Northeast Asia Petroleum Forum 2009

Trends of Northeast Asia Natural Gas Market after Financial Crisis

Lin Shuxin

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Situations of Northeast Asian natural gas market

1、Overview of World Natural Gas Industry in 2008

- In 2008 the total global proven reserves of natural gas are 185.02 trillion cubic meters, Russia, Iran and Qatar accounting for more than 53% of the total proven reserves.

- natural gas output in 2008 totaled 3065.6 billion cubic meters, increasing 3.8% from the previous year, higher than the 3% average of the last decade, mainly due to the development of unconventional gas resources in US and the increase of gas production by pipeline in Qatar.

Situations of Northeast Asian natural gas market

1、Overview of World Natural Gas Industry in 2008

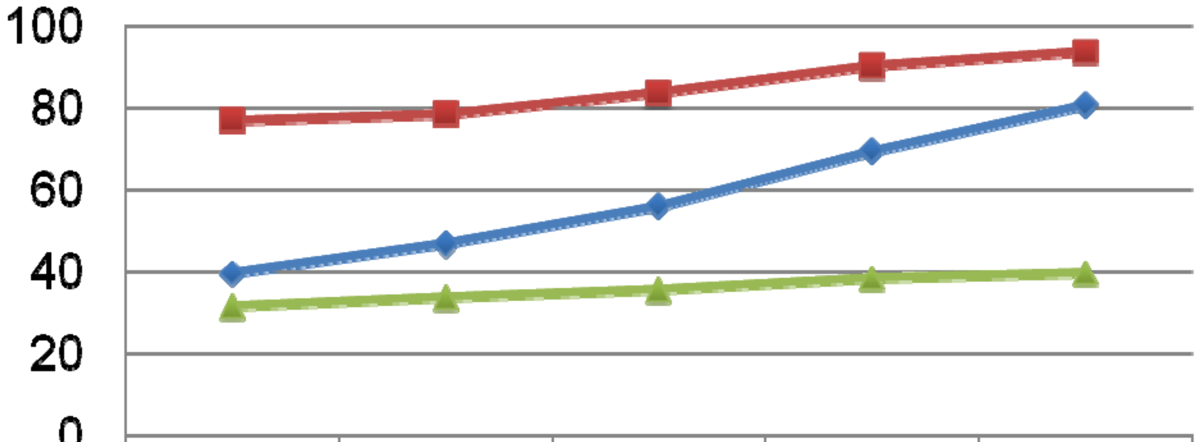
- On average, Natural gas accounted for 24.1% in world primary energy consumption structure, and consumption of natural gas grew by 2.5% over the previous year, lower than the average level of the last decade.
- On the basis of equal calorific value, the spot price of natural gas is still much lower than the price of oil.
- In 2008, the Top3 LNG exporter are Qatar, Malaysia and Indonesia.

Situations of Northeast Asian natural gas market

2、Consumption of Northeast Asia's major gas consumer countries

2004－2008 Consumption of China, Japan and South Korea

（billion cubic meters）



	2004	2005	2006	2007	2008
China Mainland	39.7	46.8	56.1	69.5	80.7
Japan	77	78.6	83.7	90.2	93.7
South Korea	31.5	33.7	35.6	38.5	39.7

Situations of Northeast Asian natural gas market

2、Consumption of Northeast Asia's major gas consumer countries

Changes of natural gas consumption in China, Japan and South Korea, and their proportions of total world consumption.

	Change from 2007	proportion of total world consumption
China mainland	15.8％	2.7％
Japan	3.6％	3.1％
South Korea	2.8％	1.3％

Situations of Northeast Asian natural gas market

2、Consumption of Northeast Asia's major gas consumer countries

✡ Major natural gas suppliers to Northeast Asia are Middle East countries, Indonesia, Brunei, Malaysia, Australia and Russia.

✡ In 2008, Japan and South Korea remains the largest LNG importers, importing 92.13 billion cubic meters, and 36.55 billion cubic meters, and increasing 3.6% and 2.8% respectively. China Taiwan imported 12.07 billion cubic meters, the fifth in the world.

