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## **Moving Toward Greater Collaboration: Challenges and Tasks of Energy Cooperation in Northeast Asia**

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## EXECUTIVE SUMMARY

This paper assesses the potential and prospects for strengthening regional energy cooperation in Northeast Asia and offers recommendations for moving forward.

### *Main Findings*

While regional energy cooperation in Northeast Asia has shown relatively slow progress when compared with other parts of the world, the environment for such cooperation has changed in light of major shifts in world energy markets. The region is now paying more attention to the issue than ever before, and South Korea, China, Japan, Russia, and Mongolia are already pursuing a wide range of collaborative efforts on issues such as constructing cross-border infrastructure and expanding bilateral and multilateral trading mechanisms. However, a number of challenges remain for fostering closer ties, such as addressing varying interests in engagement, financial capacities, and domestic politics. Key stakeholders in Northeast Asia should make a concerted effort to narrow such gaps by coordinating their policies, strengthening financing options, and finding realizable multilateral cooperative projects.

### *Policy Implications*

- Addressing concerns about high oil and gas prices and about energy security will remain key issues for Northeast Asia. To date, governments and institutions within China, Japan, and South Korea have discussed action plans for easing the so-called “Asian Price Premium” on oil and gas supplies. These countries have also formed and managed bilateral and multilateral frameworks for cooperation with other countries. The region stands to benefit from continued cooperation on these concerns and from a review of both regional pricing mechanisms and of oil and gas import conditions.
- Establishing an integrated energy market in Northeast Asia could yield significant energy and economic benefits to the region as a whole. Yet in addition to requiring close regional coordination and significant, large-scale investments, policymakers and industry leaders should be aware that maintaining the integrity of such a network will likely be even more challenging than its construction and require ongoing engagement.
- Since its establishment, the so-called Collaborative Mechanism has attained some recognition as an important initiative for enhancing energy cooperation in the region. To date, the Collaborative Mechanism has provided information to policymakers, stimulated collaboration, and involved energy industry representative and experts in policy dialogues, but its activities still remain restricted and could be enhanced.

This paper explores the current status of efforts to strengthen energy cooperation in Northeast Asia and highlights efforts that can be pursued to foster greater collaboration. Section 1 reviews current outlooks for Northeast Asia's energy sector. Section 2 identifies an increasing need for cooperation in Northeast Asia and highlights four areas where countries in the region can and to an extent do work together, such as on eliminating the so-called "Asian Price Premium" on oil and gas supplies, building a Northeast Asia energy grid, facilitating a North Pole route for energy trade, and establishing a regional energy market. This paper also provides a look into existing bilateral and multilateral energy cooperation arrangements and examines factors that undermine regional energy cooperation in Section 3. Finally, this paper concludes by highlighting the importance of strengthening cooperation in Northeast Asia.

### **The Current Status of the Energy Sector of Northeast Asia**

Northeast Asia is characterized by the presence of several major global energy players. Japan and South Korea are important importers, while Mongolia and Russia are crucial energy producers. China, meanwhile, falls into both categories as it is both an important importer and a key producer. For the region as a whole, both energy production and consumption have been increasing in order to support national economic development goals. On the production side, oil and gas production in China and Russia has consistently increased since the 2000s.<sup>1</sup> On the demand side, energy consumption in the countries of Northeast Asia has increased by 4.9% per year from 3.03 billion toe in 2005 to 4.2 billion toe in 2012.<sup>2</sup> Much of this change could be attributed to China, which accounted for 22% of global energy consumption in 2012 (up from 15% in 2005). The Russian Far East region also witnessed a steady rise in energy consumption, driven by growing energy-related industries. Alternatively in Japan, which accounted for 3.8% of global energy consumption in 2012, the combination of government policies for energy saving and the fact that Japan's economy has been in a situation of low economic growth since the 1990s makes it possible that Japan has seen its energy consumption rate remaining at  $\pm 1\%$ .

When it comes to energy consumption structures, patterns vary across the region. While

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<sup>1</sup> In China, however, the country's growth rate of consumption is higher than that of production.

