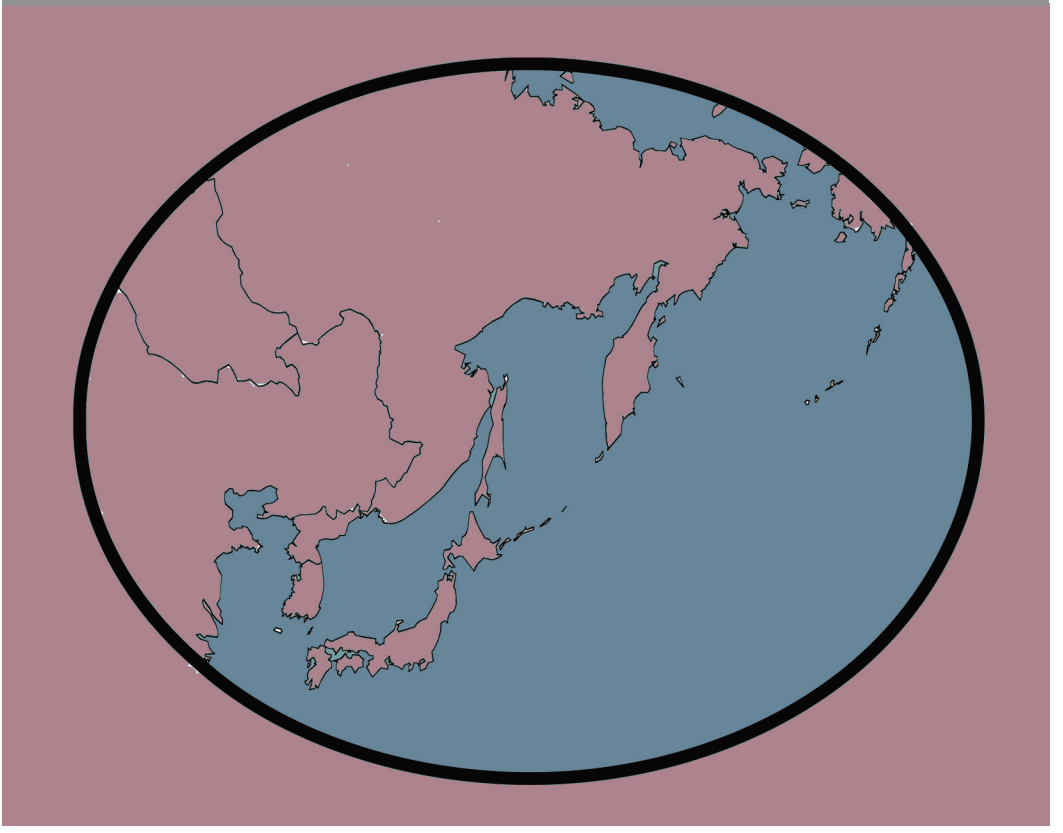
| Conference Proceedings 15-02 |

NORTHEAST ASIA ECONOMIC FORUM

Building a Northeast Asian Economic Community

Edited by
Lee-Jay Cho and Chang Jae Lee



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Contents

Tables & Figures

Part 1. Regional Integration in Northeast Asia: Status and Potential

A Northeast Asian Economic Community: A Korean Perspective

<Table>

<Figure>

A Northeast Asian Economic Community: A Chinese Perspective

<Table>

A Northeast Asian Economic Community: A Japanese Perspective

<Figure>

Potential for Connectivity in Northeast Asia: Energy and Transport Infrastructure in Eastern Siberia and the Russian Far East

<Figure>

Part 2. Renewable Energy in Northeast Asia and Prospects for the Region

China Renewable Energy Development and Future Prospects for Cooperation

<Figure>

Status of Renewable Energy Development—Toward a Low Carbon Society

<Table>

<Figure>

Hawaii's Clean Energy Transformation

Part 3. Financial Cooperation in Northeast Asia

Creating a Multilateral Development Fund for Financial Cooperation in Northeast Asia

Financial Cooperation in Northeast Asia: Japan's Perspective

<Table>

<Figure>

Preface

Northeast Asia, a region which accounts for about one-fifth of the world economy, has experienced strengthened regional economic cooperation since the end of the Cold War. The trend in functional economic cooperation was more apparent at first as levels of intra-regional trade integration between China, Japan, and Korea rose gradually from 1990 up to 2003. The institutional economic integration process within Northeast Asia only started after the Asian financial Crisis of 1997. China, Japan, and Korea, the three main stakeholders of the region, held their first annual Trilateral Summit Meeting in 1999, on the occasion of the ASEAN+3 Summit Meeting. The annual Trilateral Summit Meeting promoted tripartite cooperation in depth and scope, both at the governmental and non-governmental level.

The tripartite cooperation and integration process gained further momentum when the three countries agreed to hold the first independent Trilateral Summit Meeting in 2008. Apart from the Summit Meetings, the three countries officially launched China, Japan, and Korea Free Trade Agreement (CJK FTA) negotiations in 2012. Following the first round of negotiations in 2013, the ninth round is expected in January 2016.

However, progress in regional economic integration has faced constant obstacles related to non-economic factors such as territorial disputes and historical issues. Due to political tensions, the Trilateral Summit Meeting was postponed for three and a half years until it resumed in November 2015. The CJK FTA negotiations are still at a preliminary stage despite the three countries managing to hold three rounds of negotiations per year.

Meanwhile, the three countries began to experience slower economic growth, largely due to structural problems. Creating new economic growth momentum has become a top policy priority. Thus, accelerating economic integration among the three countries could serve as an important policy solution.

Within Asia, it is expected that the ASEAN Economic Community will be established at the end of 2015. Furthermore, the East Asia Vision Group II has proposed the establishment of the East Asian Economic Community as a vision for East Asian economic integration by 2020. In this context, it is necessary

to continue to explore strategies for building a Northeast Asian economic community, which is regarded as the vision for economic integration among Northeast Asian countries.

This volume is the first part in a series of proceedings titled *Building a Northeast Asian Economic Community*. It contains presentations and summaries from the NEAEF Beijing Special Meeting and the related activities that took place under this project. The aim of the project is to contribute to and encourage activities and efforts toward regional economic integration in Northeast Asia.

KIEP is grateful to Dr. Cho Lee-Jay, Chairman of NEAEF, for his leadership in implementing the project, to the authors of the reports and presentations, to conference participants, and to discussants who contributed to this volume.

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Introduction and Overview

Lee-Jay Cho

The Northeast Asia Economic Forum (NEAEF) is a regional nongovernmental organization created in 1991 to sponsor and facilitate research, networking, and dialogue relevant to the economic and social development of Northeast Asia. The Forum is also committed to promoting understanding and relations among the peoples of Northeast Asia, North America, and Europe.

The main objective is for NEAEF to conduct research and conference activities aimed at functional economic cooperation such as cross-border energy, transportation and logistics infrastructure development, and capital mobilization. The Forum holds annual conferences, workshops, and seminars for planning, facilitating, coordinating, and implementing international and interdisciplinary solutions to common policy problems. It is the only nongovernmental regional organization in which all the nations of Northeast Asia and the US are consistent and active participants.

In collaboration with the Korea Institute for International Economic Policy (KIEP), in 2015 NEAEF carried out activities on building a Northeast Asian Economic Community based on lessons learned from NEAEF's previous work on financing cross-border functional economic cooperation. For the first year of this collaborative project the focus was on regional cooperation and strategies in Northeast oriented toward North Korea—this work focused on functional economic cooperation in cross-border resources, energy supplies, infrastructure construction, capital mobilization, and institutional development.

Due to unavoidable changes in venue, NEAEF organized a special meeting in Beijing in August 2015 in which experts presented their perspectives, views, ideas, concrete proposals, and strategies to promote a Northeast Asian Economic Community. This proceedings volume, *Steps toward a Northeast Asian Economic Community,* presents the results of a project implemented in 2015 that includes discussions from a planning meeting as well as presentations and summaries from the NEAEF Beijing Special Meeting. A summary and review of these two meetings follows.

Planning Meeting in Honolulu

The planning meeting for the 2015 NEAEF activities on building a Northeast Asian Economic Community was organized by the Northeast Asia Economic Forum in cooperation with Korea Institute for International Economic Policy (KIEP), and the University of Hawaii's College of Social Sciences on 5-7 April 2015.

The main theme of the meeting was NEAEF's plan for promoting a Northeast Asian Economic Community with an emphasis on North Korea, and comparative studies of special economic zones, beginning with the Tumen River Area. NEAEF's vision included using its vast cooperative network of research and exchange to promote such an economic community in the region.

