Why Stranded? A Chinese Perspective

Xu Xiaojie

THE NEW PICTURE OF GAS IN NORTHEAST ASIA: KEY POINTS

- Growing demand for cleaner energy and markets in China, the Republic of Korea, and Japan
- Quest for new sources of supply and exploring cooperative solutions
- Sources of uncertainties, hurdles, and risks, both economic and political

JAPAN

Japan is the largest petroleum consumer in the region and the second-largest one in the world, with an annual demand for 255 million tons (Mt) of oil and for 69.5 billion cubic meters (Bcm) of natural gas. Over 97% of Japan's oil requirements is satisfied by sources outside the region, located mainly in the Persian Gulf.

REPUBLIC OF KOREA

The Republic of Korea is also dependent on external supplies to run its economy. In 1996, the country's oil demand reportedly exceeded 100 Mt, 95% of which is imported from outside the region. This huge thirst for oil constitutes a major challenge for its energy security.

MONGOLIA AND THE DPRK

Mongolia and the Democratic People's Republic of Korea fall, to some extent, into the same category as Japan and South Korea, with few hydrocarbon reserves. Both are isolated politically or economically, and Mongolia is a land-locked economy. In the past, Mongolia has been dependent on Russian oil, while the DPRK is dependent largely on Chinese oil supplies. Considering its border security and traditional relationship with the DPRK, China continues to export about half a million tonnes of oil annually to the DPRK.

RUSSIA

Russia is among the world's leading oil producers and is endowed with huge reserves of oil and natural gas. Russian oil production increased slightly to about 320 Mt, while gas output reached 584 Bcm. About 78% of the oil and 87% of the gas are produced in West Siberia. Future strategic reserves of hydrocarbons may become available from remote areas such as the Yamal peninsula in Northwest Siberia, from East Siberia, and from the Russian Far East.

CHINA

Chinese oil production has reached 163 Mt and natural gas production has increased to 27 Bcm. In 1993, however, China became a net oil importer, and although its natural gas and oil production are projected to expand, domestic supplies will no longer be sufficient to meet growing demand. China is therefore seeking access to new sources of energy from remote domestic areas, such as the Tarim basin, and from other countries, including the Middle East, Central Asia, Africa, and Russia.

SUMMARY

Overall, the economies mentioned above (except Russia) cannot bridge the gap between demand and supply without closely linking themselves with major oil and natural gas exporters. In 2000, for example, Japanese, South Korean, and Chinese oil imports from the Middle East reached 370 Mt in total and accounted for about 94%, 77%, and 62% respectively of domestic demand.

QUEST

- Japan's investment in East Siberia, the Russian Far East, and Central Asia
- Republic of Korea's investment in Russia
- China's quest for additional sources from Russia and Central Asia

WHERE ARE THE NEW SOURCES AND WHY ARE THEY STRANDED?

There are large underdeveloped oil and gas resources in East Siberia and the Russian Far East, and in China's Xinjiang Province. Potentially, these remote regions can supply strategically important hydrocarbon sources for Asia.

After the Cold War, these sources have become accessible but remain stranded because of a lack of infrastructure, information, economic and political

hurdles, and other challenges. Nevertheless, Russia and China have strong intentions to develop their oil and gas resources in these areas.

AUTHOR'S PERSPECTIVE

Chinese Positioning

- Infrastructure and cooperation from pipeline to field development and exploration
- China's gas import grid
- Domestic versus cross-border pipelines: which first?
- Removal of hurdles (including non-physical and regulatory) and concerns (including environmental)

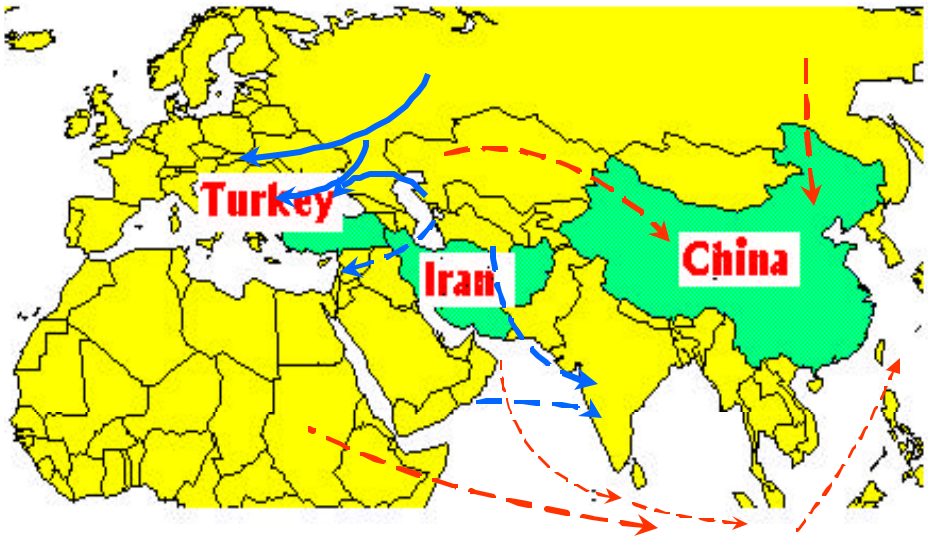


Figure 1. Potential hydrocarbon trade flows between Asia, the Middle East, Europe, and Africa