<sup>2</sup> During the period of 2005-2012, the annual growth rate of energy consumption was 2.3% globally, and those of the EU and the US were -0.9% and -0.7% respectively. Data in this section draws on material found in the BP Statistical Review of World Energy (2013) and the IEA's annual World Energy Outlook, and data for Mongolia is based on information of 2011. From 2005 to 2012, the average annual growth rate of energy consumption was 3.0% in South Korea, -1.1% in Japan, 8% in China, 0.9% in Russia, and 4.0% in Mongolia.

coal has the biggest share in China and Mongolia (68% both in China and Mongolia in 2012), oil is the main energy source in South Korea and Japan (40% in South Korea and 46% in Japan in 2012). In 2012, gas accounted for 54% of the energy mix of Russia as a whole, but in the Russian Far East, coal has a relatively larger share due to the lack of gas transportation and distribution networks. In the long term, the use of gas and renewables in Northeast Asia is projected to become more important, and the dominance of coal and oil in the region's energy mix will decrease. Nuclear energy will be expanded in South Korea, China, and Russia. However, in Japan where nuclear plants continue to face an uncertain future, nuclear energy will be well below 13% of the energy mix, the pre-Fukushima accident level.<sup>3</sup>

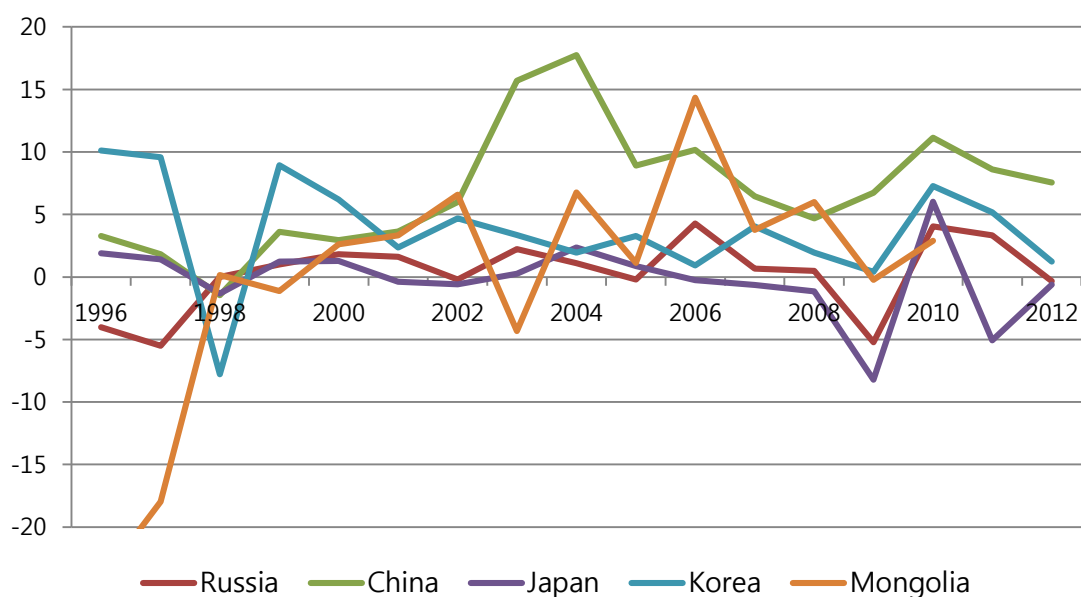
Importantly, Northeast Asia, excluding Russia, is a net importer of energy as a whole. Although China has abundant energy resources, particularly coal, it is also a net importing country due to its huge demand for energy stemming from its rapid economic development. In the case of Mongolia, the country has a large amount of coal and some oil reserves. However, it is also an importer of petroleum products and electricity, mainly from neighboring China and Russia, because it lacks domestic refineries and power plants. Meanwhile, Japan and South Korea highly rely on energy imports, especially from the Middle East (as does China). Such a high dependence on the Middle East in Northeast Asian countries generates several issues, including concerns about a so-called "Asian Price Premium"<sup>4</sup> for oil and gas supplies, a situation where high prices are in part caused by a lack of diversified supply sources in Asia, long-term contracts for gas trading, and gas prices that are oil-linked (rather than based on market situations).

