US-KOREA 2011 YEARBOOK

JOHNS HOPKINS
UNIVERSITY

SAIS | US-KOREA 2011 YEARBOOK

Published by the U.S.-Korea Institute at SAIS
www.uskoreainstitute.org

"Pipeline Diplomacy": The Russia-DPRK-ROK Gas Pipeline Project

By Kwang-yeon Lee

I. INTRODUCTION

The importance of energy cooperation is rapidly growing in Northeast Asian geopolitics. This essay examines the background, progress, and prospects for the proposed Russia-DPRK-ROK gas pipeline project. The quick development of this project since late 2011 prompts observers to question the incentives and motives of the three countries. Why are they interested in pursuing this project at this time? What are its expected benefits and risks? What are its potential implications in Northeast Asia? The proposed project will likely address Northeast Asian regional security and energy concerns as well as key political and economic issues. This essay argues that "pipeline diplomacy" operating within the proposed tripartite cooperative framework will have positive influence on the stability and prosperity of the region. The clear economic benefits involved for all three parties have provided new momentum for political initiative. Obstacles remain, with the "North Korea risk" being the project's biggest challenge. Preparing for effective negotiation strategies to minimize such risks is important. One such strategy is Russia's assurance to provide the Republic of Korea (ROK) discounted gas in case the Democratic Republic of Korea (DPRK) interferes with the gas supply to ROK. Above all, improved inter-Korean relations would help with implementing the pipeline project, as the frosty relations between the North and South pose the most formidable obstacle to launching the project.

This essay begins by discussing the development of Russia-ROK energy cooperation, analyzing the reasons for past failures to launch groundbreaking projects such as the proposed gas pipeline. It is then followed by a close examination of the economic and political benefits of the pipeline, from each of the three countries' perspectives. The challenges of this project are then discussed, with emphasis on the "North Korea risk." The essay concludes by assessing the prospects and implications of this energy cooperation project along with policy recommendations for project implementation.

II. THE BACKGROUND OF RUSSIA-ROK ENERGY DIPLOMACY

Russia-ROK energy cooperation has had three phases according to the ROK Ministry of Knowledge Economy's September 2008 Briefing on Russian natural gas. The first was from the 1990s to 2004 and had limited success. The second was from 2005 to 2007, during which important stepping-stones for further cooperation were laid. Lastly, the third and ongoing phase that began in 2008 has seen breakthrough agreements and discussions on energy cooperation.

During the first phase, two jointly attempted projects were largely unsuccessful due to limited economic practicality. The first of the two projects was the 1992 Sakha Republic Yakutsk gas field joint-development agreement. During 1994–95, the Russian consortium (Gazprom) and the ROK consortium (Korea Gas Corporation, or KOGAS, and 13 other companies) conducted a preliminary feasibility test. By the end of 1995, this first project came to a halt when the test concluded that the project would have low profitability due to poor existing infrastructure. The second project was led by a private sector and involved Russia, South Korea, and China in partnership to develop the Irkutsk Kovykta gas field in eastern Siberia. The three-country joint venture was announced during a 1999 Russia-ROK summit, and a feasibility study was completed in November 2003 with participation from KOGAS, Russia Petroleum, and the China National Petroleum Corporation. This adventurous project was repeatedly delayed and ultimately rescinded by the end of 2004 as Russia started to insist on Gazprom-led development of Eastern Siberia. These two mostly private-sector-led projects failed due to lack of both economic profitability and a central gas supply system in Russia's Far East. Additionally, they foundered on the complicated political decision of supplying gas either via DPRK territory or via Yellow Sea route.

During the second phase, from 2005 to 2007, two important developments helped to connect Russian natural gas to South Korea. First, as part of the Eastern Gas Program, Russia announced that it would build its so-called Unified Gas Supply System through four major gas fields in the country's Far East. Gazprom was also designated as the sole company that would develop these fields. Second, in October 2006 South Korea and Russia signed an agreement on cooperation in the gas industry, specifically identifying Gazprom and KOGAS as the companies responsible for natural gas delivery from Russia to South Korea.