The first order of business was to discuss the necessary change in venue for the NEAEF annual meeting. NEAEF planned to hold the annual meeting in the Autonomous Region of Inner Mongolia, China, this had to change, however, due to internal bureaucratic changes in Inner Mongolia and budgetary constraints caused by a reduction in funding support. NEAEF quickly adjusted to these changes and organized a meeting for 24-28 August 2015 in Beijing with a field trip planned to follow the meeting.

The planning meeting also discussed the activities for 2015, these included:

Upgrading the level of discussions about establishing a Northeast Asian Economic community.

Analysis of a Northeast Asian Development Bank (NEADB)[1] in light of China's proposed Asian Infrastructure Construction Bank (AIIB) and the controversies and challenges associated with the implementation of the AIIB. While the geographic coverage of the AIIB is ambitious, part of its geographic coverage and its mission is similar to that of the envisioned NEADB—namely, addressing infrastructure development and cross-border cooperation. China has modified the original proposal for the AIIB several times. This could contribute positively to the proposal for the NEADB in the long run. South Korea has some concerns as to how the AIIB proposal will evolve in the foreseeable future and how it will contribute to infrastructure construction affecting the Korean Peninsula.

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1) Also referred to as the Northeast Asian Bank for Cooperation and Development (NEABCD).

Reviewing of the Greater Tumen Initiative (GTI) as a catalyst for economic integration. Ideally renewed efforts and support will be generated for GTI projects. The Tumen region encompasses Mongolia, Russia, and China—it is a strategic area from a Northeast Asia economic cooperation point of view. Collaboration with North Korea that focuses on the Tumen area can be linked to other SEZs and may be conducive to the economic integration of the Tumen riparian area as well as the Korean Peninsula.

Planning a field observation trip and group discussion in Rason, North Korea.

2015 Beijing Special Meeting

NEAEF, with support from KIEP, the Freeman Foundation, the University of Hawaii's College of Social Sciences, and other institutions, convened the 2015 Special Meeting in conjunction with the Tenth NEAEF Young Leaders Program in Beijing, China on 25-28 August 2015. Representatives from South Korea, China, Japan, Mongolia, Russia, the United States, and the European Union were brought together to discuss and promote economic cooperation and integration among Northeast Asian countries and their global partners. The event was held at the Beijing Institute of Technology.

The Special Meeting opened with introductory remarks from Cho Lee-Jay, Chairman of the NEAEF, followed by welcoming remarks by Zou Lixing, Vice President of China Development Bank on behalf of China API, and Shi Dinghuan, President of the China Renewable Energy Society. Denise Konan, Dean of the College of Social Sciences of the University of Hawaii at Manoa, and Steve Cowper, former Governor of Alaska, also provided key introductory remarks to open the meeting.

NEAEF Special Meeting panels focused on energy and financial cooperation as drivers for a Northeast Asian Economic Community. The 2015 meeting built upon NEAEF's 23-year legacy of open dialogue among member countries aimed at regional integration, cooperation and peace building in the region. The meeting advanced NEAEF's mission by targeting key issues and developing plans to increase cooperation and economic integration in the region.

The morning session of the Special Meeting focused on renewable energy

and the prospects of a low carbon future, beginning with introductory statements regarding China's recent developments in clean energy and an emphasis on clean energy collaboration between the nations of Northeast Asia. The presentations also considered the current status of renewable energy developments for a low carbon society, island energy resources and Hawaii's clean energy transformation. Participants concluded that the essential questions to address were energy conservation, the reduction of GHG emissions, energy security, and the costs associated with renewable energy consumption and production. There was a great deal of interest in and discussion of photovoltaics (PVs)—their varying regional prices, the instability they can cause within power grids, and the role of the government in subsidizing PV installation. Participants also emphasized the importance of promotion of innovation in renewable technology such as power grids, PVs, wind power, and other affordable renewable energy resources.

The presenters agreed that recent climate change agreements between China and the US, the world's largest economies and carbon emitters, should set an important precedent for climate change and clean energy deals in the future. They also agreed that Hawaii would be a crucial area to demonstrate a high-level renewable energy society, and that there are significant areas for Hawaii to collaborate with Northeast Asian countries such as, energy storage, transportation, PVs, hydropower, and big data. The final remarks outlined the role NEAEF should play regarding renewable energy and a low carbon future. Participants called on NEAEF to expand its scope from discussion of policies to consideration and promotion of tangible projects and practical products. They expressed the hope that at next year's forum the private sector would be well represented in order to open these ideas to the market.

The afternoon session on financial cooperation in Northeast Asia focused primarily on the need for deeper financial cooperation through economic incentives and cooperation at subregional levels. Integration of markets and connecting the regional financial and economic giants (Beijing-Seoul-Tokyo) are crucial components of a Northeast Asian community. The need for collaboration has become ever more pronounced under newly enacted initiatives such as the Asian Infrastructure Investment Bank (AIIB) and One Belt, One Road (OBOR) project. These initiatives could become the backbone of the Asia region, however, they are mainly geared toward widening as opposed to deepening ties in Northeast Asia. All speakers supported a multilateral FTA for the region and the need to continue

to push forward with a Northeast Asian Infrastructure Fund as a prelude to a Northeast Asian Development Bank (NEADB). The session clarified the framework and mission for creating the new NEADB and acknowledged key benefits and potential challenges to its establishment.

On the second day, the session on 'Building a Northeast Asian Economic Community: Country Perspectives,' began with a presentation by Chang Jae Lee (Distinguished Research Fellow of KIEP) on institutional frameworks based on Free Trade Agreements (FTAs) among China, Japan, and Korea, as well as China and Korea. Participants agreed that overcoming trade barriers will allow the subregion to integrate more effectively and promote the economic growth of a Northeast Asian community. The participants believed OBOR was one path to establish infrastructure in currently underdeveloped regions. OBOR will allow for an influx of much needed economic growth, but should serve as a floor, rather than a ceiling, for Northeast Asian integration. The session presenters stressed the importance of encompassing logistics, urban development, and linking new markets with China's economic production. Providing regional public goods on a mutually beneficial basis is important for China's future FTA policies and economic cooperation.

Participants also discussed the important role of energy in regional integration. Joint efforts in energy production are an integral part of effective and prosperous regional development. The importance of energy efficiency, natural gas, oil, coal, and nuclear energy in relation to climate change was emphasized. Russia-Mongolia-China trilateral cooperation has already brought positive results in cooperation in energy and other sectors. Agriculture, logistics, food production, construction material, and petrochemicals as well as education and tourism are areas that should be taken into consideration when focusing on subregional development.

Lessons from the European Union were discussed in relation to community-building in Northeast Asia. Four critical lessons were highlighted: 1) the need for time, 2) a step-by-step approach, 3) deepening rather than broadening ties, and 4) the whole being greater than the sum of the parts. Additionally, participants agreed on the need for greater cooperation among countries to enhance the economies of underdeveloped regions within countries. The session emphasized the importance of the natural gas trade within Northeast Asia, along with sustainable and safe nuclear energy projects as areas for cooperation. Participants

concluded with a discussion about the desirability of active participation from North Korea, and emphasized the importance of beneficially integrating North Korea into a future Northeast Asian Economic Community. The meeting advanced NEAEF's mission by focusing on key issues and developing plans to increase regional cooperation and economic integration.

Field Visit to Rason, North Korea and Yanbian, China

Because of a dangerous hurricane and at the request of North Korea, the originally scheduled field visit (August 30-September 2) to the Rason Special Economic Zone, Rajin-Sonbong, was postponed until the recovery effort from this natural disaster was completed in the early part of 2016.

In 2014, for the first time in many years, a field visit to Rason, North Korea was organized by NEAEF and a delegation was led by Cho Lee-Jay and Glyn Ford (August 31-September 2). Twenty-one years earlier, when Cho Lee-Jay first visited the same place on a field trip, participants were impressed by the potential for developing Rajin and Sonbong as a major transportation hub for the Northeast Asia region. In 2014, the field visit participants were able to witness some significant development and change.

All evidence suggests that all the development has been in the past two to three years, and that it is accelerating as Rason is pulled into the regional Chinese economy. The new port facility built by the Russians and completion of the renovation of the dual gauge railway between Russia and Rason, which was the subject of the South Korean-Russian summit and subsequent visits by South Koreans to Rason, was not yet playing any real part in the development of the region. However agreements on bilateral trade between Russia and the North Korea made in 2014 could bring a new growth element to the zone.

NEAEFF participants believe the environmentally clean landscape of Rason, with its valuable marine and other resources can be preserved for long-term future economic value and appreciation. The Rason Special Economic Zone, by linking with neighboring territories with their complementary resources and connecting with their infrastructure, could have a great and dynamic potential for sharing economic development and enhancing the quality of life in the region.