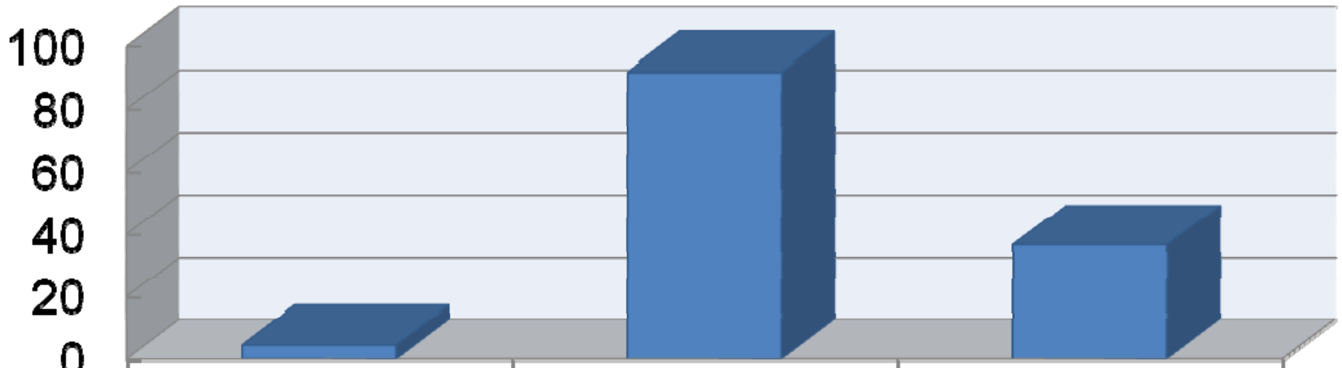
✡ China is becoming a emerging LNG importing country in Northeast Asian region.

Situations of Northeast Asian natural gas market

2、Consumption of Northeast Asia's major gas consumer countries

In 2008, The importation of Japan, South Korea, China Mainland and China Taiwan for LNG, totaled 145.19 billion cubic meters, accounting for 64.1% of total global volume of 226.51 billion cubic meters.

2008 LNG Importation volumes of China Mainland, Japan and South Korea （billion cubic meter）



	China Mailand	Japan	South Korea
■	4.44	92.13	36.55

Situations of Northeast Asian natural gas market

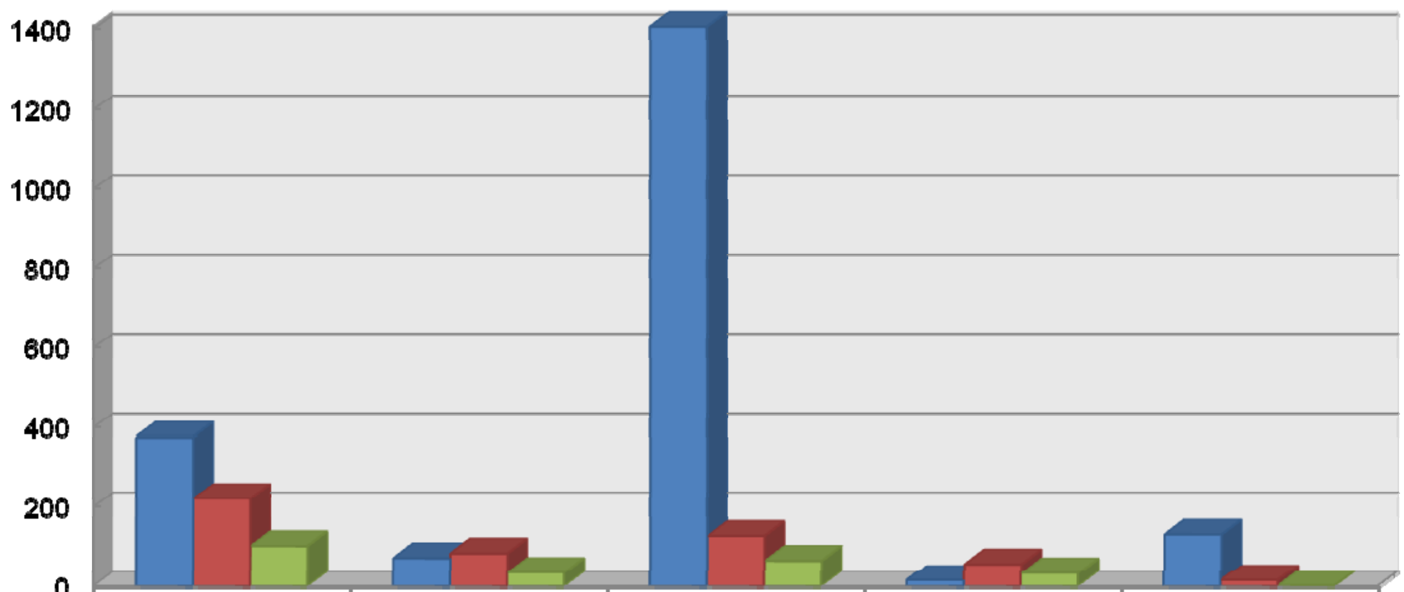
3、Share of natural gas in China's energy consumption structure