During the third phase of Russia-ROK energy cooperation, from 2008 onward, cooperation accelerated between the two countries. According to Ju Jin-sook's

"The South Korea–Russia Summit and Feasibility of a Roadmap for Energy Diplomacy," the two countries signed a series of memorandums of understanding on September 30, 2008, with promises to strengthen energy cooperation. Russia offered to build gas pipeline transiting North Korea and promised to engage in pipeline construction and negotiations with North Korea. Beginning in 2015 or 2017, Gazprom has agreed to supply at least 10 billion cubic meters (approximately 7.5 million metric tons) of natural gas to South Korea via North Korea for 30 years. By April 2010, KOGAS and Gazprom completed a joint feasibility study that recommended pipeline natural gas (PNG) via North Korea as the most economical method, instead of the compressed natural gas (CNG) or liquefied natural gas (LNG) methods. In August 2011, the final piece of the puzzle fell into place during a summit meeting between North Korea and Russia, at which Kim Jong-il voiced support for the gas pipeline going through North Korea. The two sides agreed to establish a governmental commission to lay out detailed plans on gas transit through North Korea in cooperation with South Korea. One month later, South Korean president Lee Myung-bak was quoted by *Bloomberg* as saying that the agreement was "a win-win for everyone involved."

With North Korea's support, the ambitious $90-150 billion Russia-DPRK-ROK gas pipeline project is getting closer to becoming reality. The clear economic rationale and expected security benefits seem to provide the necessary political momentum from all three countries.

III. POLITICAL-ECONOMIC BENEFITS OF THE RUSSIA-DPRK-ROK GAS PIPELINE

In the Russia-DPRK-ROK gas pipeline project, the interests of the three nations converge and the political-economic benefits are clear. South Korea will acquire a stable natural gas supply while saving up to $200 million from imports from the Persian Gulf. Russia will stimulate its far-eastern economy through development of eastern Siberian gas fields, and it can access export markets in Northeast Asia. North Korea will collect at least $100 million per year for allowing the pipeline to cross its territory, while at the same time reducing its dependence on China.

In addition to each individual country's benefits, the pipeline project promotes multilateral energy cooperation within Northeast Asia. Beginning with the construction of the pipeline, the project envisions three-way cooperation utilizing South Korean technology, North Korean labor, and Russian natural resources. Northeast Asian economic prospects will expand through further cooperation in transnational power connections, joint use of existing supply

infrastructure, shared know-how, and joint exploration and development of energy resources. Finally, the pipeline project also has the potential to be a catalyst for improving inter-Korean relations by promoting economic exchange.

Benefits for South Korea

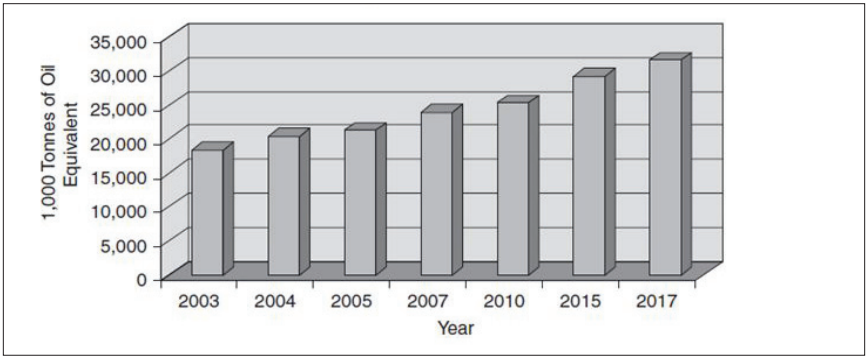
The Russia-DPRK-ROK gas pipeline project will help South Korea solve its domestic energy shortage and diversify its energy-importing markets. Cost savings of importing Russian gas and potential access to exploration and development of the Russian Far East are added benefits.

In 2008, the US Energy Information Administration stated that South Korea was the world's 10th-largest energy consumer and one of the top energy importers. It is the 5th-largest importer of crude oil, the 3rd-largest importer of coal, and the 2nd-largest importer of natural gas, which all comes through tanker shipments of LNG.

South Korea has three main goals for its energy strategy, as outlined by President Lee Myung-bak in his 2008 national address commemorating the 60th anniversary of the Republic of Korea: balancing energy demands, diversifying energy sources, and shifting to more environmentally friendly energy consumption. On the latter point, the Lee administration first adopted a vision of "green growth" at the 2005 Ministerial Conference on Environment and Development jointly hosted by the Ministry of Environment of South Korea and the UN Economic and Social Commission for Asia and the Pacific (UNESCAP). Despite ROK efforts to improve energy efficiency, the country's overall energy demand is expected to rise by 4 percent per year through 2015, according to the nonprofit Encyclopedia of Earth website.