NEAEF believes that this kind of field trip to North Korea will be highly valuable as an annex to the annual conference. The proposed field trip in early 2016 holds great potential and implications for linking North Korea to the vision of and strategies for building a Northeast Asian Economic community in the context of economic cooperation in the Korean Peninsula.[2)]

Conclusion

Under the leadership of South Korean President Park Guen-Hye, regional economic cooperation in Northeast Asia and North-South Korea cooperation has received much attention at the policy level. By actively pursuing a non-nuclear Korean peninsula and dialogue between North and South Korea, President Park has demonstrated leadership in promoting Northeast Asian regional cooperation, especially in dialogue with China.

By attending the Victory Parade and the Korea-China summit, President Park was able to deepen South Korea's relationship with China and at the same time enhance Korea's role in Northeast Asia. During the Korea-China summit in Beijing on 4 September 2015, President Park was able to officially propose the establishment of the Northeast Asia Development Bank (NEADB) in the context of the issue of denuclearization of the Korean Peninsula (proposed earlier in Dresden, Germany). Subsequently the proposal was raised at the 2015 G-20 Finance Ministers' Meeting in Ankara, Turkey, and officially proposed by President Park at the G-20 Summit. Also in 2015 Korea proposed the NEADB at the China-Korea-Japan trilateral Summit in Seoul, Korea. The NEADB has been subject of detailed review and analysis for more than a decade. There is general agreement on its parameters and components, for example, capital structure, share-holding, membership, etc.

Korea's early leadership, exemplified by its initiating discussions with the two most prominent stakeholder countries of the region, China and Japan, on

2) For a full report on the NEAEF 2014 field visit to Rason Special Economic Zone see Tony Michell, "Appendix III: Report of Field Visit to Rason Special Economic Zone, DPRK and Yanbian, China" in Cho Lee-Jay and Lee Chang Jae, eds., *Financing Economic Integration and Functional Cooperation for Northeast Asia: Toward a Northeast Asian Economic Community* (Seoul: KIEP, 2014).

the establishing of the NEADB coincides with the concept of a 'Creative Convergence Effect,' the 'Northeast Asia Peace and Cooperation Plan,' and the 'Inter-Korean Trust-building Process,' advocated by the South Korean government. The NEADB long has been viewed as a crucial institutional framework for a future Northeast Asian economic community.

Financing cross-border infrastructure potentially can reap enormous benefits for Northeast Asia and internationally. Peaceful economic cooperation and integration in the Tumen area is consonant with Korea's vision and strategy for inter-Korean economic cooperation and with a Northeast Asian economic community. The NEAEF, through continued efforts, has been able to sustain the momentum for a development bank for the Northeast Asia region.

There is broad consensus on the desirability of a multilateral bank to provide long-term capital for cross-border infrastructure projects and to enhance free trade agreements. Discussions and analysis of new proposals for multinational banks for investment in infrastructure such as, a BRICS bank and the Asian Infrastructure Investment Bank (AIIB), are vital to policymaking at the national level. The Northeast Asia Economic Forum plays a key coordinating and catalytic role through its disseminating of relevant data and information and by facilitating dialogue with and among high level policymakers in Northeast Asia.

An important outcome of the Beijing Meeting is a renewed focus on the Greater Tumen River area as a nexus for Northeast Asia linkages to North America and Europe. Another, as previously mentioned, was the assessment and evaluation of China's AIIB proposal in the context of the AIIB's suitability and limitations vis-à-vis responding to Northeast Asia's need for cross-border physical connectivity through infrastructure development. It should be noted that results from the Beijing meeting on the development bank issue were immediately conveyed to high level Korean policymakers. Subsequently, the Korean government proposed the Northeast Asian Development Bank during the Beijing Summit of September 2015. The contents of this volume highlight this year's achievements and provide a basis for future discussion and consideration by policymakers of the governments in Northeast Asia—an important step in our efforts toward building a Northeast Asian Economic Community. More broadly, the project upon which this volume is based, makes important contributions through timely and necessary research, conference activities, and consultations to our goal of regional economic cooperation and integration in Northeast Asia.

Part I

Regional Integration in Northeast Asia: Status and Potential

A Northeast Asian Economic Community: A Korean Perspective

Chang Jae Lee

Introduction

In terms of debates and actual economic exchanges, Northeast Asian economic cooperation began in the late 1980s and the early 1990s following the end of the Cold War. During the early years of economic cooperation in Northeast Asia, cooperation among neighboring regions such as the East Sea (Sea of Japan) rim economic cooperation, Yellow Sea rim economic cooperation, and Tumen River Area Development Program (TRADP) were the main types of regional economic cooperation. Then, influenced by the worldwide phenomenon of economic regionalism and prompted by the Asian financial crisis of 1997, the major Northeast Asian countries, namely, China, Japan, and Korea, became interested in forming bilateral free trade agreements (FTAs) and in the process of regional economic integration in East Asia.

Over the past twenty years, economic cooperation between China, Japan, and Korea has developed substantially. Also, intra-regional trade and investment have increased markedly mainly due to the rise of the Chinese economy.

There have also been new developments in terms of institutional economic integration among the three countries. In November 1999 in Manila, the leaders of the three countries got together for the first time on the occasion of the ASEAN+3 Summit Meeting, and in November 2000 they agreed to hold trilateral summit meetings regularly. Then, the First Independent Trilateral Summit Meeting was held in Fukuoka in December 2008—the Trilateral Summit Meeting

has become an annual event. At the fifth Trilateral Summit Meeting, in Beijing in May 2012, the leaders of the three countries agreed to launch China-Japan-Korea FTA (CJK FTA) negotiations. Accordingly, the CJK FTA negotiations have been underway since March 2013.

However, further progress in institutional economic integration was impaired by the deterioration of political relations among the three countries based on territorial issues and historical legacy. The sixth Trilateral Summit Meeting, which was supposed to take place in Korea in 2013, was not held, and CJK FTA negotiations thus far have not produced the expected results.

On top of that, China, Japan, and Korea, recently have experienced unprecedented and serious difficulties regarding their trade. Additionally, intra-regional trade among the three countries has weakened. Compared to other major economic regions, the importance of intra-regional trade among the three Northeast Asian countries has become much less significant.

Given these circumstances, the main objective of this chapter is to clarify the reasons why a Northeast Asian Economic Community is needed now and to provide a future vision for Northeast Asian economic cooperation. This chapter first analyzes the recent trade situations of China, Japan, and Korea, as well as the trends of intra-regional trade among the three countries. Then, the current status of institutional economic integration is examined, with focus on the CJK FTA.

Recent Trade Situations of China, Japan, and Korea

Trends in Trade for China, Japan and Korea

China, Japan, and Korea are major trading countries. As of 2014, China was the largest trading nation in the world, while Japan and Korea ranked fourth and eighth, respectively. China was the largest exporter and the second largest importer, and Japan was the fourth largest exporter and importer, whereas Korea was the sixth largest exporter and the ninth largest importer in the world.

Nevertheless, all three countries have recently suffered from slowdowns and reductions in trade volumes, and are likely to face serious challenges in the near future.

Due to the global financial crisis, the trade volumes of China, Japan, and Korea decreased greatly in 2009 as in other countries in the world. Then, exports and imports of the three countries increased in 2010 and 2011. However, the difficulties in trade of the three countries have reappeared since 2012.[1)]

China's exports have continued to grow, but its growth rate slowed markedly from 20.3 percent in 2011 to 7.9 percent in 2012 and to 6.0 percent in 2014. China's imports showed a similar pattern. Although China's imports continued to grow, its growth rate slowed from 24.9 percent in 2011 to 2.4 percent in 2012 and to 0.7 percent in 2014.

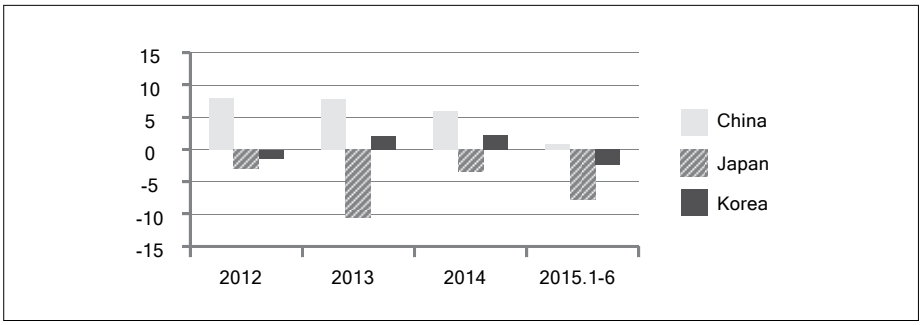
Japan's exports have decreased three years in a row since 2012. Exports shrank by 2.9 percent in 2012, 10.5 percent in 2013, and 3.4 percent in 2014. Meanwhile, the growth rate of Japan's imports diminished from 23.2 percent in 2011 to 3.6 percent in 2012. Then, its imports declined two consecutive years, shrinking 6.1 percent in 2013 and by 2.4 percent in 2014.

