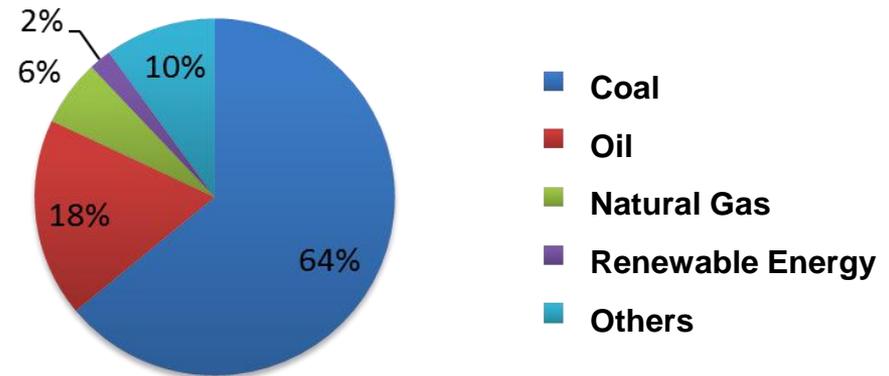


Due to the **weak foundation**, the **ratio** of natural gas in China's energy mix is quite **low**

Percentage share of natural gas in primary energy in 2015



The Primary Energy Consumption Mix in China in 2015



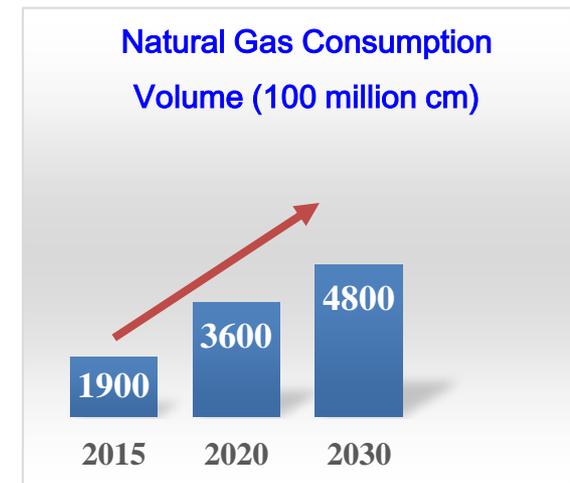
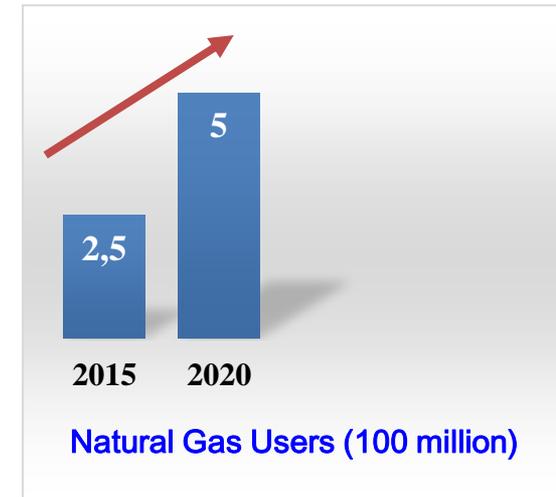
Looking ahead, there are huge demands for natural gas development in China :

- ✓ **Pressure of environmental protection and emission reduction:**
 - Natural Gas is the major substitute for coal, Annually in China, 700 million tons of loose coal are consumed, which is equivalent to 400 billion cubic meters of natural gas.
- ✓ **Urbanization :**
 - Each percentage point increase of urbanization rate equaled to **10 bcm** increase of natural gas consumption.
- ✓ **Industrial restructuring :**
 - If China's tertiary industry increases by 10%, natural gas consumption would increase by 160 billion cubic meters.
- ✓ **Energy transition :**
 - China cannot reach the goal to make non-fossil fuels account for 15% in primary energy by 2020 without the support of natural gas.

Looking ahead, natural gas will replace coal in more areas such as power generation, heating, etc. . Besides, it will take the spotlight in sectors like transportation and distributed energy

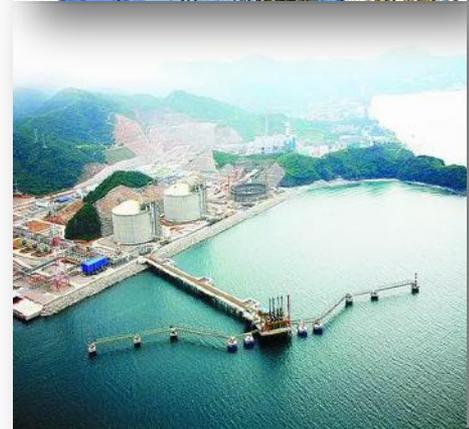
It is estimated that natural gas industry in China will make the following breakthroughs by 2020:

- ✓ Natural gas consumption will be **300-360 bcm**.
- ✓ Natural gas will account for **10%** of the primary energy mix.
- ✓ Natural gas users in China will exceed **500 million, doubling** that of 2014.
- ✓ China will further weed out **600,000 T/h** obsolete coal-burning boilers.
- ✓ Installation capacity of natural gas power generation will be about **100 million kw**.
- ✓ The number of NGV ownership will be **10 million**.
- ✓ Gas distributed installation capacity will be **10 times of the present scale**.