Natural gas is the best choice for meeting South Korea's three-pronged energy strategy. Crude-oil consumption is on a downward trend, given the price volatility and geopolitical risk associated with relying on Persian Gulf oil. Likewise, coal consumption is expected to decrease, as its "dirty energy" makes it unattractive in light of global efforts to curb carbon dioxide emissions. South Korea's plans also emphasize the development of nuclear power plants in addition to natural gas—construction of a dozen plants by 2015 is in the works. But since Japan's 2011 nuclear tragedy, public fears are growing over the South's increasing dependence on nuclear power. Natural gas has thus emerged as South Korea's best choice for a future energy source. The future estimates of the country's rising demand for natural gas is described in the following figure.

Figure 1. South Korea's Natural Gas Demand, 2003–2017



Source: Ahn Se-hyun. "Framing Energy Security between Russia and South Korea." *Asian Survey* Vol. 50, No. 3 (May/June 2010), pp. 591-614

According to KOGAS, South Korea's demand for natural gas is expected to grow 7.2 percent a year through 2015. Importing almost all its energy, South Korea bought 32.6 million metric tons of LNG in 2010, up from 25.8 million metric tons in 2009. Most LNG imports come from Qatar, Indonesia, Malaysia, and Oman, according to an August 2011 *Moscow Times* report. As shown in Table 1, the LNG method is by far the most expensive way of supplying natural gas, compared to PNG or CNG, with PNG being the most cost-effective.

Table 1. Cost Comparison of Natural Gas Types

	PNG	LNG	CNG
CAPEX ($ millions)	3,403	6,823	6,074
OPEX ($ millions)	1,395	15,820	4,478
Transportation cost ($/MMBtu)	0.31	0.94	0.60

Source: ROK Ministry of Knowledge Economy, "Measures for Acquiring Russian Natural Gas" (in Korean), briefing September 29, 2008.

Notes:

PNG:	Piped natural gas transported via pipeline.
LNG:	Purified and liquefied natural gas transported by sea.
CNG:	Compressed natural gas transported by sea.
CAPEX:	Capital expenditures expected to create future benefits, including acquisition and upgrading of physical assets such as equipment, property, or industrial buildings.

OPEX:	Operating expenditures for the ongoing cost for running the system.
MMBtu:	One million British thermal units. One BTU equals about 1,055 joules and is the approximate amount of energy needed to heat 1 pound (0.454 kg) of water from 39 to 40°F (3.8 to 4.4°C)
Construction period:	5 years
Operating period:	25 years

By utilizing PNG, the Russia-DPRK-ROK gas pipeline project can lower the transportation cost of importing gas by 67 percent, according to a KOGAS and Gazprom joint study. PNG can also contribute to reducing the overall gas price in South Korea by competing with LNG. Compared to the LNG method, the pipeline's strengths also lie in not needing to expand LNG ship-docking or gas-vaporization facilities, thereby incurring less capital and operating expenditures over the long run.

In addition to these economic benefits, the pipeline project will also help stabilize South Korea's energy supply. In the aftermath of Japan's nuclear crisis, the price of LNG rose 20 percent in the Asian spot market for natural gas, according to an October 2010 article in *Shindonga* magazine. After the pipeline is operational, if such a disaster occurs again and causes prices to spike, Russia would still have to sell South Korea the agreed-upon amount of gas at the contracted price regardless of rising demand and prices. South Korea will benefit immensely from this guaranteed supply of gas from Russia, and this guarantee will in turn encourage better energy planning by the government and businesses.

The pipeline project will also improve diversification of South Korea's natural gas supply both in terms of source location and source type. South Korea will be able to expand beyond its Middle East–focused supply line and reduce its overdependence on LNG. As the country's energy demands continue to grow, diversification of import sources and specialization in the most cost-effective import method will become paramount. Recently, higher energy costs contributed to a rising inflation rate that exceeded the central bank's target ceiling of 4 percent. Diversification of gas supply could reduce the cost of imports in the long run, according to a September 2011 report from *Bloomberg*.

