

25th world gas conference
“Gas: Sustaining Future Global Growth”

NORTH EAST ASIA GAS MARKET

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Introduction

- North East Asia combines the markets of China, Japan, South Korea and Taiwan.
- The markets of Japan, South Korea and Taiwan are relatively mature, and almost completely reliant on imported natural gas.
- With gas prices effectively determined by the cost of imported liquefied natural gas (LNG), the priority for these buyers is to ensure supply security, to manage seasonal demand changes and/or demand/supply shocks and to have a diverse range of suppliers.
- China's gas industry stands in contrast by virtue of its domestic supply, potential in the unconventional gas sector, its imports of pipeline natural gas and LNG and the high potential growth in natural gas demand.

China – Gas Demand and Supply

- Significant demand growth potential—with the focus moving to the industrial and power sectors as residential and commercial penetration slows.
- Indigenous supply being rapidly supplemented by cross border pipeline imports and LNG.
- China appears “fully contracted” for LNG—imports set to reach 30 million tons in 2016. Future potential could be tempered by unconventional gas development.
- As well as providing supply diversity; LNG can also help manage seasonal demand fluctuations as domestic gas storage remains constrained.

China – Policies and Key Issues

- China has historically used policy levers to varyingly promote and restrict natural gas use; e.g. in the residential and power generation sectors.
- Gas prices remain regulated—with onshore prices based on a cost-plus approval. However, price liberalization has been promoted by the move to multiple—from single—supply sources; including imported gas supplies.
- China is currently facing several challenges in developing its gas market:
 - rapid growth of gas consumption;
 - uncertainty of unconventional gas development;
 - regulated gas prices;
 - necessity of rapid and sufficient infrastructure development.

Japan – Gas Demand and Supply

- Japan is almost totally reliant on imports of LNG in the absence of meaningful indigenous supply.
- Approximately two thirds of Japan's natural gas consumption is represented by power generation; with the balance in the residential and industrial sectors.
- Post-Fukushima the entire Japanese nuclear power fleet is idle. 54 reactors. 49 GW. Zero generation. Summer 2012 will see the largest deficits. Japan could face serious power shortages to cover lost nuclear generation.
- LNG has played a critical role in helping meet increased power generation following the earthquake of March 2011—with oil also becoming prominent as gas and coal utilization levels approach practical limits.

Japan – Policies and Key Issues

- The key issue Japan faces is to procure alternative energy resources now that it has decided to be less dependent on the supply of nuclear power. The government is to encourage the usage of renewable energy resources, and the shortfall in energy supply will be filled with fossil fuels, mostly with natural gas (LNG).
- Japan has a large number of LNG import terminals near its big markets in the coastal areas. There are currently 27 LNG import terminals in metropolitan areas. They are owned and operated by power generators, city gas companies and petroleum companies. However, there is no nationwide gas trunkline system. As a result, re-gasified natural gas is mainly consumed in coastal urban areas near the import terminals.
- The disconnected nature of the market has revealed a constraint in the energy system post-Fukushima in terms of interconnectivity.

Korea – Gas Demand and Supply

- South Korea is almost totally reliant on imports of LNG with domestic supply from just one small field.
- Korea has a significant portfolio of LNG contracts—with KOGAS being the world’s largest single LNG buyer. In the past 18 months a number of new long-term import contracts have been signed to ensure security of supply.
- Demand for LNG in South Korea showed a second year of strong growth in 2011. Both city gas and gas for power demand grew and the main driver behind both was strong growth in the industrial sector, inline with strong economic performance.

Korea – Policies and Key Issues

- Natural gas prices in South Korea are regulated by the government. They are classified into two, rates for city gas and power generation.
- Rates for city gas are classified again into rates for wholesale and retail. Wholesale gas rates charged to power plants and city gas companies are composed of raw material cost and transmission cost.
- Korea has four LNG regasification terminals—and a fifth under construction. The ability to maintain sufficient storage to meet seasonal demand increases has historically been an important consideration.
- The role of natural gas in the energy mix will depend in part on power generation and the proposed expansion of nuclear capacity.

Taiwan – Gas Demand and Supply

- Taiwan is almost totally reliant on imports of LNG with two principal regasification terminals; supplemented by gas from several small indigenous fields.
- Consistent demand growth at a moderate level is mainly driven by increased use of LNG for base-load power generation. The strong historic seasonal demand is shifting toward higher demand throughout the year.
- More than half the natural gas consumed is for power generation. Of the remaining 20 percent of natural gas consumed residential is around twice that of industrial.

Taiwan – Policies and Key Issues

- The main issues for Taiwan include the role of gas in the energy mix in the post-Fukushima environment. Policy towards nuclear power generation will remain important.
- The procurement of long-term supply, management of short-term to medium demand and procurement of LNG to ensure supply continuity are critical.

Conclusion

- The gas markets of North Asia can be divided into mature—Japan, Korea and Taiwan and developing—China.
- Demand in all markets is seasonal in nature—and managing summer and winter peaks relies on maintaining adequate storage and/or alternate fuels/demand side management.
- For markets reliant on LNG; the gas price is regulated but reflects the import cost from the international markets. In China, the price is regulated in relation to the cost of supply, but increasingly influenced by imported gas (pipeline and LNG).
- In all markets gas plays an important role in providing energy diversity; with LNG providing security of supply via access to a global market; and in the case of China diversity in terms of supply (indigenous vs pipeline vs LNG).