✡ the share of natural gas in China's energy consumption is far below the world average

In 2008, China output 76.1 billion cubic meters of natural gas, ranking ninth in the world, and consumed 80.7 billion cubic meters of natural gas. However, the share of natural gas in China's energy consumption is only 3.4%, far below the world average of 24%.

Situations of Northeast Asian natural gas market

primary energy consumption structures of China, Japan and South Korea in 2008
(million tons of oil equivalent)

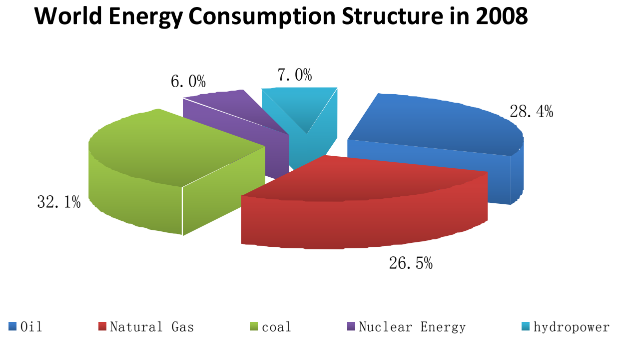


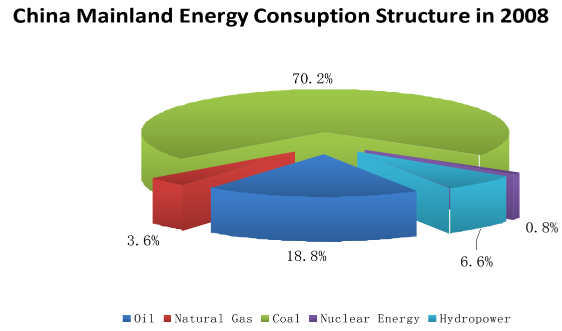
	Oil	Natural Gas	Coal	Nuclear Energy	Hydropower
China Mainland	375.7	72.6	1406.3	15.5	132.4
Japan	221.8	84.4	128.7	57	15.7
South Korea	103.3	35.7	66.1	34.2	0.9

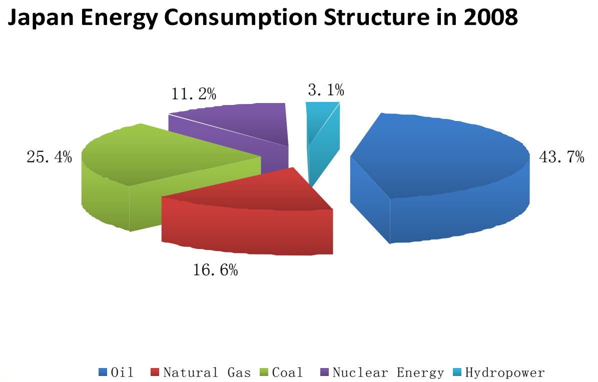
Situations of Northeast Asian natural gas market