Finally, engaging in the pipeline project will position South Korea advantageously to be among the first to develop Russia's eastern Siberian gas fields, deepening the Russia-ROK economic partnership. Korean companies will

also have the opportunity to tap into Russia's Eastern Gas Program, which is a Russian policy priority. Further cooperation in the petrochemical industry will also likely ensue, including further pipeline construction and LNG vaporization technique. Ahn Se-hyun's "Framing Energy Security between Russia and South Korea," published by *Asian Survey* in May/June 2010, lays out the full potential for South Korea: South Korea could participate in joint gas projects in the Sakha, Kovykta, and Sakhalin gas fields; in joint oil exploration in western Kamchatka; in constructing an oil complex in the Vladivostok area; and in building a power grid interconnection project in North Korea.

Benefits for Russia

Russia will derive several benefits from the Russia-DPRK-ROK gas pipeline project. Economically, the project will generate a stable cash flow from exports to South Korea, whose demand for natural gas is projected to be strong. According to *The 2011 International Energy Outlook* published by the US Energy Information Administration, South Korea's natural gas consumption would rise by 1.5 percent per year from 2008 to 2035. Strategically, the pipeline will enable Russia to diversify its energy-exporting market to Asia and to enhance its position in the region to balance China's growing influence. The pipeline project also has the potential to be a diplomatic legacy for President Dmitri Medvedev, who is entering his final year in office.

Taking each benefit in turn, stable gas exports to South Korea via the pipeline project are expected to generate $3–5 billion per year and $90–150 billion for the 30-year period of the Russia-ROK memorandum of agreement. Even though Russia is expected to spend about $30 billion to develop the associated gas fields and pipelines in eastern Siberia and in its far-eastern region, the potential profits from long-term exports to South Korea are significant.

The project will also promote development in Russia's Far East, infusing the region with technology and capital for infrastructure building. As one symbol of this development, the Sakhalin-Khabarovsk-Vladivostok natural gas pipeline opened on September 8, 2011. It is projected to serve an important role in connecting Russian gas supply and Northeast Asian consumers. In the past, Russia has concentrated on developing western Siberia for European exports, but their infrastructure and facilities are showing their age. Thus, Russia has prioritized natural gas development in eastern Siberia and the Far East of the country, which, according to a 2008 briefing by the ROK Ministry of Knowledge Economy, together account for 3,400 billion cubic meters of Russia's domestic natural gas reserves (about 8 percent of total domestic reserves). The pipeline

project with the two Koreas will provide additional revenue from an as yet undeveloped part of the country, giving Russia necessary tools to advance its far-eastern region to the forefront of global natural resource markets.

Another benefit is that Russia will be able to diversify its export markets, adding new target markets in the Asia-Pacific region to its existing western and central European markets. While the old Soviet Union emphasized the importance of Russia's relation with Europe, the new Russia increasingly looks to its relations with Asia on its eastern border, as it expects the rise of Asia's share of the world economy. In December 2007, Russia's Industrial Energy Department announced its Eastern Gas Program, projecting up to 120.8 billion cubic meters of natural gas exports to Northeast Asian countries until 2030, as reported in *Shindonga* in October 2010. South Korea is an ideal stepping stone to the broader Asian market, due to its proximity and advanced energy consumption patterns (many Korean households use natural gas for heating). The pipeline project could establish the Korean peninsula as Russia's base from which to expand its energy products to Japan and China, which are among the world's top 10 energy consumers.

The pipeline project will also help Russia set a base price for exporting natural gas to emerging Asia-Pacific markets, which has been a challenge for Russia, especially with its trading partner China. Russia's Gazprom demands the European price ($350–400 per 1000 m^3), linked to changes in oil price, while the China National Petroleum Corporation demands the Turkmenistan price ($235–250 per 1000 m^3), delinked from fluctuations in oil price. Reaching an agreement is expected to be difficult, as the price difference is significant. Russia and South Korea have tentatively agreed to use the European price for the pipeline project, though negotiations are in flux. Russia's strategic benefit lies in leveraging the Korean price for future negotiations with China and Japan, both of whom cannot afford to overlook Russia's resource-abundant far-eastern region.