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<sup>3</sup> According to the Republic of Korea's Second Basic Energy Plan (released in January 2014), the Korean government plans to increase the share of its energy mix met by nuclear energy to 29% (26.4% in 2013) by 2035. In the case of Japan, the Japanese government articulated that nuclear energy is an important base load resource in its Basic Energy Plan issued in April 2014, saying that Japan would restart nuclear power plants when it can guarantee their safety.

<sup>4</sup> The Asian Price Premium (or Asian Oil and Gas Premium) refers to the large differentials between prices in North America and Asia for oil and gas supplies. For example, in the case of gas, the difference between the Japan contract price and the Henry Hub price was approximately \$6.4 in 2010.

**Figure 1** Annual growth rate of energy consumption of Northeast Asian countries (percentage), 1996-2012



Source: BP (2013), BP Statistical Review of World Energy June 2013.

### Increasing Need for Cooperation in Northeast Asia

Given the differences in energy resource endowments and current energy market structures among countries in the region, Northeast Asia shows tremendous potential to benefit from greater regional energy cooperation. For example, while it takes 20 days to move oil from the Middle East to Northeast Asia, bringing supplies from Sakhalin facilities in Russia only requires 3-5 days. Therefore, greater intraregional trade would significantly improve transport time and potentially also improve transport security as supply lines are shortened. Furthermore, cooperation also enables companies from Northeast Asia to develop energy reserves in the Russian Far East with Russian counterparts, which adds further supply of developed energy resources to Northeast Asia.

It has been well recognized that regional energy cooperation on the development of indigenous energy resources could significantly contribute to improving regional energy supply and reduce dependency on imports from outside of the region, particularly reducing dependence on the Middle East. Without greater cooperation, given the prospect that energy demand in Northeast Asia will increase much faster than the region's supply, energy is likely to be turned into a potential bottleneck to sustainable economic growth for the region. Accordingly, keeping the intra-regional supply-demand balance at an optimal level—especially when looking at supplies of oil, natural gas, and nuclear energy—will be one of the significant

issues for energy cooperation in Northeast Asia. To do so will require constructing additional energy supply infrastructure, in particular for natural gas pipelines and power transmission networks, in order to facilitate intra-regional energy trade; this in turn will require strong regional leadership. Additionally, projects for energy resources development and infrastructure construction require massive investment. A multilateral cooperative mechanism for creating a more favorable environment for energy investments and financing in the region could benefit a wide range of countries in Northeast Asia. Finally, as addressing the environmental impacts of rapid increases in energy demand becomes a more important policy variable in Northeast Asia, all countries in the region will need to cooperate so as to pursue an environmentally friendly energy mix and improve energy efficiency on a larger scale.

Important to all of these issues is that Northeast Asia's potential environment for cooperation has changed. Particularly after the Fukushima accident, the countries of Northeast Asia have come to pay attention to energy cooperation more than ever. Countries in the region are already collaborating in various fields, and there are a handful of issues which will require strengthened cooperation and deeper consideration for progress to continue. These include fostering greater discussion on eliminating the Asian Price Premium, building a Northeast Asian energy grid, facilitating commercial use of a North Pole route for energy trade, and establishing a regional energy market.

#### *Eliminating the Asian Price Premium*

First, Northeast Asia stands to benefit from continued cooperation addressing mutual concerns about the so-called "Asian Price Premium." When it comes to oil, increased supply of non-Middle East oil, including Eastern Siberia-Pacific Ocean oil, contributes to easing the region's premium on oil prices to a considerable extent. In the case of gas, the price gap between the gas markets of Asia and those of North America and Europe has significantly widened because of three key factors: (1) Fukushima's impact on the tightening of Asian gas markets as greater use of gas supplies was demanded to compensate for reduced use of nuclear power, (2) the shale boom in the United States and Canada that enabled lowered gas prices in these markets, and (3) economic crises from 2008 and expanded supply of renewables in Europe that led to decreased gas demand in European markets. Importantly, the international nature of these three sources of the premium similarly suggests a need for responses that include a focus on international ties.