Korea experienced a reduction in its exports of 1.4 percent in 2012, while Korea's imports declined two consecutive years, by 0.9 percent in 2012 and 0.8 percent in 2013. However, Korea's exports grew 2.1 percent in 2013 and 2.4 percent in 2014, whereas its imports increased 1.9 percent in 2014.

Moreover, the situation deteriorated further during the first half of 2015. The growth rate of China's exports dwindled to 0.9 percent compared to the same period the previous year, and its imports declined by 19.1 percent. Japan's exports and imports shrank by 7.7 percent and 20.6 percent, respectively, and Korea's exports and imports also declined by 2.4 percent and 13.6 percent, respectively.

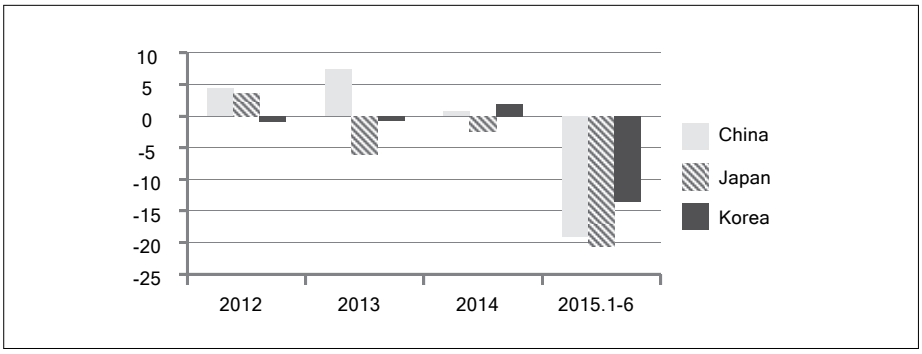
1) International Monetary Fund (IMF), *Direction of Trade Statistics* (Washington, DC: 2015).

Figure 1. Trends in exports for China, Japan, and Korea



Source: International Monetary Fund (IMF), *Direction of Trade Statistics* (2015); Korea International Trade Association, K-Stat online; Japan External Trade Organization (JETRO) online.

Figure 2. Trends in imports for China, Japan, and Korea



Source: International Monetary Fund (IMF), *Direction of Trade Statistics* (2015); Korea International Trade Association, K-Stat online; Japan External Trade Organization (JETRO) online.

Intra-regional Trade between China, Japan, and Korea

Overall, the share of intra-regional trade between China, Japan, and Korea in their total trade increased from 12.3 percent in 1990 to 19.1 percent in 2014. However, a closer look shows that it generally went up until 2004, reaching 24.1 percent before diminishing gradually to 19.1 percent in 2014. It continued

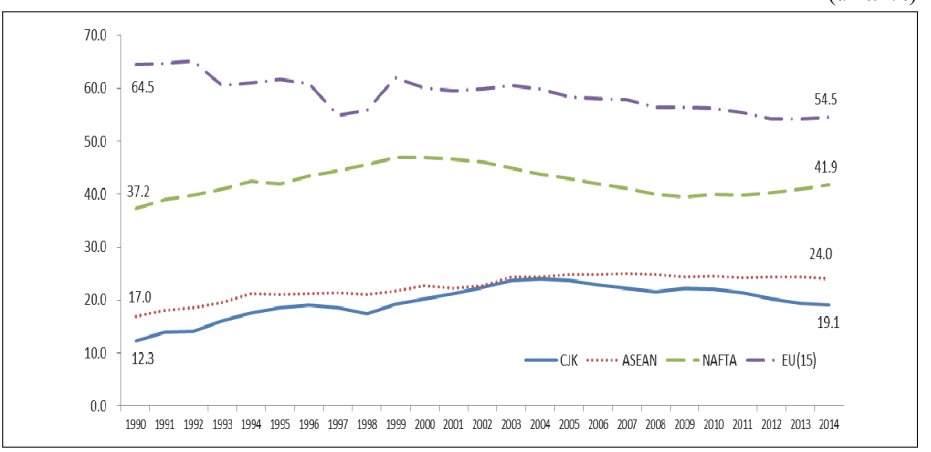
to diminish, dropping to 21.5 percent in 2008 and recovered briefly to 22.3 percent in 2009 before continuing to decline to 19.1 percent in 2014. It has been lower than that of ASEAN let alone that of the EU or NAFTA. In 2014, the shares of intra-regional trade of ASEAN, NAFTA, and EU represented 24.0 percent, 41.9 percent and 54.5 percent, respectively.

However, comparison across regions using shares of intra-regional trade can be misleading since a larger group exhibits a higher share of intra-regional trade. So, a better indicator, namely, simple concentration ratio (or intra-regional trade intensity index) can be obtained, where intra-regional shares are adjusted by the region's share in world trade. If this indicator is bigger than 1, the region has a bias toward trading with itself.

Figure 4 shows that the intra-regional trade intensity of China, Japan, and Korea increased from 1.08 in 1990 to 1.74 in 2003 before decreasing to 1.03 in 2014. It is interesting to note that intra-regional trade intensity of the three countries in 2014 actually declined to levels lower than that of 1990, meaning that there is almost no bias toward trading among the three countries in 2014.

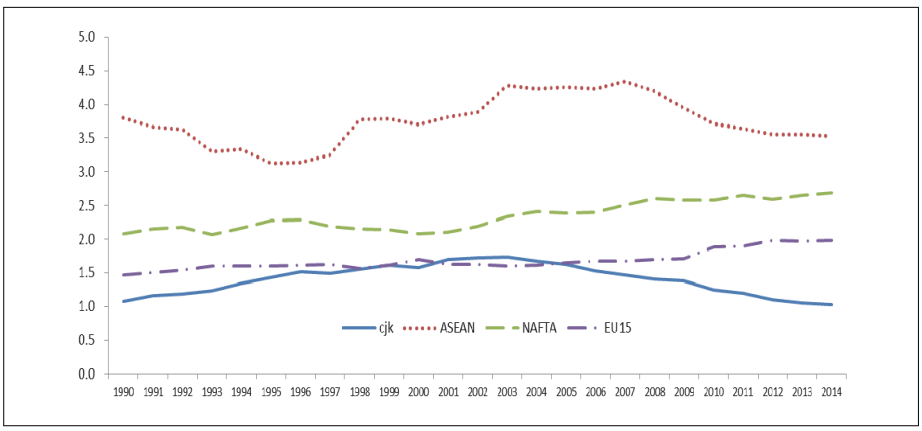
Figure 3. Trends in intra-regional trade in China, Japan, and Korea

(unit: %)



Source: International Monetary Fund (IMF), *Direction of Trade Statistics* (2015).

Figure 4. Simple concentration ratio of China, Japan, and Korea



Source: Calculated from International Monetary Fund (IMF), *Direction of Trade Statistics* (2015).

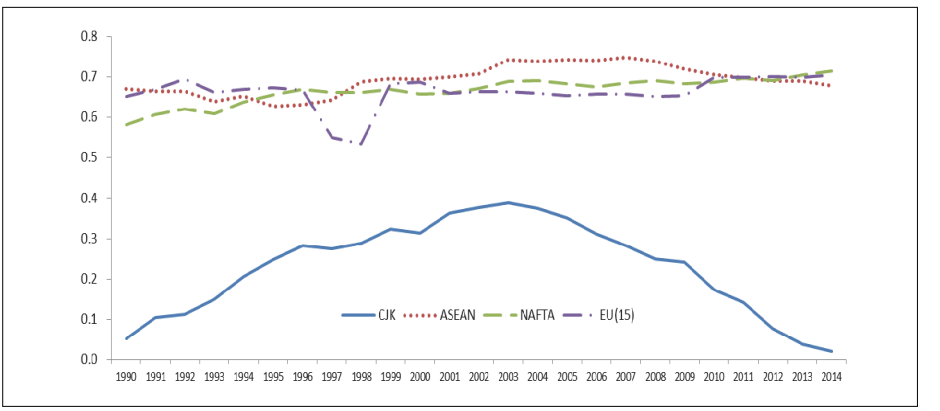
For 1990-2014, the intra-regional trade intensity of the three countries has been much lower than those of the EU, NAFTA, and ASEAN. Only between 2001 and 2004 was it slightly higher than that of the EU.