Russia is furthermore concerned about its diminishing influence in Northeast Asia. Through the pipeline project, Russia hopes to regain its influence over North Korea, strengthen economic exchanges and investment with South Korea, and counterbalance China's growing power in Northeast Asia. Following the financial crisis in 2008, Russia faced its own crisis of reduced influence in the region after experiencing negative gross domestic product (GDP) growth and the lukewarm success of its ambitious Eastern Gas Program. On the other hand, China is rapidly expanding its sphere of influence in North Korea, evidenced by China's 10-year lease rights to the Rajin port, giving China direct access to the

East Sea for the first time, according to the March 2010 issue of *Defense News*. Russia is concerned with Chinese commercial and navy ships navigating around the East Sea in close proximity to the Russian border. Thus, Russia is trying to increase its leverage with North Korea and regain its past status as a powerful player in the Northeast Asian region. As Russia prepares for the 2012 APEC (Asia-Pacific Economic Cooperation) summit to be held near Vladivostok, the pipeline project is an attractive initiative for increasing its regional influence.

Benefits for North Korea

North Korea's support for the Russia-DPRK-ROK gas pipeline project is recent and demonstrates DPRK interest in potential political and economic benefits. In the past, Kim Jong-il thought the project was premature, considering that a Russia-DPRK-ROK railway had not yet been built. Kim also did not want the pipeline project to overshadow initiatives such as the Six-Party Talks and normalization of relations with the United States. However, North Korea is left with no choice but to seriously consider the pipeline project at this point. After the *Cheonan* and Yeonpyeong Island incidents along with the shocking death of Kim Jong-il, the DPRK economy is worsening as tension rises on the peninsula and the economic blockade by the United States, Japan, and South Korea continues. In addition, China's aid has not satisfactorily met North Korean's rising need. The proposed gas pipeline has therefore become attractive.

Another interesting aspect to consider is that the rising US federal budget deficit may have contributed to North Korea's interest in the pipeline proposal. DPRK's Chosun Central Television broadcasted that the US deficit will rise to $1.28 trillion for the 2011 fiscal year, citing US Congressional Budget Office statistics. A rising US deficit coupled with ongoing economic recession could have led North Korea to doubt the future feasibility of the US "denuclearization and monetary compensation" negotiation strategy, according to the *Pressian* news website in September 2011. In other words, North Korea may be worried that the United States will be unable to render compensation for denuclearization because of its own ongoing financial trouble. Regardless of whether this is true, North Korea is indeed lowering its expectation of US monetary input while increasing its optimism for gains from other countries such as energy-rich Russia. In that case, energy compensation from members of the Six-Party Talks might be a possible trade-off for North Korea's denuclearization. Russian presidential envoy Viktor Ishayev, who accompanied Kim Jong-il during his August 2011 visit to Russia, told the *Chosun Ilbo* that Kim is "prepared to let a gas pipeline be built through his country."

North Korea wants economic benefits and a reshaping of the power balance in Northeast Asia. The $100 million annual transit fee that North Korea will reap from the pipeline project will bring economic benefits; and the increasing cooperation between Russia and North Korea will balance out the North's overreliance on China.

IV. RISKS

The political risks associated with North Korea are the biggest stumbling block to the project's success, both pre and post-construction. They are North Korea's unpredictability and the possibility that North Korea will leverage the completed pipeline for dangerous purposes.

Pre-construction Risks

We cannot know what North Korea's future perception of the pipeline is. According to the American Enterprise Institute, quoted by *Bloomberg* online in September 2011, the pipeline project will bring the most foreign influence into North Korea since the civil war, potentially to the point that the regime finds it intolerable. The proposed pipeline will run from the mouth of Tumen River through the Demilitarized Zone (DMZ), stretching across North Korea's eastern coastline for about 625 miles (1,000 kilometers). To construct a pipeline, road infrastructure is essential. These roads will connect to South Korea's east coast national highway and the future inter-Korean railway system. The roads will allow many individuals and companies from outside to lay down the pipeline and construct subsidiary facilities, such as pressurization and power transmission control systems. Just the act of opening up could bring big shocks and changes to North Korea. Compared to the Kaesong Industrial Park, Kumgang Mountains tourism, and light-water nuclear reactor construction, the pipeline project has a much larger potential to shake up the status quo of the North Korean regime, according to an October 2010 *Shindonga* article.