Governments and research institutions in China, Japan, and South Korea have discussed

relevant action plans for easing the Asian Price Premium, while China and Japan have also individually formed and managed bilateral and multilateral frameworks for cooperation with other countries.<sup>5</sup> To continue these efforts, it is time for countries in Northeast Asia to work together to jointly develop a new pricing mechanism that reflects current gas market situations and that offers more flexible conditions for gas imports.

### *Building a Northeast Asia Energy Grid*

In the wake of increased demand from the Asia-Pacific for energy from the Russian Far East, cross-border energy grid projects have been actively planned and promoted. As projects look to move forward on a structural level, countries in Northeast Asia also have common interests in proactively responding to a number of challenges, including managing peak electricity demand periods such as the summer period, addressing emergencies such as sudden energy supply crises, advancing the effective exploration and utilization of regional energy resources, and improving the stability of long-term transport by sea. As such, a greater regional energy grid has been suggested as a measure for facilitating relatively cheaper and more optimal deployment of resources among the countries in the region and for securing markets for exports.

In pursuing a project for a regional and multilateral energy grid, different countries will have different concerns and perceptions of needs. Russia and Mongolia—energy producing and exporting countries—are actively promoting bilateral and multilateral cooperation on establishing energy grids in Northeast Asia as a means of earning foreign exchange, propelling local economies, boosting resource development, and increasing infrastructure. Meanwhile, South Korea and China face various problems. China witnesses a large price gap between imported gas and domestic gas because it supplies energy at low rates. South Korea has to run the risk of building an energy grid through North Korea. Yet to manage and operate a cross-border energy grid in a stable way, the countries of Northeast Asia have recognized that they should establish multilateral cooperative bodies and legal and institutional infrastructures, and continued progress will be needed to achieve this.

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<sup>5</sup> On June 7, 2013, Japan's Ministry of Economy, Trade and Industry (METI) and the European Commission's Directorate-General for Energy decided to launch a cooperative effort related to gas and LNG market issues, expecting that such cooperation will contribute to promoting the development of transparent and liquid global gas markets; as part of this, the two parties agreed to discuss ways to address mutual concerns about oil-indexed gas pricing, which is used in both European and Asian markets. In the case of China, the country's state-owned China National Petroleum Corporation (CNPC) has conducted ongoing discussions and joint research on addressing the Asian Price Premium with companies from South Korea and Japan.

### *Facilitating a North Pole Route for Energy Trade*

As another arena for cooperation, Northeast Asia is also setting its sights on facilitating a trading route that crosses the North Pole, which the region regards as desirable for importing energy resources. Because of the route's very low temperature, such a route is more appropriate for energy transportation than for general cargo transportation; manufactured products are vulnerable to very low ocean temperature, while transport of liquefied natural gas (LNG) and coal is unaffected by ocean temperature.

To date, China, Japan, and South Korea have taken actions that highlight a perception that joint cooperation among these three countries is crucial to facilitating the development of a North Pole route, and these countries have made concerted efforts on several fronts. Such efforts include nurturing the training of competent workers, founding specialized institutions, and promoting science and technology research projects that explore issues related to the development of the new Arctic transport route and the viability of resource exploration in the Arctic. Russia has also made efforts to foster stronger ties with other countries in Northeast Asia focused on increasing the use of the route, developing energy resources in the Arctic, and exporting its own supplies to the Asia-Pacific. Looking beyond the region, Northeast Asian countries have also sought ways to maintain cooperative relations with the Arctic Ocean coastal states, including the United States, Canada, Norway, and Greenland. Such scope for cooperation ranges from building collaborative systems for exchanging data and human resources to boosting discussions on various regulations and fees for the use of the route. While progress continues to move forward on these fronts, ensuring stability will require continued focus and attention on a regional level.

