

## **An Analysis on Asian Premium for LNG Price**

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As the potential for greater unconventional gas supply has dramatically attracted global attention due to the U.S. shale gas revolution, expectations have grown globally on natural gas, an abundant resource that features clean environmental characteristics. Expectations on natural gas are even higher in Japan due to the special factor that natural gas thermal power generation has expanded on a decline in nuclear power output.

While natural gas is expected to play an even greater role in the energy portfolio over both the short- and a medium-to-long term, Japan has some challenges to tackle for its expansion of natural gas consumption. One of such challenges is the Asian premium problem for LNG prices.

The CIF-based price for Japan's LNG imports in January stood at \$16.70 per million British thermal units. Latest spot LNG prices for Asia have moved between \$15 and \$16. At European natural gas trading hubs including the British National Balancing Point, known as NBP, natural gas prices have slipped below \$10. At the Henry Hub, a major trading hub in the United States, natural gas prices have fallen to around \$2-\$3. The gap between Japanese import and U.S. prices is very wide.

If the law of one price works, prices excluding transportation and other costs are usually expected to converge into an equilibrium point. But the market realities do not meet the law in the case of gas pricing. The largest factors behind the huge price gap mentioned above may include differences in the natural gas/LNG pricing methods and market (supply and demand) environments. In the United States, gas is priced according to the changing supply-demand balance through gas-to-gas competition and transactions within a well-developed pipeline network. The shale gas revolution has worked to remarkably ease the supply-demand balance, bringing about the extremely low present prices. In Japan and the rest of Asia, however, LNG import prices are basically linked to crude oil import prices of Japan under long-term LNG import contracts accounting for most of LNG supply. LNG prices thus move according to crude oil price changes rather than the gas (LNG) supply-demand balance. As crude oil import prices for Japan have remained high on the Arab Spring destabilization and the tense Iranian situation since last year, LNG import prices have stayed high.

As natural gas is expected to grow even more important among primary energy sources, it is significant for Japan to enhance the cost competitiveness of natural gas. Therefore, responses to the Asian premium problem are very significant for securing stable energy supply for Japan. Given the abovementioned background factors, however, we can find that the market structure, supply/demand environments and the pricing mechanism may have to be adjusted or reformed to

reduce or eliminate the Asian premium. We cannot expect any easy solution to the problem.

Even so, however, what has recently attracted attention from many energy experts is a possible expansion of LNG exports from North America and its impact on the LNG market. A large number of LNG export projects have been put under consideration or have moved to the implementation process in the United States and Canada, including the Sabine Pass LNG project by Cheniere Energy Inc. of the United States. In a typical American development, many U.S. companies are emerging to take advantage of the large LNG price gap between the U.S. and Asian (non-U.S.) markets to launch LNG exports. Remarkably, South Korea's KOGAS and India's GAIL each have signed a 20-year agreement to import 3.5 million tons in LNG from the Sabine Pass LNG terminal. The price for these agreements is an FOB-based price linked to the Henry Hub price. Based on the present Henry Hub price, U.S. LNG exports could be priced at around \$9 per MBtu, including transportation cost, upon arrival in Northeast Asia. This estimated level is far cheaper than the present Asian LNG prices linked to crude oil prices.

The inflow of lower-cost LNG imports and the emergence of LNG prices with no link to crude oil prices are significant for the Asian market. LNG exports under planning in North America exceed 100 million tons in calculation. Such huge exports, if implemented, could have a great impact on the Asian LNG market. Of course, however, whether these plans would be implemented is uncertain. Despite such uncertainties, the most important point is how U.S. domestic gas prices would rise due to the expansion of North American LNG exports or how U.S. energy policy planners would respond to such price rises.

A sharp expansion in LNG exports may work to tighten the domestic U.S. supply-demand balance subject to other conditions such as domestic gas output and demand other than LNG exports. At present, it is economically and politically very important for the United States to keep energy prices at low levels. It is very interesting to note that when the gasoline price exceeds a threshold of \$4 per gallon in the United States, discussions emerge about releasing strategic petroleum reserves. Energy price hikes are now a politically and economically important problem. As a matter of fact, this is because this year holds the special factor of a presidential election. In this sense, the LNG export expansion and domestic gas prices have become very hot issues for U.S. energy policy planners and industry people. Various views are expected to emerge about LNG export plans in connection with domestic price problems.

Some give priority to low domestic gas prices from another viewpoint. They pay attention to the potential of industrial development using gas. Although industrial gas demand continued to decline in the United States until 2008 or 2009, abundant and cheap gas supply has led industrial gas demand to recover. The potential of new demand for gas for the petrochemical industry has also attracted attention. These potentials are significant for government officials from the viewpoint of employment and economic growth for invigorating the manufacturing sector. In this sense, officials may have special interests in these potentials.

While North American LNG export projects indicating a substantial expansion are significant for the diversification of supply sources and the reduction of prices in the Asian LNG market, significant LNG export expansion could become controversial in the United States. How

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will discussions on the gas problem develop in the United States in 2012 as a year of politics? Japanese energy market participants may have to accurately analyze information and make timely responses.

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