Figure 2. Pipeline natural gas and LNG flows across Northeast Asia

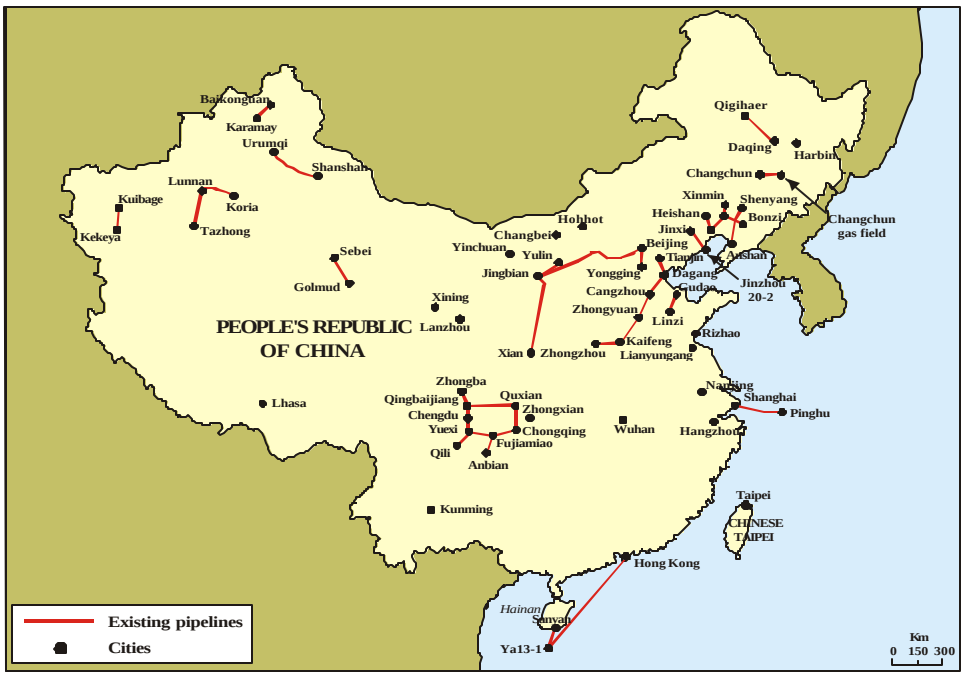


Figure 3. Existing Chinese natural gas pipelines

Figure 4. China's west-east pipeline

Note: Length 42,000km; diameter 1,016 mm; capacity 12 billion cubic meters/year. Pipeline cost US$6 billion; upstream cost US$3.4 billion; downstream cost US$8.3 billion. Project start 2001. First gas delivered to Shanghai in 2003.

DOMESTIC LINES FIRST

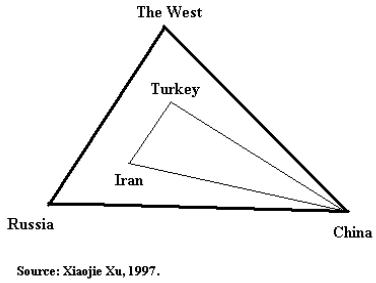
Although cross-bordering pipelines are undergoing feasibility studies, domestic lines and LNG facilities are a priority (by 2003). Although China has to introduce foreign capital and technology through bidding, it is wise for the country to build and link up domestic trunk lines.

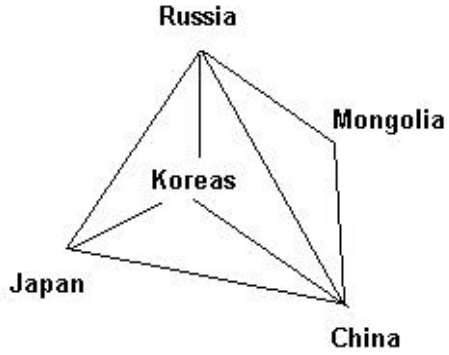
REMOVAL OF HURDLES

- Reduce tariffs
- Removal of non-physical hurdles
- Information exchange and integration of legal, tax, and regulatory systems

GEOPOLITICAL INTERACTIONS

- Geopolitical games between Japan, China, Russia, the Koreas, and the West
- Japanese vision
- Chinese needs
- Russian strategy toward the Pacific rim
- Korean intent





Great game in Central Asia Geopolitical game in Northeast Asia

Figure 5. Geopolitical games in Central Asia and Northeast Asia

SUMMARY

- Many factors contribute to make Northeast Asian gas *de facto* stranded gas.
- China and Russia are key players in supply and demand, and the two play an important role in solving the stranded gas dilemma.
- The perspectives presented here are the author's own.