### *Establishing a Regional Energy Market*

Finally, as Northeast Asia seeks opportunities to strengthen regional energy cooperation, the establishment of an integrated energy market in the region is a development that could yield significant energy and economic benefits. Such benefits include providing for security of energy supply and demand, decreasing transaction costs in regional trade, promoting greater efficiency of scale in the energy sector, offering access to affordable modern energy, and reducing emissions from pollutants typically associated with energy production and use as countries have access to a greater range of lower-carbon sources.

As Northeast Asia seeks to move forward, one of the fundamental requirements for an integrated energy market is and will be the construction and operation of the necessary



infrastructure to transport energy across the region. Here, maintaining the integrity of a regional energy network may be even more challenging than constructing the network in the first place. Large-scale investments are necessary for establishing regional energy networks, such as for building and managing exporting and importing terminals, facilitating pipeline transit, regulating transmission, and continuing to move forward on energy efficiency goals.<sup>6</sup> For each of these issues, coordination and cooperation between countries in Northeast Asia is a prerequisite to continued success. To move forward, energy market integration in Northeast Asia should proceed initially at bilateral or trilateral levels among countries that possess the greatest potential for cooperation, and market integration should then be developed into a wider regional integration in which all regional countries participate. Ultimately, the specific steps taken towards energy market integration in the region should be chosen based on their potential to have a positive economic impact.

### **Existing Bilateral and Multilateral Energy Cooperation**

With these issues in mind, there are many existing bilateral energy cooperation efforts that involve countries from Northeast Asia, and a number of initiatives or projects that have been specifically established to promote bilateral or multilateral cooperation within Northeast Asia. In recent years, a number of discussions and negotiations have occurred between energy producing and exporting countries (e.g., Russia and Mongolia) and energy consuming and importing countries (e.g., South Korea, China, and Japan); most of these have taken place on a bilateral level but some have also involved multilateral governmental and industrial cooperation. Table 1 highlights cooperation that has occurred on issues related to a range of energy sources, including on efforts more specifically targeting coal, oil, gas, and other resources. These cooperation projects can be broken into roughly five categories: (1) expanding energy trade among the countries in Northeast Asia; (2) exploring and developing oil, gas, and coal; (3) constructing cross-border energy supply infrastructure, such as pipelines and interconnected power networks; (4) constructing power plants; and (5) promoting bilateral or multilateral energy talks emphasizing policy cooperation.

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<sup>6</sup> Additionally, it should be noted that China, Japan, Russia, and South Korea are also in competition with one another to become an oil hub for Northeast Asia. On this issue, consensus still needs to be formed around the necessity of establishing such a hub, its expected implications, and how it can follow examples set by other advanced countries.

**Table 1** Cooperative Agenda by Energy Source

	<b>Petroleum</b>	<b>Natural Gas</b>	<b>Coal</b>	<b>Electricity &amp; Renewables</b>
<b>Upstream (E&amp;P)</b>	<ul style="list-style-type: none"> <li>• Joint oil development in the Russian Far East / Equity participation</li> </ul>	<ul style="list-style-type: none"> <li>• Joint gas development in the Russian Far East / Equity participation</li> <li>• Unconventional gas development</li> </ul>	<ul style="list-style-type: none"> <li>• Joint coal development in the Russian Far East</li> <li>• Joint coal development of South Gobi desert in Mongolia</li> </ul>	<ul style="list-style-type: none"> <li>• Joint construction of electricity supply facility (e.g. power plant and transmission grid) in the Russian Far East</li> <li>• Joint renewable energy development in Mongolia</li> </ul>
<b>Midstream</b>	<ul style="list-style-type: none"> <li>• China-Russia oil pipeline connection and construction</li> <li>• Import of Russian oil through pipeline and oil tanker</li> <li>• Commercial use of the North Pole Route</li> </ul>	<ul style="list-style-type: none"> <li>• Construction of gas transport network among the Northeast Asian countries (China-Russia, Japan-Russia, S. Korea-China, S. Korea-Japan, Russia-China-S. Korea, Russia-N. Korea-S. Korea)</li> <li>• Gas pipeline connection among South Korea, North Korea, and Russia</li> <li>• Participation in liquefaction facility construction in Russia</li> <li>• Import of Russian gas through pipeline and LNG carrier</li> <li>• Commercial use of the North Pole Route</li> </ul>	<ul style="list-style-type: none"> <li>• Construction of railway for transporting mineral resource of Mongolia</li> <li>• Expansion/Repair and maintenance of North Korea's transport facility</li> <li>• Railway connection between Russia and N. Korea and between two Koreas.</li> <li>• Railway connection between China and Mongolia (connect Mongolia's northeastern region and the Trans-Manchuria Railway)</li> <li>• Import Russian and Mongolian coal through railway and barge</li> </ul>	<ul style="list-style-type: none"> <li>• Establishment of Northeast Asia Super Grid (China-Russia, Japan-Russia, Russia-Mongolia, South Korea-China, South Korea-Japan, China-Mongolia)</li> <li>• Power grid connection among South Korea, North Korea, and Russia</li> <li>• Import of Russian electricity</li> </ul>
<b>Downstream</b>	<ul style="list-style-type: none"> <li>• China-Russia refinery construction / Petroleum product sales</li> </ul>	<ul style="list-style-type: none"> <li>• Enter the market of city gas business</li> </ul>	<ul style="list-style-type: none"> <li>• Clean coal, CTL technology cooperation</li> </ul>	<ul style="list-style-type: none"> <li>• Power consumption efficiency</li> </ul>