But this simple concentration ratio has a lacuna in that it considers only internal bias. Thus comes the third indicator, regional trade introversion index, which takes into account both intra-regional bias and extra-regional bias of trade. If it is greater than zero, the region's trade has an intra-regional bias.[2)]

As shown in Figure 5, the level of intra-regional trade integration between China, Japan and Korea rose gradually up to 2003 before falling steadily until 2014. Furthermore, there exist huge gaps between China-Japan-Korea and the other groups including ASEAN, the EU, and NAFTA, in terms of levels of intra-regional trade integration. On the one hand, regional introversion index of the three countries increased from 0.052 in 1990 to 0.388 in 2003 before

2) Shintaro Hamanaka, "Is Trade in Asia Really Integrating," *ADB Working Paper Series on Regional Economic Integration*, Asian Development Bank (2012); Lee Chang Jae et al., *Trilateral Economic Cooperation: Proposal for Enhancing Economic Cooperation Dialogue Channels among China, Japan, and Korea*, Korea Institute for International Economic Policy (Seoul, Korea: 2012).

Figure 5. Regional introversion index of China, Japan, and Korea



Source: Calculated from International Monetary Fund (IMF), *Direction of Trade Statistics* (2015).

diminishing to 0.021 in 2014. On the other hand, during the same period, those of other regions fluctuated between 0.535 and 0.749. According to regional trade introversion index, in 2014, there is almost no intra-regional trade bias (0.021) among the three Northeast Asian countries, while there exist high intra-regional trade biases in ASEAN (0.678), the EU (0.704), and NAFTA (0.715).

All three indicators reveal that the level of intra-regional trade integration between the three Northeast Asian countries has declined since 2003 or 2004, and that it was much lower than those of ASEAN, the EU and NAFTA in 2014.

China-Japan-Korea FTA (CJK FTA)

FTAs in China, Japan, and Korea

Although China, Japan, and Korea joined the trend of economic regionalism belatedly (it became a worldwide phenomenon in the 1990s), they have pursued rather active FTA policies. As a result, all three countries have concluded many FTAs, and negotiations for many other FTAs are under way.

Table 1 shows the list of countries or regions with which China, Japan, and Korea, respectively, signed FTAs that went into effect, signed FTAs that have yet to go into effect, and launched FTA negotiations, including ongoing

Table 1. Current Status of FTAs in China, Japan, and Korea

	China	Japan	Korea
Signed and in effect	ASEAN Asia-Pacific Trade Agreement Chile Costa Rica Hong Kong Iceland Macao New Zealand Pakistan Peru Singapore Switzerland Taipei Thailand	ASEAN Australia Brunei Chile India Indonesia Malaysia Mexico Peru Philippines Singapore Switzerland Thailand Vietnam	ASEAN Asia-Pacific Trade Agreement Australia Canada Chile EFTA European Union India Peru Singapore Turkey United States
Signed but not yet in effect	Australia Korea	Mongolia	China Colombia New Zealand Vietnam
Negotiations launched	GCC CJK FTA Norway RCEP Sri Lanka Southern African Customs Union	Canada CJK FTA Colombia European Union GCC Korea RCEP TPP Turkey	Japan CJK FTA GCC Indonesia Mexico RCEP

Sources: Asian Development Bank (ADB), Asia Regional Economic Integration Center; Ministry of Industry, Trade and Energy of South Korea; Japanese Ministry of Foreign Affairs; Free Trade Agreement and Economic Partnership Agreement; Ministry of Commerce of China; China FTA Network.

FTA negotiations as well as those currently not under negotiation.

China concluded FTAs with ASEAN, Chile, Costa Rica, Iceland, New Zealand, Pakistan, Peru, Singapore, Switzerland, and Thailand. China also signed Closer Economic Partnership Arrangements (CEPAs) with Hong Kong and Macao, respectively, and concluded an Economic Cooperation Framework Agreement (ECFA) with Taipei. China also belongs to the Asia-Pacific Trade Agreement. All these FTAs have gone into effect. In addition, China concluded FTAs with Australia and Korea, respectively, but these FTAs are not yet in effect. Furthermore, China launched FTA negotiations with the Gulf Cooperation Council (GCC), Norway, Sri Lanka, and the Southern African Customs Union; China has also been involved in the CJK FTA and Regional Comprehensive Economic Partnership (RCEP) negotiations.

Japan has signed FTAs (EPAs) with ASEAN, Australia, Brunei, Chile, India, Indonesia, Malaysia, Mexico, Peru, the Philippines, Singapore, Switzerland, Thailand, and Vietnam—all are in effect. Japan also signed an FTA with Mongolia, but as of this writing it is not yet in effect. In addition, Japan has launched FTA negotiations with Canada, Columbia, European Union (EU), GCC, Korea, and Turkey. Japan has also been involved in FTA negotiations for the CJK FTA, RCEP, and Trans-Pacific Partnership (TPP).

Korea concluded FTAs with ASEAN, Australia, Canada, Chile, the European Free Trade Association (EFTA), the EU, India, Peru, Singapore, Turkey, and the United States (all of which are in effect). Korea also belongs to the Asia-Pacific Trade Agreement. Recently, Korea has signed FTAs with China, Columbia, New Zealand, and Vietnam, but they are not yet in effect. In addition, Korea has launched FTAs with Japan, GCC, Indonesia, and Mexico. It is also currently involved in the CJK FTA and RCEP negotiations.

It is interesting to note that the three countries share some common FTA partners such as, ASEAN, Chile, Peru, Singapore, and Australia for signed FTAs and the GCC, with whom negotiations have been launched. Moreover, the three countries are participating in RCEP negotiations in addition to the CJK FTA negotiations.

As for bilateral FTAs, the recently-concluded China-Korea FTA warrants

special attention. On the other hand, the prospects for Japan-Korea FTA negotiations—which started in December 2003 and have been stalled since December 2004—seem uncertain.

CJK FTA Negotiations

Seven rounds of FTA negotiations and a working level meeting for the eighth round had been held as of 2015, as part of a long process that began with the first round of CJK FTA negotiations that took place in Seoul in March 2013. Beginning with the sixth round of negotiations, each round has consisted of two separate meetings: a working level (DG/DDG level) meeting followed by a Chief Delegate level meeting. In the sixth round, the working level meeting took place in Tokyo in November 2014 and the Chief Delegate level meeting was held in January 2015, also in Tokyo. For the seventh round, the working level meeting was held in April 2015 and the Chief Delegate level in May 2015, both in Seoul. Most recently, the working level meeting of the eighth round took place in Beijing in July 2015.

After more than two years since the launch of CJK FTA negotiations, overall, the CJK FTA negotiations have not produced the expected results, although some limited progress has been made.

Regarding trade in goods, the three countries have not reached consensus on modality and thus have not yet entered into R/O (request and offer) negotiations. They have only agreed that "one common schedule should be the main means of the CJK FT commitments, while the possibility of bilateral schedules could be explored to achieve a higher level of liberalization." As for trade in services, they could not reach a consensus on liberalization methods.

On the other hand, regarding investment, the three parties agreed to adopt a negative list approach, and it seems that progress has been made in intellectual property rights, competition policy, rules of origin (ROO), SPS, and TBT.

Prospects for CJK FTA Negotiations

The slow progress of the CJK FTA negotiations and their disappointing results can be explained mainly by the lack of leadership and weakened momentum for the CJK FTA. First, this is somewhat expected given other ongoing FTAs. It is understandable that China and Korea would be more focused on the China-Korea FTA negotiations than the CJK FTA negotiations during the period of bilateral FTA negotiations. Moreover, Japan has been absorbed in the TPP negotiations.

More importantly, Sino-Japanese relations as well as Japan-Korea relations in the political arena have significantly deteriorated since the launch of CJK FTA negotiations. In fact, the Trilateral Summit Meeting, intended to be held annually since 2008, has not taken place since 2012. Under these circumstances, the negotiators of the three countries seemed to have attempted to acquire more favorable positions for their countries before entering the real negotiations.

Now that the China-Korea FTA has been concluded and that the TPP is likely be settled, the prospects for CJK FTA negotiations will largely depend on the changes in political relations among the three countries. In fact, leaders of the three countries have been instrumental in the CJK FTA since the preparation period, and negotiations started following the agreement reached at the Fifth Trilateral Summit Meeting in Beijing.

Conclusion

Northeast Asian economic integration is facing serious challenges both in terms of functional economic integration and institutional economic integration. China, Japan, and Korea are experiencing slowdowns and reductions in their trade, and the importance of intra-regional trade among the three countries has decreased markedly, while the CJK FTA negotiations have not produced anticipated results (partially because of the deterioration of political relations among the three countries). Given the serious difficulties the three Northeast

Asian countries are facing, they should find ways to break the current political deadlock and revive the momentum to advance Northeast Asian economic cooperation.