China has abundant natural gas resources

- ✓ According to IEA, natural gas reserves exceed 750 trillion cubic meters globally and natural gas would **last about 200 years for sustainable production at current consumption rates.**
- ✓ Global annual proven reserves growth is larger than the consumption. The reserve-production ratio is **increasing at a stable pace.**
- ✓ According to *the Evaluation of Oil & Gas in China 2015* by the Ministry of Land and Resources, the volume of natural gas available for mining reaches 50 trillion cubic meters, with the proven reserves taking up merely 14% of the total resources.
- ✓ The onshore gas resources in neighboring Central Asia countries and Russia are abundant
- ✓ Abundant is the global supply of LNG and the supply channels for offshore gas are **in smooth operation.**
- ✓ According to authorities, natural gas will be **oversupplied** globally for a long time and its price will remain relatively **low.**



The development of natural gas is faced with some difficulties

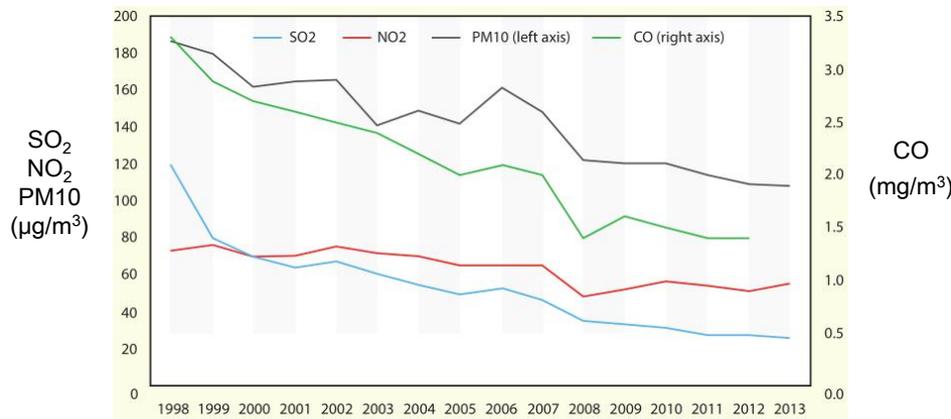
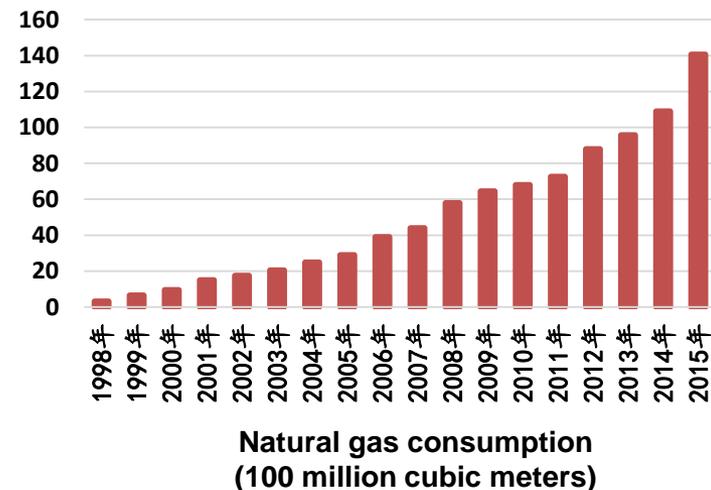
- ✓ Inaccurate positioning, which includes the misunderstanding on the direction of development
 - **Less economical** – The price of coal should not be the benchmark for every kind of energy. The price of potatoes is low, but it is not reasonable to make it the benchmark for the prices of all kinds of vegetables.
 - **Less support from policies** – Natural gas enjoys less support from policies compared with renewable energy.
 - **Incomplete market-oriented mechanism** - Improvement is needed of the market-oriented level of natural gas. The efficient trade mechanism is not formed yet and prices are not completely market-driven.

Demonstration projects of natural gas in China

The natural gas industry in Beijing has the fastest growth in China. This growth has made a contribution in improving the environment and the city would benefit from it for a long time.

- According to *A Review of Air Pollution Control in Beijing: 1998-2013* issued by UNEP, in the 15 years from 1998 to 2013, concentrations of key pollutants, such as sulfur dioxide, nitrogen dioxide and inhalable particulate matter, decreased by **78%**, **24%** and **43%** respectively.