As a result, North Korea could demand a change in the pipeline's route for strategic military reasons, effectively raising the projected duration (two years) and costs ($3 billion) of construction. Professor Kang Joo-myung of Seoul National University told the *Bangkok Post* in November 2011 that the project would likely face opposition from the North's powerful military, as the pipeline will traverse the heavily fortified inter-Korean border where many sensitive facilities are located. Afraid of triggering unnecessary costs and time, South Korea has asked Russia to be in charge of construction and to negotiate with

North Korea to prevent such risks. According to the *Energytimes* news website, KOGAS president Choo Gang-soo said in a September 2011 ROK Ministry of Knowledge Economy committee meeting that the company is negotiating with Gazprom for Russia to be responsible for pipeline construction costs, since South Korea's final gas purchase price will include initial pipeline investment funds and transit fees.

Post-construction Risks

On the post-construction side, North Korea could potentially use the completed gas pipeline to threaten South Korea, leveraging the North's control over the gas supply. For example, North Korea could (1) ask for unreasonably high transit fees; (2) disrupt the supply of gas through the pipeline by damaging the pipeline or stealthily smuggling the gas; or (3) blackmail South Korea with either of the above to satisfy its political motives, such as keeping nuclear weapons. Mark Fitzpatrick, at the UK think tank International Institute for Strategic Studies, warns that North Korea can cut the pipeline and attach any excuse to such behavior. South Korean critics point to the Kumgang Mountains tourism project to illustrate this risk. Once touted as a symbol for inter-Korean reconciliation, it has become a liability for South Korea in the face of worsening relations with the North. On August 22, 2011, North Korea warned that it would start to evict any remaining South Korean employees at the Kumgang tourist park. The North also threatened to auction off South Korean assets in the resort, which, according to a September 2011 *New York Times* article, amount to $443 million. In a similar way, the gas pipeline could become the South's biggest liability vis-à-vis its relationship with the North.

V. OVERCOMING THE RISKS

Careful analysis of Northeast Asian geopolitics reveals that the risks that North Korea poses, while serious, are not insurmountable. In the long run, Pyongyang's ability to interfere with the pipeline faces severe constraints.

Any pipeline disruption could reduce the flow of transit fees to North Korea. The pipeline project is a much-needed foreign currency–generating machine that will provide North Korea a stable income of $100 million per year. This is an attractive figure compared to the annual $50 million generated by the Kaesong Industrial Park. Faced with a severe economic downturn, North Korea would be hesitant to endanger this financial influx. In addition, if the North intentionally interfered with pipeline operation, it would be violating a clear set of rules for

transit charges and would face penalties. To further avoid the risk of DPRK disruption, South Korea has proposed a gas supply process in which the gas first runs to Seoul before it runs back into North Korea, reaching Pyongyang. Such a mechanism would restrain North Korea, according to a November 2011 *Diplomat* article, since interfering with the pipeline would cut off North Korea's own gas supply.

Moreover, North Korea's interference could disrupt Pyongyang's relations with Moscow, and Pyongyang has a clear interest in maintaining that relationship. If North Korea obstructs Russian gas from reaching the final consumer, South Korea, North Korea risks losing future revenue by undermining Russia's trust. Russia is one of North Korea's few allies in the world, providing food and oil as well as balancing China's influence over the DPRK. To North Korea, disrupting the gas supply would be equivalent to "shooting himself on [*sic*] the foot," according to Professor Georgy Toloraya, vice president of the Unity for Russia Foundation.

Russia can provide an effective guarantee against this North Korean risk and a safety net for South Korean investment. Russia is wooing the North with a promise of writing off its $11 billion debt from the Soviet-era in exchange for successful execution of the pipeline project. *AsiaOne Business* reported in September 2011 that Russia proposed North Korea an offer that would relieve 90 percent of its debt; Russia also promised to use 10 percent of the debt payments to implement joint projects such as the gas pipeline. If North Korea does obstruct the gas supply in spite of everything, Russia is willing to compensate South Korea's loss, immunizing the South from any risks. Gazprom has promised to provide the South with LNG at the price of PNG in the event of pipeline disruption by North Korea. And even if such a shipment of LNG gets delayed, it would not result in a national emergency for South Korea, for the pipeline gas supply will comprise 23 percent of the South's total natural gas consumption, a relatively small portion that could be covered by the South's own gas reserves and additional imports from the Persian Gulf. Nevertheless, South Korea should increase its gas reserves from its current size in order to ensure further energy security against potential simultaneous occurrences of the pipeline disruption and gas price shock in the Persian Gulf.