In the short run, the resumption of a Trilateral Summit Meeting is needed to provide new momentum for the CJK FTA. In particular, since Korea is the hosting country for the coming Sixth Trilateral Summit Meeting, the role of the Korean government is particularly important. Although resumption of the Trilateral Summit Meeting would not solve all the difficulties facing the CJK FTA negotiations, it would provide much needed leadership for the successful realization of the CJK FTA.

Then, in order to enhance Northeast Asian economic cooperation and to advance institutional economic integration, a focal point is needed to provide a clear vision for Northeast Asian economic cooperation. ASEAN countries are pursuing the establishment of the ASEAN Economic Community by the end of 2015, and the East Asia Vision Group II set the goal of establishing the East Asian Economic Community by 2020. Thus, it is time for Northeast Asian countries to begin serious discussions on building a Northeast Asian Economic Community. Given the existence of the Trilateral Summit Meetings and the ongoing CJK FTA negotiations, China, Japan, and Korea should assume the key role of initiating the process.

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A Northeast Asian Economic Community: A Chinese Perspective

Fu Jingyun

The aim of this paper is to provide an overview of China's FTA and regional economic integration policies. This paper starts with the evolution of China's FTA and regional economic integration policies, then presents the whole process of how China builds up its FTA network. It analyzes the characteristics of China's FTA policies, prospects, and challenges of building a Northeast Asian economic community and concludes by exploring the prospects of China's FTA and regional cooperation policies and their implications for the region.

Evolution of China's FTA and Regional Economic Integration Policies

In the 1990s, due to the breakdown of the Doha Round negotiations, multilateral trade talks failed to achieve substantive results. Many countries turned to regional integration and bilateral FTAs. In the context of rapid development of regional economic integration, China realized the importance and urgency of participating in regional integration and building up its FTA network. After joining the WTO in 2001, China began to focus on the construction of FTAs. The evolution of China's FTA policies is closely related to the practice of its participating in bilateral and regional FTAs.

At the fourth China-ASEAN summit held in Singapore in November 2000, China proposed to study the feasibilities of establishing a China-ASEAN FTA.

This was China's first proposal for FTA construction. According to China's fifteen-year plan released in March 2001, China proposed to "actively participate in the multilateral trading system and international and regional economic cooperation." This is China's first official document explicitly putting regional economic cooperation and multilateral trade liberalization on an equally important position. The "Foreign Trade Law" revised in 2004 clearly stipulates that China will, "according to the principle of equality and mutual benefit, promote and develop trade relations with other countries and regions, conclude or accede to customs union agreements, FTAs and other regional economic agreements, participate in regional economic organizations." This laid a legal foundation for China's participation in regional economic integration.

In the early 2000s, in the face of further reform and opening-up, China began to actively promote regional economic integration. Joining the Asia-Pacific Trade Agreement in 2001 in particular opened the door for China's regional economic cooperation. China has signed FTAs with ASEAN, Hong Kong SAR, Macao SAR, Chile, Pakistan, New Zealand, Singapore, Peru, and Costa Rica. China's FTA practice started to go beyond its periphery and expand to other parts of the world.

Due to economic stagnation or even recession of the world economy since the global financial crisis in 2007, re-establishing competitive advantages through structural reform has become an urgent task for China. In October 2007, the report of the 17th CPC National Congress clearly proposes to "implement FTA strategy, expand bilateral and multilateral trade and economic cooperation." This is the first time that China put forward FTAs as a national strategy, which means that China started to plan FTAs from a national strategic level. The report of the 17th CPC National Congress also proposes to "simultaneously deepen opening up in coastal areas and open inland and border areas." The opening up of coastal areas, inland and borders and their participation in subregional cooperation constitute a significant part of China's new diplomacy and regional strategy.

The first year of China's 12th Five-Year Plan period was 2011. The 12th Five-Year Plan made it clear that "the implementation of mutually beneficial and win-win strategy of opening up and further improving the level of opening

up" will be the basic goal, while "to guide and promote the regional cooperation process, accelerate the implementation of the FTA Strategy" will be a strategic task in developing external economic relations in the next five years. In the next five years or even longer, China will continue to implement FTA strategy, make efforts to expand the benefits from FTAs, in order to provide a new impetus for economic growth for China and its trading partners.

The report of the 18th CPC National Congress in 2012 proposes "in response to new developments in economic globalization, [to] implement a more proactive opening up strategy and improve the open economy so that it promotes mutual benefits and is diversified, balanced, secure and efficient." "It also emphasizes that "[China] should make overall planning for bilateral, multilateral, regional, and subregional opening up and cooperation, accelerate implementation of the strategy of building free trade areas, and promote infrastructure connectivity with our neighboring countries."

In August 2013, the State Council of China officially approved the establishment of the Shanghai Free Trade Zone. In September, the State Council released the "Overall Program of China (Shanghai) Pilot Free Trade Zone," and the Shanghai Free Trade Zone was formally established. The overall goal of the Shanghai Free Trade Zone is to promote the formation of an investment and innovation support system, to foster a legal environment of international business, to build itself into a world-class free trade zone with investment and trade facilitation, free currency exchange, convenient and efficient regulatory environment. Thus, the Shanghai Free Trade Zone will provide new ideas and approaches for China's deepening of reform and opening up.

In 2013, China proposed the "One Belt, One Road" initiative, which is a grand development strategy and framework focusing on connectivity and cooperation among Eurasian countries. In 2015, China presented the "One Belt, One Road" Action Plan. According to this action plan, "on land, the Initiative will focus on jointly building a new Eurasian Land Bridge and developing China-Mongolia-Russia, China-Central Asia-West Asia, and China-Indochina Peninsula economic corridors by taking advantage of international transport routes, relying on core cities along the 'Belt and Road' and using key economic

industrial parks as cooperation platforms." At the same time, China will "give full play to Inner Mongolia's proximity to Mongolia and Russia, improve the railway links connecting Heilongjiang province with Russia and the regional railway network, strengthen cooperation between China's Heilongjiang, Jilin, and Liaoning provinces and Russia's Far East region through sea-land multimodal transport, and advance the construction of a Eurasian high-speed transport corridor linking Beijing and Moscow with the goal of building key windows opening to the north." The action plan actually doesn't place much more emphasis on Northeast Asia expect through China-Mongolia-Russia trilateral economic cooperation, because Tumen River economic cooperation hasn't achieved much progress due to the security dilemma of the Korean peninsula and because China-Japan-Korea (CJK) FTA talks encountered bottlenecks due to tensions in China-Japan bilateral relations.

Overview of China's FTA Network

As of 2015 China had 19 FTAs under construction, involving 32 countries and regions. Among them, 12 FTAs had been signed and seven were under negotiation. The 12 signed FTAs cover 20 countries and regions, namely FTAs with ASEAN, Singapore, Pakistan, New Zealand, Chile, Peru, Costa Rica, Iceland, Switzerland, ROK, Australia, and CEPAs with Hong Kong SAR and Macao SAR, as well as an ECFA with Taiwan (China). The seven FTAs under negotiation involving 22 countries were the China-GCC FTA, China-Norway FTA, China-Japan-Korea FTA, the Regional Comprehensive Economic Partnership (RCEP), China-ASEAN FTA upgrade, and China-Sri Lanka and China-Maldives FTA. In addition, China and India had completed joint study on RTA, while China and Columbia were working on an FTA feasibility study.

From Participating in Regional Integration to Gradual Build-up of FTA Network

In order to improve the level of reform and opening up and respond to

the development of regional economic integration, China began to participate in Asian regional economic cooperation. Joining APEC in 1991 opened the door for China's participation in regional economic cooperation. In 1996, China, Russia, Kazakhstan, Kyrgyzstan, and Tajikistan co-founded the Shanghai Cooperation Organization. The Asian financial crisis in 1997 gave birth to the formation of a cooperation mechanisms in East Asia. The signing and implementation of the "Chiang Mai Initiative" is a historic turning point for East Asia toward regional monetary cooperation.

At the fourth China-ASEAN summit held in Singapore in 2000, China firstly proposed the establishment of a China-ASEAN FTA. In May 2001, China formally joined the Asia-Pacific Trade Agreement (APTA). In November 2002, China and ASEAN signed a framework agreement on Comprehensive Economic Cooperation. This was China's first formal conclusion and implementation of an FTA. The Agreement on trade in goods under the Framework Agreement on Comprehensive Economic Cooperation between China and ASEAN began in 2004, while the Agreement on trade in services was implemented in 2007. This was also China's first agreement on trade in services under framework agreement of FTA.