Source: UN-ESCAP (2010), *Five-Year Strategy (2010-2014) to implement the Intergovernmental Collaborative Mechanism on Energy Cooperation in North-East Asia*, Bangkok, Thailand.

## **Factors Undermining Regional Energy Cooperation and Challenges**

Yet despite these efforts, regional energy cooperation among countries in Northeast Asian has shown relatively slow progress when compared with other regions in the world. As noted above, despite great potential for multilateral cooperation, most of the energy projects undertaken by countries in Northeast Asia have been planned or implemented unilaterally or bilaterally. As a result, many projects for energy development and trade in the region have faced additional uncertainty related to financing, securing an export market, and addressing regional security issues such as the North Korea issue. This situation makes it hard to realize and promote projects and trade in a timely manner. In addition, this situation means that financing for energy projects tends to depend significantly on a government's financial support or a company's own funds, rather than drawing on regional or global opportunities.

Setting these current problems aside, there are a number of longer-term challenges in promoting energy cooperation in Northeast Asia, and these should be examined and addressed by countries in the region as soon as possible. Looking across the region, four key challenges can be identified.

First, enhancing policy coordination and cooperation between government and business sectors is challenging. Countries in the region need to reach a consensus for promoting regional energy cooperation, and as such undertake complementary efforts in both government and private sectors. Yet within Northeast Asia, many energy projects are led by state-owned companies, with different states desiring to promote their own domestic options. Ultimately, the private sectors and governments of each country in Northeast Asia should work together closely in providing support for energy developments and infrastructure construction. To that end, intergovernmental talks and business forums are already being implemented as part of broader bilateral cooperation efforts (for example, forums emphasizing Korea-Russia, China-Russia, Japan-Russia, Korea-China, and Korea-Japan cooperation are already in progress). Additionally, companies from every country in the region take part in multilateral business forums with discussions covering every type of energy resource, with topic names such as 'Northeast Asia Petroleum Forum (NEAPF)' and 'Northeast Asian Gas & Pipeline Forum (NAGPF).'<sup>7</sup> Through these cooperation frameworks, governments and companies in the

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<sup>7</sup> The 1<sup>st</sup> Northeast Asia Petroleum Forum (NEAPF) was held in Beijing in 2001 by petroleum companies and energy institutes from China, Japan, and South Korea. The Northeast Asian Gas & Pipeline Forum (NAGPF) was established at the 3rd International Conference on Northeast Asian Natural Gas Pipeline, held in Seoul in November 1997. Its purpose is to serve as a driving force for the construction of the International Pipeline Network, seen to be essential for sustainable development in Northeast Asia and as a basic infrastructure for

region should make efforts to promote concrete, multilateral cooperative projects.