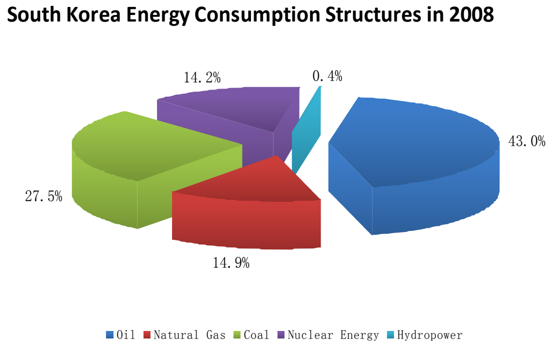
3、Share of natural gas in China's energy consumption structure

✡ **Five Main Energy consumption structures in China, Japan, South Korea and the world respectively**









Note: only including the five main fuels. The actual proportion of the energy consumption may be slightly lower.

Situations of Northeast Asian natural gas market

3、 Share of natural gas in China's energy consumption structure

- **China has potential to increase natural gas proportion in energy consumption.**

In 2008, natural gas accounted for 24.1% in global energy consumption structure, and oil 34.8%, coal 24.2%. In China, coal accounted for 69%, oil 20%, and natural gas 3.4%, and hydropower, wind power, nuclear energy, mainly hydropower accounted for 7%.

It'll be a long and arduous task to improve China's energy structure, and is expected that by 2030 natural gas consumption in China will reach 400 billion cubic meters, and the proportion of natural gas in primary energy consumption remains low, only about 6%.

The impact of financial crisis

1、The impact of financial crisis on the market

- **On demand, Asia-Pacific LNG consumption declines widely, especially for industrial users.**

Japan: due to the slowdown of demand and record high inventory level, many companies have canceled this year's stock purchase plan, and try to fulfill the long-termed import contracts in the way of minimal purchasing volume.

South Korea: LNG imports in 2009 is clearly downward. With a very high inventory level, Companies are forced to negotiate with exporters to achieve implementation of the minimum import volume

China Mainland: LNG imports in 2009 is expected to 6.4 million tons. Fujian terminal will launch to import 2.7 million tons per year from Indonesia, while Shanghai LNG terminal may be postponed until the end of year.

China Taiwan: Has canceled six vessels of LNG imports from Indonesia. 80% of LNG imports in Taiwan is for electricity generation, electricity demand decline was the main reason leading to decline in LNG imports.

The impact of financial crisis

1、The impact of financial crisis on the market

- **On Supply, the total global designed LNG capacity in 2009 will sum to 240 million tons.**

LNG plants to start-up in 2009, mostly locate in the Middle East, Qatar and Yemen are expected to add 23 million tons per year and 6.7 million tons per year production capacity by the end of this year

In the background of the financial crisis, natural gas resource countries adopt a more flexible marketing measures, reduce the output, stop or postponed construction some projects; and enhance cooperation to maintain their interests.

The impact of financial crisis

2、Supply & demand of LNG

- On short term, supply of natural gas in Northeast Asia is in a situation of supply exceeding demand.

This year up to now, demand slowdown and price fall are general on Asia, Europe and North America three major natural gas markets, Especially in USA, due to its unconventional natural gas resource development, demand for natural gas in the Middle East decreasing. Drops in demand and new LNG capacity from Qatar and Russia will significantly ease the tight supply situation in 2010.

The impact of financial crisis

2、Supply & demand of LNG

- ✡ On long-term, postponement of new projects due to financial crisis may lead to re-emergence of LNG tight supply situation.

Before the financial crisis, a number of upstream mining project was delayed because of financing difficulties in the global natural gas industry, financial crisis exacerbated the problem. Although the next two years many LNG plants are put into operation, there will be not enough capacity for the next few years, and it is likely to reverse the current situation of short-term buyer's market to return to a seller's market.