Many historical examples testify to the initial difficulty of constructing international gas pipelines; however, smooth operation usually follows the completion. The pipeline running through Azerbaijan, Georgia, and Turkey, as well as the Turkmenistan-Uzbekistan-Kazakhstan-China pipeline, are

both operating smoothly according to the October 2010 issue of *Shindonga*. The Russia-Ukraine gas disputes seem to be an exception. Once constructed, international gas pipelines link the participating countries in significant and mutually assured self-interest, thus no individual country will be able to easily disrupt operation.

VI. SOUTH KOREAN PUBLIC OPINION REGARDING THE PIPELINE

On a November 2011 research trip sponsored by the US-Korea Institute at SAIS, I had an opportunity to hear opinions from experts in South Korean government, businesses, and think tanks regarding the gas pipeline project. Many of them were not optimistic about the project's prospects, at least not within President Lee's term that ends in February 2013.

The main concerns were related to the North Korea risk discussed above and a lack of trust in conducting business with both North Korea and Russia. A Grand National Party member commented that the instability of the political situation in the DPRK makes South Korea's involvement difficult. Another parliament member from the Democratic Party commented that the Trans-Siberian Railway project seems a more likely possibility than the gas pipeline because the latter brings up politically sensitive issues, such as natural resources and national security. Representatives from a prominent think tank and a government ministry expressed concerns about the safety of a long-term contract with Russia, as South Korea possesses relatively little leverage over Russia to prevent contractual violation. An American scholar residing in Seoul raised an interesting question regarding potential restriction from the European Union and the United States on the technology needed for the construction of gas pipeline.

Other research institute representatives and scholars in favor of the project argued that the benefits outweigh the risks cited by the critics. The economic benefits include the commercial gains from a cheaper gas option, diversification and increased stability of the South's gas supply, and the potential for South Korea's involvement in the development of eastern Siberian oil and gas fields. The political benefits include improvement in inter-Korean relations, preparation for future unification of the two Koreas, and the positive impact the pipeline will have on future Six-Party Talks and the regional energy network.

Furthermore, proponents argue that the risks can be mitigated. The North Korea risk can be sufficiently taken care of by a carefully drawn contract with Russia

similar to the so-called Norwegian-type model. In this setup, the gas-supplying country (who is also the seller) possesses the rights to the pipeline and assumes responsibility for safe transfer of the gas supply to the buying country. Russia thus would be solely responsible for the transfer of gas through North Korea up to the DPRK-ROK border.

The Russia risk related to potential breach of contract regarding prices or supply can be discounted by the fact that such behavior would galvanize strong criticism from the international community, especially from the European countries that are also buyers of Russian gas. Furthermore, the potential Northeast Asian energy network may create a regional energy forum in which China, Russia, South Korea, North Korea, and Japan can discuss and agree upon collective monitoring of contractual energy agreements, reducing the likelihood of Russia's abrogating the pipeline contract. Regarding the pipeline technology question, proponents cite the fact that Gazprom, the Russian state-owned company that will likely build the pipeline, has been in charge of numerous domestic and international pipeline construction projects. The company's major recent undertakings include the Nord Stream and South Stream projects, which involved building highly technological onshore and offshore pipelines in addition to regular land pipelines. The pipeline construction through the Korean peninsula is expected to be less difficult than the previous projects completed by Gazprom, as it will only require land pipelines.

VII. CONCLUSION

The Russia-DPRK-ROK gas pipeline project is an important initiative with much uncertainty and political sensitivity, along with great potential for change of regional dynamics. In the long run, it has potential economic and political benefits for all three parties and for the Northeast Asian region as a whole. However, a stable climate of cooperation, exchange, and trust is essential for the project's success. The project badly needs an easing of tensions between North and South Korea. Current inter-Korean relations do not possess even the minimum trust required for such an undertaking. In the case of emergencies, such as gas spill or pipeline breakage, no effective response system is in place because of the frosty relationship between the two Koreas. However, it seems impractical to wait indefinitely until the inter-Korean relationship improves. South Korea is under time pressure. Russia is planning to supply the Sakhalin gas to Vladivostok starting in 2012 and it will be ready to supply South Korea by 2015 or 2017. China, on the other hand, is actively establishing an energy network in Asia. The Turkmenistan-Uzbekistan-Kazakhstan-China pipeline

opened in December 2009. In the same year, Russia and China announced a $3.5 billion natural gas deal. A prudent but quick decision from the ROK government is needed. The following are policy recommendations that could move the project forward:

1. South Korea should immediately start building trust with North Korea in small steps. The most urgent need is building a communication system between the two Koreas, such as restoring the hotline system.