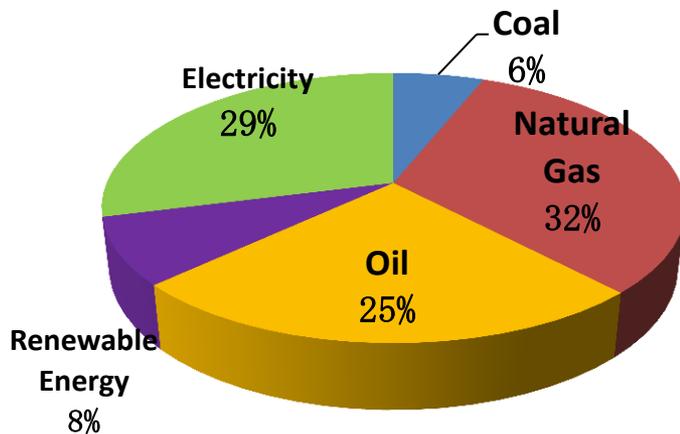
Beijing's natural gas consumption



- ✓ Natural gas accounts for **22%** of the primary energy mix in Beijing and it will be **32%** by 2020. Natural gas will be the **primary energy** in Beijing by then.
- ✓ Beijing has developed a **multi-source and multi-channel** gas supply system. Besides, a diversified supply pattern **integrating imported and domestic gas, offshore and on shore gas, conventional and unconventional gas** has been established.
- ✓ A circular gas distribution network **with six pressure grades has already been established covering areas within the fifth ring road radiating towards seven directions** in the city.

The past two decades have witnessed fast development of natural gas in Beijing, the annual purchase volume has increased from **130 million m³** to **14.6 bcm**, which makes Beijing the third largest city in the world in terms of natural gas consumption. The *Beijing Natural Gas Utilization Project* won a prize in *the Zhan Tianyou Award*, which is of high level in field of engineering project.

Beijing's energy consumption structure in 2020



Some experience of the fast growth of natural gas in Beijing

- ✓ The government supports the development in a clear-cut way and issues a series of supportive **policies** and monitors the execution of the policies at the same time.
- ✓ The government offers city gas enterprises market-oriented operation mechanism, which makes enterprises play an important role.
- ✓ Gas enterprises are active and have already made a difference in the development.
- BGG sticks to the development strategy of ***Establishing a foothold in Beijing; following a domestic and external approach; putting a firm focus on the gas business and pursuing vertical integration.*** The economies of scale keeps improving, and management capacity and R&D performance are seeing rapid growth. BGG has become the ***first High-tech Innovation Company*** of the country in the gas industry.
- Apart from serving Beijing, BGG is making efforts in ***exploring the market home and abroad and being very active in the affairs of international energy organizations.*** BGG has shown its full vitality at the moment.

Natural gas development in China needs more powerful support from policies

- ✓ All sectors **should eliminate the bias** against natural gas and **differentiate natural gas and other fossil fuels**, and make it play **the same important role** with renewable energy in the process of energy transition.
- ✓ We call for stronger support for natural gas from the government and more favorable policies. For example, to **pay equal attention** to natural gas and renewable energy, issue more powerful policies for **replacing coal with natural gas**, encourage its application in fields like **transportation, distributed energy**, etc.
- ◆ **We appeal to** the government to accelerate market-oriented reform and stimulate market vitality. Besides, the government should also encourage competition among all links of the industrial chain of natural gas, motivate all enterprises to cut cost and improve efficiency.
- ◆ **We appeal to** natural gas enterprises enhance the guarantee capability and the service. In addition, enterprises should be more competition-conscious, strengthen self-regulation and improve management quality.

There is confidence in the development of natural gas market in China.

- ✓ The confidence comes from the **support** of the participants here of G20 Natural Gas Day. Your participation has shown your attitude of supporting the development of natural gas.
- ✓ The confidence comes from the **co-operation** among global energy governance organizations. The participants of this event are representatives from international energy organizations like the IEA, IGU, IEF, etc. There is an old saying in China, “The unity of people could remove the Mountain Tai”, which means many hands make light work. International energy governance organizations are studying the obstacles on the way of natural gas development together. The cohesion from all parties will further promote the development of natural gas.
- ✓ The confidence comes from the clean and efficient **advantages** of natural gas.
- ✓ The confidence comes from Chinese government’s **determination** on controlling smog and dealing with global climate change.
- ✓ The confidence comes from the **effective reform** of energy sector in China – the opening-up of the upstream market, the establishment of the natural gas trading center, the fair access of middle stream pipeline and the highly opening-up of the downstream, etc. More and more reform bonus will be issued gradually.
- ◆ According to BP’s *Energy Outlook 2035*, natural gas will replace coal in 2035 and become **the second main force of energy** right after oil.
- ◆ We are confident that natural gas will be the **main force of energy** in China in the near future.

Conclusions

Natural gas is a energy that is accessible, affordable, economical, clean and with sustainable supply!

Natural gas is the **main source of energy** instead of a transitional energy!

China's natural gas market has the largest potential and the most vitality and China's natural gas industry will strengthen its cooperation with global colleagues and make joint efforts to embrace **an era of gas energy** for the world!