Outlook of Natural Gas Industry

1、Trends of Global Natural Gas Market

✡ The increasing globalization of the natural gas market

With the rapid growth of cross-country pipeline transport and LNG trade, the globalization of the natural gas market is accelerating. Prices of North America, Europe, Asia-Pacific natural gas market have been showing some similarity.

✡ The price will be higher on long term.

Rigidity growth of the long-term demand, increasing difficulty to explore and develop oil and gas resources, more complex geological conditions of natural gas reserves and the huge investment of new projects will drive natural gas price higher.

✡ LNG trades will be more diversified

With the rapid demand growth for natural gas, new LNG trade patterns continue to emerge. The form of combinations of short-term contracts and long-term contracts will be increasingly adopted by LNG buyers, with long-term contracts for basic demand, and short-term contracts for additional demand or seasonal changes.

Outlook of Natural Gas Industry

2、Outlook of China's Natural Gas Market

- **Rapid growth of output, and great potential to increase**

  China's natural gas industry is just at the early stage, with low exploration and development level of domestic natural gas, and has great potential and broad prospects to increase.

- **Consumption continues to grow, and structure gradually optimized.**

  In recent years, China has strong growth in natural gas consumption. On long-term, China's natural gas consumption will continue to grow.

- **Low prices to adjust soon.**

  Judging from the current practical point of view, China's natural gas prices are lower than market value, and long-term trend is to rise gradually. At present, the government is preparing to reform natural gas prices.

- **Pipeline Gas dominates natural gas imports, LNG in second place**

  According to location of natural gas resources in China Mainland, pipeline gas will dominate foreign natural gas imports in China, and LNG in second place. In the short term, the potential countries and regions to introduction of pipeline gas, are mainly Central Asia, Myanmar and Russia.

Natural Gas Cooperation in Northeast Asia

1、 Cooperation between major consumption countries

- cooperation to win, and competition leading to loss. Enhancing energy cooperation will help to maintain stability and facilitate development in Northeast Asia.

- In recent years, North-East Asia is one of the most promising areas in the world. At present, Northeast Asia's energy consumption accounts for about one-fifth of the world's total, while China, Japan, South Korea's energy consumption accounts for more than 98% in Northeast Asia regional.

- China, South Korea and Japan rely heavily on energy imports, but lack of mechanisms to protect common interests leads to a weak position in the international oil pricing system, forced to take "Asian premium." 。

Natural Gas Cooperation in Northeast Asia

1、 Cooperation between major consumption countries

- Northeast Asian energy consumer countries/regions can establish oil cooperation mechanisms in different ways, changing excessive competition to healthy competition.
- Northeast Asian Energy Cooperation can exists in many areas, including building a common market in Northeast Asia, establishment of Northeast Asia Energy Agency, cooperation between national energy companies in Northeast Asia, constructing regional pipeline network, as well as extensive cooperation on environmental protection.

Natural Gas Cooperation in Northeast Asia

2、Cooperation with Russia

- In Northeast Asia, oil and gas production of Russia and oil and gas consumption of China, Japan and South Korea constitutes are complementary to each other.
- At present, emphases of Russia's energy policy is gradually shifting from the European countries to Northeast Asia. Experts expected that with the strategic change of Russian oil exports, by 2020, share of Asia-Pacific countries in the Russian oil and gas exports will rise from the current 3% to 30%.

100 million cubic meters

area	2010	2015	2020	2025	2030
West Siberia	0	150	300	400	600
Eastern Siberia, Sakha Republic (Yakutia)	0	300	600	820	820
Sakhalin	134	134	180	200	230
Total	134	584	1080	1420	1650

Natural Gas Cooperation in Northeast Asia

2、Cooperation with Russia

- Although there emerges some new trends for the energy cooperation of Russia and Northeast Asia countries, in general the energy cooperation in Northeast Asia is still in the start-up and early stage, and confined to bilateral cooperation.

- In order to further optimize the allocation of resources, lower the cost of development, and boost regional economic development, it is a urgent need to build a multilateral cooperation system.

Thanks！

Contact： report@tky.ieej.or.jp