Second, financing in the region is not easy. This is because the regional capital and finance market is not fully mature. Yet massive investment is required for developing energy resources and building energy infrastructure. Therefore, multilateral cooperative approaches that create a more favorable environment and promote market-friendly policies for attracting foreign investment in the energy sector will be necessary. In Northeast Asia, demand for investment in energy infrastructure is increasing, and the size of such projects is also growing. Given that massive investment is needed and the region's overall fiscal and financial situation is not strong, energy infrastructure projects have been promoted through a number of vehicles to varying results. For instance, as developing countries privatize their energy sectors, their private industry, alongside foreign companies, has often actively encouraged public private partnerships. In the case of big projects, joint ventures with foreign companies and the use of funds from multilateral development banks or international financial institutions have also been considered for facilitating investment capital. Furthermore, developing countries have established government committees for supporting energy infrastructure, which are more likely to provide financial support and conduct technological inspections and feasibility checks in a consistent way. The establishment of a regional multilateral development bank such as a Northeast Asian Development Bank<sup>8</sup> or an Asian Infrastructure Investment Bank<sup>9</sup> is also suggested repeatedly by countries in Northeast Asia.

Third, continued development will require addressing political uncertainty. Regional political stability should be pursued in a multilateral cooperative framework because it is an important factor in energy projects, especially as it relates to ensuring the security of the projects. Uncertainty about political stability leaves investors exposed to high levels of investment risks and also raises project costs. In order to facilitate energy cooperation in Northeast Asia, countries in the region need to form a consensus on their common goals for

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the 21st century. The NAGPF organizes an annual international conference and leads cooperative activities with its member organizations.

<sup>8</sup> In March, 2014, South Korean President Park Geun-hye said during her visit to Germany that the government would provide support to North Korea by establishing a Northeast Asian Development Bank if the North decides to give up its nuclear possession. The idea was first discussed by Dr. Ma Hong and his associates in China and independently introduced into the Northeast Asia Economic Forum Meeting in Tianjin on September 2-7, 1991, by Duck Woo Nam, former Prime Minister of South Korea. Since then, it has consistently been on the agenda of regional governments and companies.

<sup>9</sup> In October, 2013, China's President Xi Jinping suggested the establishment of an Asian Infrastructure Investment Bank during his tour of Southeast Asian countries, and the Chinese government has discussed its establishment with many countries.

removing or reducing the uncertainty of political risks associated with energy projects, including encouraging greater discussion on tensions related to the issues of North Korea's nuclear efforts, conflicts in the East China Sea between China and Japan, and other similar disputes.

Finally, the countries of Northeast Asia are different from each other on a number of structural issues and this creates difficulties in pursuing projects. These differences include market systems and structures, capacity for financing and investment, human resources, and the overarching direction of energy policy. As these differences are likely to be major contributors to impeding the facilitation of regional energy cooperation in Northeast Asia, countries will need to make concerted efforts to narrow such gaps by coordinating their policies.

### **Formation of Multilateral Cooperation in Northeast Asia**

In recognition of the needs, mutual benefits, and challenges of promoting energy cooperation in the region and to tap energy resources, a number of countries in Northeast Asia have taken concrete steps to form a basis for multilateral cooperation in the region. In November 2005, the Senior Officials Committee of four countries in Northeast Asia—Mongolia, South Korea, North Korea, and Russia—created by consensus the “Intergovernmental Collaborative Mechanism on Energy Cooperation in Northeast Asia” (hereafter referred to as “the Collaborative Mechanism”). Broadly speaking, the Collaborative Mechanism aims to “by 2020, [improve] energy security in Northeast Asia through energy cooperation in a sustainable manner.” More specifically, the Collaborative Mechanism seeks to achieve this goal through efforts “to increase the supply of energy in the Northeast Asia region, lessening its dependence on energy imports from outside the region; optimize the economy and efficiency of supply and use of energy; and minimize the environmental impact of energy production and consumption through improved energy mix and greater energy efficiency.”<sup>10</sup>