2. South Korea should start establishing additional natural gas storage and liquefaction facilities to increase available natural gas reserves up to 25 percent of annual consumption by 2017, in order to cope with potential supply interruptions by North Korea. Unlike LNG that must be stored after an incoming shipment, PNG is more flexible. However, the possibility of pipeline stoppage still makes it necessary for South Korea to keep natural gas reserves for future energy crises. According to the Ministry of Knowledge Economy's *Tenth Plan for Supply and Demand Strategy of Natural Gas* published in December 2010, the government is planning to increase the reserve ratio (reserve volume/yearly demand) from 10 percent in 2010 to 21 percent by 2024. Under the gas pipeline project's current scheme of supplying South Korea with 10 billion cubic meters of natural gas every year, the South would receive approximately 23 percent of its yearly gas demand from Russia via North Korea. The ROK natural gas consumption in 2010 was 42.69 billion cubic meters according to the CIA *World Factbook*. With the expected yearly increase in natural gas consumption until 2017, which is the proposed starting date for Russian PNG imports, the current ROK plan to increase the reserve ratio to 21 percent by 2024 is not adequate. The ROK government should be prepared to increase the reserve ratio to 25 percent by 2017.

3. In the gas supply contract with Russia, South Korea should clearly map out the extent of Russia's accountability for disruptive North Korean actions, including appropriate compensation should North Korea breach the contract. The Norwegian-type pipeline model, in which Russia is responsible for transferring gas through North Korea up to the DPRK-ROK border, would be appropriate.

4. South Korea should strive to shape the project within a win-win framework. In exchange for Russia's assurance for the potential North Korea risk, South Korea should compromise its economic profits for Russia's. Equal

distribution of risk-taking maximizes the chance of success in business. Sharing risks with Russia in this way would help gain Russia's trust and long-term support for the project.

The pipeline project's impact can go beyond the participating countries' individual political-economic considerations. It can provide a new roadmap for dealing with North Korea's weapons of mass destruction (WMD) program, contributing to stability in Northeast Asia. The current US and ROK strategies toward North Korea are caught in a vicious cycle. Promise of large sums of aid in exchange for giving up nuclear and missile programs does not seem to work. After the events in Afghanistan, Iraq, and Libya, North Korea considers its nuclear weapons as its only guarantee of security, not a simple bargaining chip for negotiation. The proposed gas pipeline through the Korean peninsula has potential to change the existing paradigm. The *Chosun Ilbo* reported in August 2011 on a recent discussion between Kim Jong-il and Dmitri Medvedev about resuming the Six-Party Talks on nuclear disarmament, with the potential introduction of a "moratorium on the production of nuclear materials and on tests." In the long run, Moscow could ask Pyongyang to drop its WMD program in exchange for more rail/oil/gas cooperative projects for economic growth, transforming North Korea from a risk into an economic partner. The pipeline project offers North Korea a chance to be integrated into the system of global economic interdependence.

The pipeline project is essentially a starting point for another type of Six-Party Talks, this time involving energy security and political stability. The plan to stabilize Northeast Asia through cooperation with North Korea has implications for all parties. These days, many Asian countries are concerned with stricter environmental regulation arising from climate change talks, rising geopolitical risks with Middle East oil, and stagflation. The success of Russia-DPRK-ROK gas pipeline project can potentially attract both China and Japan to join this pipeline network, further expanding the energy cooperation and economic interdependency in Northeast Asia. The United States has taken no official stance on the pipeline project, but Washington might find improved regional stability to be in its interest, despite worries over growing Russian influence in Northeast Asia. The more cooperative and optimistic regional atmosphere brought about by a new paradigm of cooperation would also aid future US negotiations with North Korea. With all of these important future considerations in mind, the ROK government's prompt yet prudent decision is needed.

JOHNS HOPKINS
UNIVERSITY

U.S.-Korea Institute at SAIS
1717 Massachusetts Avenue NW, 6th Floor
Washington, DC 20036
www.uskoreainstitute.org