In June and October 2003, mainland China and Hong Kong SAR, Macao SAR separately signed the Closer Economic Partnership Arrangement (CEPA), which includes trade in goods, trade in services, and trade and investment facilitation. CEPA between mainland China and Hong Kong SAR, Macao SAR, which belong to trade agreements subject to China's jurisdictional sovereignty, are high standard FTAs and also the first implemented comprehensive FTAs. In January 2005, China and Chile signed a free trade agreement, which was China's first FTA with a Latin American country. In November 2006, China and Pakistan signed a free trade agreement, which came into effect in July 2007.

China's FTA Practices after the Global Financial Crisis of 2007

In April 2008, China signed a free trade agreement with New Zealand. This was China's first FTA with a developed country and also China's first FTA (signed with other countries) covering trade in goods, trade in services, and

investment. Since the launching of FTA negotiations in September 2006, China and Chile concluded a supplementary agreement on trade in services in April 2008, which was China's first FTA on trade in services signed with a Latin American country. In October 2008, China and Singapore signed an FTA and Memorandum of Understanding on Labor Cooperation. The Agreement covers trade in goods, trade in services, movement of persons, and customs procedures, which help to accelerate the process of trade liberalization under the framework of CAFTA. After signing an FTA Supplementary Protocol in October 2008, China and Pakistan signed an FTA on trade in services, which is the deepest and most comprehensive FTA among the FTAs of the two countries. In April 2009, China and Peru signed an FTA, which covers not only trade in goods, trade in services and investment, but protection of intellectual property rights, trade remedies, rules of origin, customs procedures, technical barriers to trade (TBT), and sanitary and phytosanitary measures (SPS). In April 2010, China and Costa Rica signed a free trade agreement, which was China's first FTA signed with a Central American country. In April 2013, China signed a free trade agreement with Iceland, which was China's first FTA with a European country, covering trade in goods, trade in services, investment and other areas. In July, China and Switzerland signed a free trade agreement, which was China's first single package FTA with a European country.

Meanwhile, the China-ASEAN FTA has been continuously expanded and deepened. In August 2009, the China-ASEAN Investment Agreement was signed. In 2010, the China-ASEAN FTA was fully completed, which means that 90 percent of imported goods would have reduced tariffs to zero. This reduction took effect between China and the six original members of ASEAN (Brunei, Indonesia, Malaysia, the Philippines, Singapore and Thailand), while the remaining four ASEAN countries are scheduled to follow suit in 2015.

Therefore, China's participation in regional integration shows the trend of deepening integration, mainly from open border to the reduction of non-tariff barriers to trade in services and investment. At the same time, China's choice of potential FTA partners is expanding from developing countries to developed countries.

Table 1. Main Provisions of China's FTAs

	Trade in goods	Rules of origin	Trade in services	Invest-ment	Compe-tition	Govt procure ment	Intellectual property	Environ-ment	Labor coop
China-ASEAN	✓	✓	✓	✓	x	x	x	x	x
China-Pakistan	✓	✓	✓	✓	x	x	x	x	x
China-Chile	✓	✓	✓	x	x	x	x	✓	✓
China-New Zealand	✓	✓	✓	✓	x	x	✓	✓	✓
China-Singapore	✓	✓	✓	✓	x	x	x	x	x
China-Peru	✓	✓	✓	✓	x	x	x	x	x
China-Costa Rica	✓	✓	✓	✓	x	x	✓	x	x
China-Iceland	✓	✓	✓	✓	✓	x	✓	x	x
China-Switzerland	✓	✓	✓	✓	✓	x	✓	✓	x

Characteristics of China's FTA Policies

Judging from China's FTA practices, China has basically adopted a step-by-step principle in FTA negotiations. China's overall objectives in FTA policies include four elements, namely market, capital, technology, and energy. In other words, China's FTA policies are oriented toward export markets, strategic resource suppliers, technical and financial sources to create a favorable external environment for China's sustainable economic growth.

Regarding the choice of negotiating partners, China prefers to select neighboring developing countries, gradually expand to emerging markets, and finally the developed countries. Such sequence is understandable, considering that China needed to accumulate experience in FTA negotiations and test FTA impact on its economy. Therefore, most of China's FTA negotiating partners were small economies and their bilateral trade with China occupied an insignificant share in China's overall volume of trade. So far, China has not started bilateral FTA negotiations with its major trading partners (such as the US, EU,

and Japan).

Secondly, FTAs signed by China show a trend of deepening integration. Previously, China's FTAs were dominated by trade in goods, where tariff reductions and quota elimination were the focus. Only after the commitments on goods have been substantially implemented, would China expand to trade in services and investment. With regard to non-traditional trade-related issues, such as environmental protection, competition policies and protection of intellectual property rights, China has shown more willingness to include them as part of the FTA package.

Prospects of China's FTA Policies and Their Implications for the Region

New Platform to Further Open Up to the Outside and Speed Up Domestic Reforms

With further deepening of reform and opening up, China's economic growth is now facing many bottleneck issues. Macroeconomic policies are increasingly constrained by external factors. Industrial upgrading and restructuring is now undergoing a difficult period of adjustment. Structural contradictions, such as investment and demand, internal and external demands, are becoming severe. Moreover, China's long-term economic growth is experiencing serious energy shortages.

According to the report of the 18th CPC National Congress, in response to new developments in economic globalization, China will "implement a more proactive opening up strategy and improve the open economy." In such a case, China will "move faster to change the way the external-oriented economy grows, and make China's open economy become better structured, expand in scope and yield greater returns." It will "continue to attach equal importance to exports and imports, better coordinate trade and industrial policies, and make China's exports more competitive in terms of technology, brand, quality and service," "transform and upgrade processing trade, develop service trade, and promote

balanced development of foreign trade."

Therefore, the Chinese government deems FTAs as a new platform to further opening up to the outside and speeding up domestic reforms, as an effective approach to integrate into the global economy and strengthen economic cooperation with other economies, and as a particularly important supplement to the multilateral trading system.

More Targeting Developed Countries as Future FTA Negotiating Partners

China's previous FTA negotiating partners were mainly developing economies and smaller developed countries. At the same time, China pursued a step-by-step FTA model. As a result, China lacks the experience to negotiate FTAs with developed economies. In the future, China's FTA negotiations will target the developed economies, while the provisions of FTAs will expand from open border to the reduction of non-tariff barriers to trade and investment. Deep integration is the current trend of China's FTA polices, which cover trade in goods, trade in services, investment, competition, environment, protection of intellectual property rights, etc.

Proactively Responding to New Trends in the Global Trading System

Developed countries are now rebuilding international trade and investment rules. The US and the EU have embarked on Transatlantic Trade and Investment Partnership (TTIP) negotiations. In order to deepen its engagement with countries in the Asia-Pacific region, the US actively advanced TPP talks with APEC member countries. In 2013, Japan formally entered TPP negotiations, while the CJK FTA negotiations did not manage to achieve substantive results.

Obliviously, adjustments in the global trading system pose great challenges to China's future economic growth. New rounds of FTA negotiations on trade in services and investment inevitably require China to further open its financial sector. This involves regulatory reform on capital account convertibility, market interest rates, RMB use in cross-border trade, etc. When the Chinese economy

is moving toward higher value-added industry and liberalization of trade in services, it is a must for China to fully integrate into the global financial system.

The Shanghai Free Trade Zone, seen as a testbed for financial reforms, has domestic exemplary significance. The reforms expected to be implemented in the Shanghai Free Trade Zone mainly aim to further clarify the relationship between government and markets, to encourage new growth momentum through "institutional innovation" and to develop an institutional framework that is more consistent with international trade and investment rules.

Providing More Regional Public Goods for Neighboring Counties in the Process of Economic Integration

With the rapid development of Asian economic integration, the intra-regional economic connections among Asian countries are getting increasingly closer. Nevertheless, in terms of regional cooperation mechanisms, Asia lags behind the EU and NAFTA. In order to enhance the level of Asian economic integration, Asian countries should endeavor to provide regional public goods. China is now actively involved in this process. Considering the demand and benefit expectation of its neighboring countries, China is strengthening its cooperation on connectivity with ASEAN countries, Central Asian countries, and South Asian countries; this includes infrastructure, institutional, and people-to-people connectivity. As a result, China and neighboring countries will realize win-win cooperation and achieve common prosperity in this region.