Keeping its sight on energy security through a broad-based approach, the Collaborative Mechanism has continuously promoted policy approaches, adopted working programs, and undertaken a number of actions and activities. Overall, the Collaborative Mechanism has

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<sup>10</sup> Senior Officials Committee on Energy Cooperation in Northeast Asia, “The Ulaanbaatar Statement of the Senior Officials on Energy Cooperation in Northeast Asia,” November 17, 2005.

centered on several issues for within its strategic agenda: (1) information exchanges designed to improve approaches to energy security on issues such as energy policies and programs and on investment policies for promoting sustainable development; (2) fiscal policies related to the energy industry, trend analysis of national and sub-regional energy markets; (3) development and implementation of collaborative projects, legal and institutional arrangements so as to cope with supply disruption, transboundary energy development, and trade of fossil fuel and electric power; (4) cooperative policies and measures to promote energy efficiency and energy conservation; and (5) collaborative activities to promote greater development and distribution of renewable energy sources.<sup>11</sup>

Since its establishment, the Collaborative Mechanism has attained some recognition as an important initiative on energy cooperation in Northeast Asia. To date, the Collaborative Mechanism has gathered information on the energy policies of its member states and shared it with key stakeholders. The Collaborative Mechanism has also examined statistics and forecasts regarding supply and demand and established a common energy information database. Additionally, the Collaborative Mechanism has provided information to policymakers, stimulated collaboration among research institutions, and involved energy industry representatives and experts in policy dialogues, meetings, and government-business forums.

An important advantage of the Collaborative Mechanism remains its unique opportunity for advancing the development of regional energy resources, in that it is one of the more inclusive agreements for Northeast Asia.<sup>12</sup> The challenge is how to translate this opportunity into concrete projects among member countries. With more activities, it would be possible that the Collaborative Mechanism could establish a niche to differentiate itself from other international energy initiatives that are active in Northeast Asia. To that end, the Collaborative Mechanism's two working groups—the Working Group on Energy Planning and Policy (WG-EPP) and the Working Group on Coal (WG-Coal)—were created in November 2005 and September 2009 respectively to advance the goal of furthering such a niche.

For Northeast Asia specifically, the Collaborative Mechanism is the only intergovernmental multilateral body for cooperation in the energy sector. However, due to insufficient participation from countries in the region (e.g., Japan and China do not take part in the Collaborative Mechanism), the activities of the Collaborative Mechanism are still restricted.

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<sup>11</sup> UN-ESCAP(2010).

<sup>12</sup> There are many established initiatives in Northeast Asia, but only the Collaborative Mechanism focuses on energy cooperation in the region.

Still, if the energy grid projects of Russia-China-South Korea or Russia-North Korea-South Korea commence, it is expected that the Collaborative Mechanism will fulfill its function and see potential for an expanded role in the region.

### **Conclusion**

Strong, cooperative governance should be in place to promote comprehensive cooperation among the countries in Northeast Asia, and this governance should encompass every relevant industry such as those involved in energy and infrastructure development, transit, trade, investment, and the region's related legal and institutional systems, among others. Countries in the region have made concerted efforts to exchange human resources and sector information, to find cooperative and economic feasible projects, and to build relationships between private and governmental sectors. It is now necessary for these countries to evolve these existing cooperative efforts into a stronger system for collaboration, particularly a system that emphasizes both bilateral and multilateral networks. Additionally, a stronger system for cooperation needs to have the ability to enforce its policies, so as to overcome chronic problems which other regional cooperative bodies have suffered, including addressing inconsistency in regional legal systems.

Ultimately, energy cooperation in Northeast Asia should be solidified through a Ministerial Meeting with participation by energy ministers from the six countries of Northeast Asia—South Korea, China, Japan, Russia, Mongolia, and North Korea. If a leader of the six countries suggests a kickoff of a Ministerial meeting and the other leaders agreed on the suggestion, such a Ministerial meeting could be held on a regular basis. With this in place, the existing Collaborative Mechanism could be expanded and complemented. Overall, there are a number of ways that energy cooperation could be strengthened and a range of opportunities for how governments, industry, and experts in the region may move forward.