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RETHINKING ENERGY SECURITY IN NORTHEAST ASIA UNDER LOWER OIL PRICES: A SOUTH KOREAN PERSPECTIVE

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When oil prices began to decline in mid-2014, many observers initially expected that this trend could negatively affect Asian efforts to reduce dependency on Middle Eastern oil and gas by diversifying with Russia and the United States. However, in today's prolonged period of lower oil prices, the reality has been much more nuanced and in some cases has contradicted previous assumptions.

As both a major producer and consumer of energy supplies, China is a particularly instructive example of the nuanced impact of declining oil prices. The country has aggressively worked to enhance its energy security by both forming an alliance with Russia and diversifying its piped natural gas (PNG) suppliers—for instance, by introducing gas from Turkmenistan in 2010 and Myanmar in 2014. Oil imports from Saudi Arabia fell from more than 19% of the Chinese energy mix in 2013 to almost 15% in 2015, largely due to increased supplies from Russia.¹ By 2020, an estimated 68 billion cubic meters (bcm) of Russian gas will be supplied through pipelines based on PNG contracts signed in May and November 2014.

In contrast, Russian efforts to advance into the South Korean and Japanese energy markets have been less successful. In Asia, Russia was expected to compete with the Middle East, North Africa, and Latin America as the provider of same-grade crude oil. In addition to offering the security benefits of diversification, Russian oil takes only five days to ship from the Kozmino port in the North Pacific to the Northeast Asian markets of China, South Korea, and Japan, compared with the more than two weeks of shipping time required for oil imported from the Middle East. Today, the Middle East still exports a considerable amount of gas to Northeast Asia (46.8 bcm), while Russia only exports 16 bcm to the region.² Russia's attempt to economically engage with South Korea and Japan through increased energy exports is being further delayed, and Japan has instead looked to satisfy energy demand through its alliance with the United States. In addition, Japan and South Korea are both striving to procure liquefied natural gas (LNG) competitively from other suppliers because of the expected sharp increase in LNG supply for the Asia-Pacific by 2020.

¹ Anjali Rava, "Saudi Arabia Loses Oil Market Share to Rivals in Key Nations," *Financial Times*, March 28, 2016.

² Tilak K. Doshi and Nahim Bin Zahur, "Prospects for Transpacific Energy Trade," Pacific Economic Cooperation Council, 2012, 4.

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For the region at large, lower oil prices have had a sizable impact on natural gas markets. Although lower oil prices have made oil-indexed contracts desirable in the short term, both companies and governments want to encourage gas-on-gas competition to create a more stable LNG market in the future. Lower oil prices may have diminished Asian gas buyers' urgency to diversify from oil indexation, but they have not removed the fundamental need to establish an alternative pricing mechanism that better reflects gas market fundamentals. Although the demand for LNG is in a downturn, it is likely to increase in the future as the international community responds to climate change by emphasizing energy sources that allow for greater reductions in greenhouse gas emissions. Therefore, efforts should be made to improve the fairness and efficiency of the LNG market, and now is the perfect time to address the structural problems that are holding the market back.

Because countries in Asia have yet to establish a unified market and price for natural gas, and efforts to transition to new and renewable energy have been relatively slow, Asia's dependency on nuclear power will remain high. Due to both international pressure to reduce greenhouse gas emissions and the poor commercialization of new and renewable energy, for Asian countries other than Japan, nuclear power is becoming the only alternative as they look to secure energy sources to support economic growth and maintain energy security. It is expected that nuclear power generation will continue to grow, especially in China, South Korea, and India. The Association of Southeast Asian Nations countries are also expected to develop nuclear energy as a main source to improve energy security and respond to climate change.

Going forward, a number of factors deserve closer observation. First, we must closely examine the future of potential U.S. oil and gas exports to Northeast Asia. The capacity of new LNG export facilities, which will be built from 2015 to 2018, is expected to reach 100 million tons, or 35% of the 290 million tons of LNG supplied globally in 2014. When U.S. Henry Hub gas prices are below \$3 and

international oil prices are below \$50, as they are at the time of writing, final export prices of U.S. LNG linked to Henry Hub will be \$9, which is \$10 lower than the price linked to oil and leads to poor profitability for companies.

Recent reports suggest that the reduction of LNG demand from China, Japan, and South Korea has pulled down Northeast Asian prices for LNG altogether. South Korea's LNG imports decreased by 26% in February 2015, and the spot price of LNG dropped 20% to \$13.48 per million British thermal units.³ This decrease is attributed to three nuclear plants that have been put back into service in Japan and that have consequently replaced LNG demand. Although shale oil drilling has decreased amid lower oil prices, the U.S. shale gas industry and technology will continue to grow, further strengthening the United States' role in global gas markets.

Looking ahead, Northeast Asia needs to continue to promote regional cooperation and co-prosperity by building a gas trading hub. The International Energy Agency has identified Singapore as the most likely candidate to establish a successful gas trading hub in Asia. However, the Northeast Asian gas market arguably has its own unique characteristics and may be better served by a trading hub and pricing point located in a Northeast Asian country. There are some signs that the Japanese market may be moving toward the development of both a gas hub and an LNG/gas price index. For instance, in April 2016, Japan liberalized the electricity retail market, and it is expected that a full liberalization of the gas retail market will follow by April 2017. In a document released on May 2, 2016, by the Ministry of Economy, Trade and Industry, the Japanese government set out the goal of creating flexible LNG markets and developing an LNG trading hub in Japan. Overall, some of the market conditions necessary for the development of a liquid gas trading hub are already in place in Northeast Asia.

Despite this progress, the outlook going forward is mixed. Lower oil prices may lead to the deferment of final investment decisions for some

³ James Byrne, "Asian Rout Rolls on as Prices Slide under \$8/MMBtu," *Natural Gas Daily*, January 30, 2015.

LNG projects, and some LNG export projects in the United States are even at risk of cancellation. Although it is evident that Asia will be the largest LNG market in the long term, Europe is also emerging as a significant LNG consumer, and we can expect a corresponding rebound in LNG prices by the end of this decade. Moving forward, South Korea needs to maintain the momentum

behind its effort to become the Northeast Asian hub for natural gas trade by building a large-scale commercial storage facility for natural gas and using international cooperation programs. ∞

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Sustainable Futures Energy and Environmental Security in Times of Transition

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The seventh annual invitation-only Pacific Energy Summit will be held in Singapore on June 22–24, 2016, and will convene 200 leaders from government, industry, and research from across the Asia-Pacific. Delegates will address how countries in the Asia-Pacific can foster more robust, collaborative approaches to sustaining economic growth and advancing much-needed access to energy while achieving the ambitious environmental goals outlined in the Paris Agreement.

The 2016 Pacific Energy Summit will be co-chaired by Admiral Dennis C. Blair (former Director of National Intelligence; Chairman of the Board and CEO, Sasakawa Peace Foundation USA; and Member, NBR Board of Directors) and Professor Tan Eng Chye (Provost and Deputy President of the National University of Singapore). To request an invitation, please email pacificenergy@nbr.org.

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