AJISS-Commentary

The Association of Japanese Institutes of Strategic Studies

IIPS
Institute for International Policy Studies

The Japan Institute of International Affairs

RIPS
Research Institute for Peace and Security

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Online Publisher:

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No.145. 8 March 2012

AMERICA'S SHALE GAS BOOM – A SAVIOR FOR JAPAN?

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I guess it was around 2001 or 2002. We were engaged in a heated discussion on how huge American liquefied natural gas (LNG) imports might turn out to be in the process of forecasting global LNG demand for 2010. No one doubted at the time that the United States would grow into a major importer and lead world demand for LNG. Contrary to our speculation, though, the US is likely to become an LNG exporter in the not-too-distant future – a fact of profound strategic significance for gas consumers in Japan that we could hardly imagine back then.

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The extraction of shale gas began in the 1990s and saw rapid technological development from around 2000. However, until recently, breaking up shale formations had remained a peripheral business hardly capable of attracting massive capital investment. It was only around 2006 that shale gas began gaining recognition for its abundant reserves and cost-competitiveness compared with conventional sources of natural gas. Since then, the production of shale gas has dramatically increased along with the development of technologies. It is now estimated that shale gas will outpace conventional gas to make up more than half of natural gas production in the US in 2018.

Expected US LNG exports on the back of massive shale gas reserves are drawing increasing attention in Japan, which has been forced to reconsider its energy policy since the great earthquake and subsequent Fukushima nuclear disaster on March 11 last year. Japan seems almost certain to reduce its reliance on nuclear energy, but to what extent and at what pace remain unclear. Equally uncertain is whether the government will allow the resumption of operations at existing nuclear power plants – if it does, how many and when? What is certain at the moment is that the electricity that had been supplied by nuclear plants must be compensated for by thermal power, mainly natural gas, to the fullest extent possible. The role and importance of natural gas are increasing dramatically. The questions that all utility companies are faced with are how to reduce the massive costs of purchasing additional natural gas and how to cope with large fluctuations in demand arising from the uncertainty over the resumption of nuclear power plant operation. In other words, securing LNG supplies at competitive (relatively cheap) prices while retaining as much volume flexibility as possible is a pressing challenge.

Importing gas from the US offers a certain solution to these two issues. First of all, since LNG prices in the Asia-Pacific region are linked to crude oil prices, they remain high due to the continuously high crude oil prices. In contrast, American domestic natural gas is currently cheap. While the price of LNG imported to Japan averaged out at around $14.60 per mmbtu in 2011, the average Henry Hub (HH) natural gas price was around $4 in the same year. If we simply add the assumed liquefaction and shipping costs to the current HH price,

the price of LNG imported from the US would be approximately $10 to $11. If we can import American LNG at a price linked to the HH price system, we are likely to reduce gas procurement costs (of course, we cannot deny the possibility of a gradual rise in HH prices or a sudden drop in oil prices; however, introducing a different price system enables us at least to stabilize price fluctuations). Furthermore, given the highly fluid American domestic gas market, LNG buyers may be able to cancel LNG cargos by paying certain cancellation fees or to divert unneeded LNG at relatively low costs and sell it to other markets such as those in Europe, depending on the contract terms.

There is a risk in purchasing American gas, however, if the purchaser's country has not signed a free trade agreement (FTA) with the US: the risk of the US government modifying and/or rescinding export licenses. Under US law, the US Department of Energy is fully authorized to take action, including rescinding orders, rules, and regulations, as it may find necessary or appropriate to protect the public interest. Planned LNG supplies from the Gulf of Mexico will use a tolling arrangement. In many cases, users (tollers) will be obliged to continue paying tolling fees (for a certain period of time) even if their exports licenses are modified or rescinded. Given the assumed volume of LNG imports from the US, which is currently estimated at 4 million tons per year, or 5 percent of Japan's total LNG imports, risk exposure could amount up to 50 billion yen annually – too much risk for a private company to bear. It is hoped that, if Japan and the US are to cooperate in the energy sector, both governments will discuss measures to remove the above-mentioned obstacles in a flexible manner.

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