Prospects and Challenges in Building a Northeast Asian Economic Community

Northeast Asia has great potential for economic cooperation and integration, however, this region lags behind in regional economic cooperation mechanisms. While the intraregional countries have increasing demand for economic integration, the security dilemma persists in Northeast Asia. Considering huge differences in economic level and structure, economic cooperation in Northeast Asia will likely develop in two parallel dimensions. One is to promote functional cooperation

among China-Mongolia-Russia and China-DPRK-ROK-Russia by building economic corridors and promoting the Tumen River Initiative. The other is to implement a China-Korea FTA to boost the economic growth of the two countries and set a good example for further Northeast Asian economic integration. Thus, Northeast Asian countries will adopt a more pragmatic approach in economic cooperation. Endogenous demand for economic integration is of vital importance for building a Northeast Asian economic community.

A Northeast Asian Economic Community: A Japanese Perspective

Yasuo Tanabe

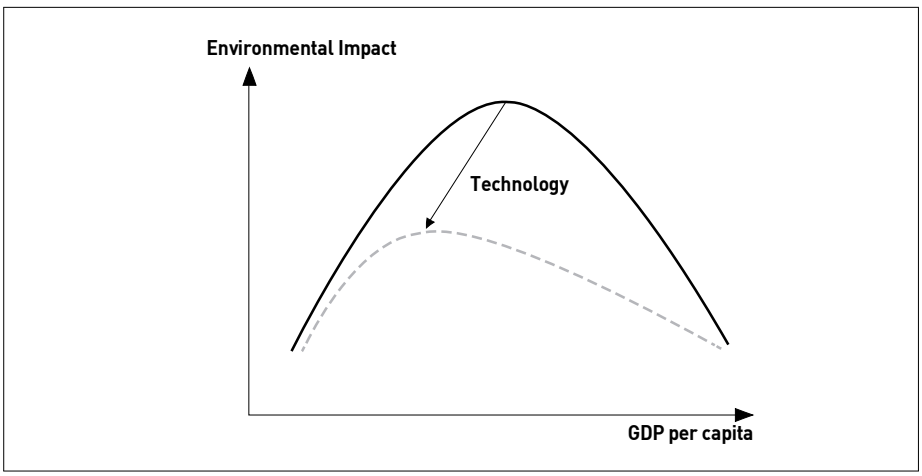
A Northeast Asian Economic Community

When envisioning a Northeast Asian Economic Community, we ask ourselves what kind of community we wish to achieve and what kind of community building process is best for this region. An approach based on functional cooperation is commonly viewed as the most appropriate for Northeast Asia. An Asian energy partnership through which Japan, China, and Korea work together to address global energy and climate change challenges represents a promising form of such functional cooperation.

An Asian Energy Partnership

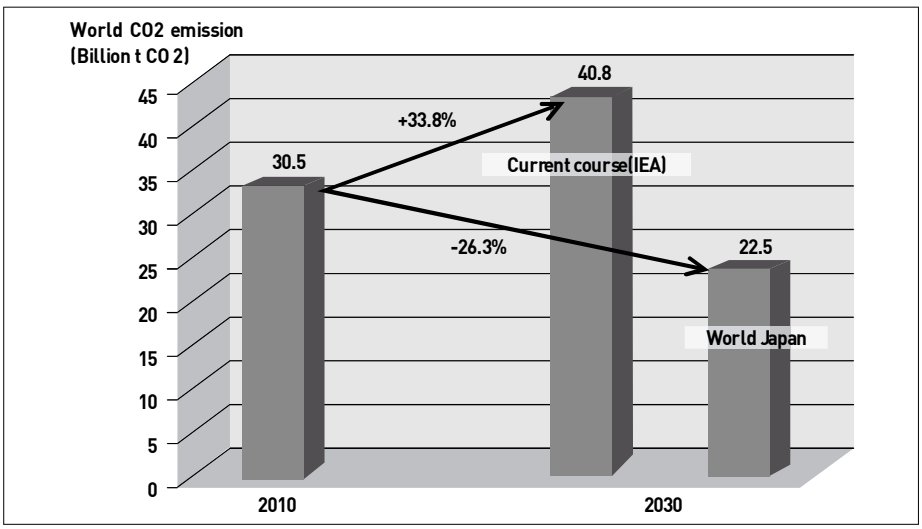
The rationale for an Asian energy partnership is clear: to meet the energy demands of the region and to mitigate environmental harm. The warming of the climate system is unequivocal. From a Japanese perspective, action is needed to challenge the environmental impact Kuznets curve, and Japan is in a position to work with regional neighbors toward achieving greater energy efficiency and technological advances and innovation.

Figure 1. Environmental Kuznets curve should be challenged



Source: Tanabe Yasuo.

Figure 2. If the world realized Japan's efficiency

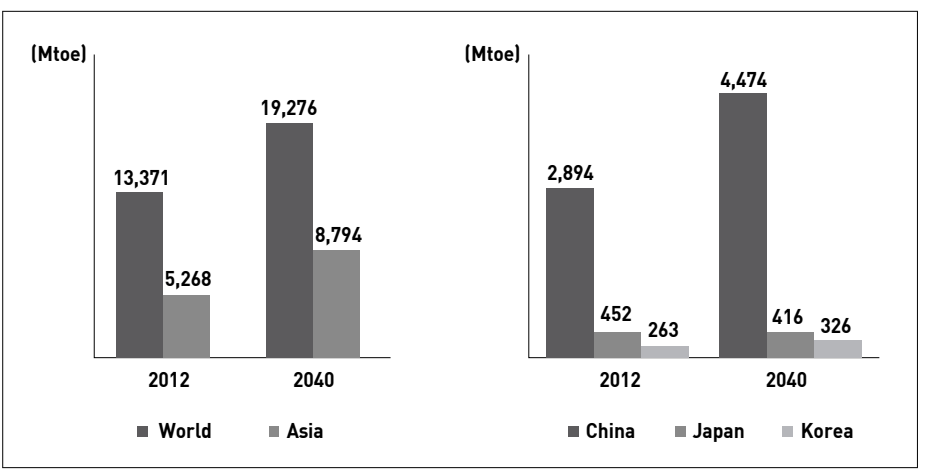


Source: Estimated by Tanabe Yasuo based on World Energy Outlook/International Energy Agency (IEA).

Common Interests in Energy Efficiency

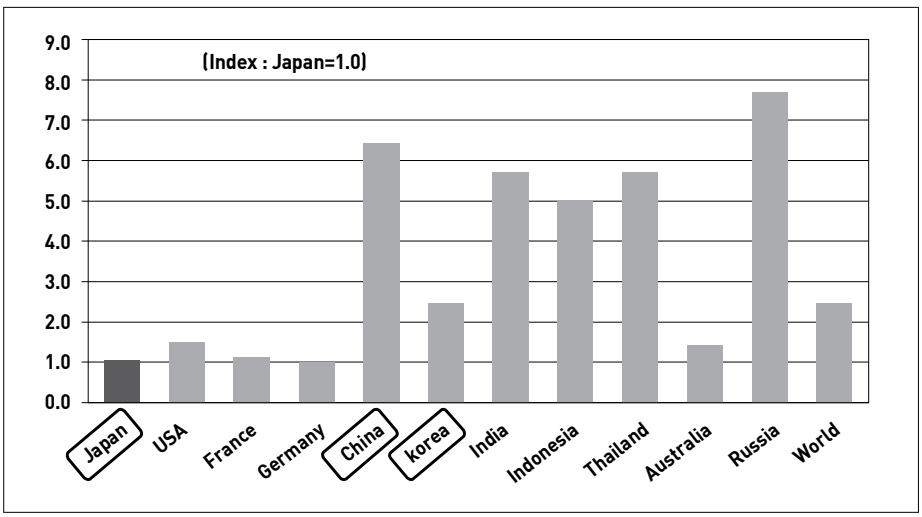
Based on an acknowledgement that the warming of the climate system is unequivocal, we understand that concrete actions are needed for a 50% reduction in global greenhouse gas (GHG) emissions and an 80% reduction by developed countries by 2015. Thus, Japan is pursuing actions for a clean earth (ACE): 1) innovation of low carbon technologies, 2) application of existing technologies, and 3) partnerships with various stakeholders. Japan endeavors to work in partnership with other countries to achieve a 50% reduction in annual GHG emissions by 2050 through technology innovation and application. Japan's ACE strategy is particularly applicable to Asia—a region where energy demand is expected to grow. In Asia, China is the largest energy consumer and emitter of CO_2; Korea has a similar energy mix as Japan and it is expected to experience growing energy demand; Japan is expected to reach saturation levels in energy demand with high efficiency. Figures 3 through 6 provide a snapshot of energy consumption and energy intensity for Japan, China, and Korea and illustrate their common interests in energy efficiency.

Figure 3. Primary energy consumption



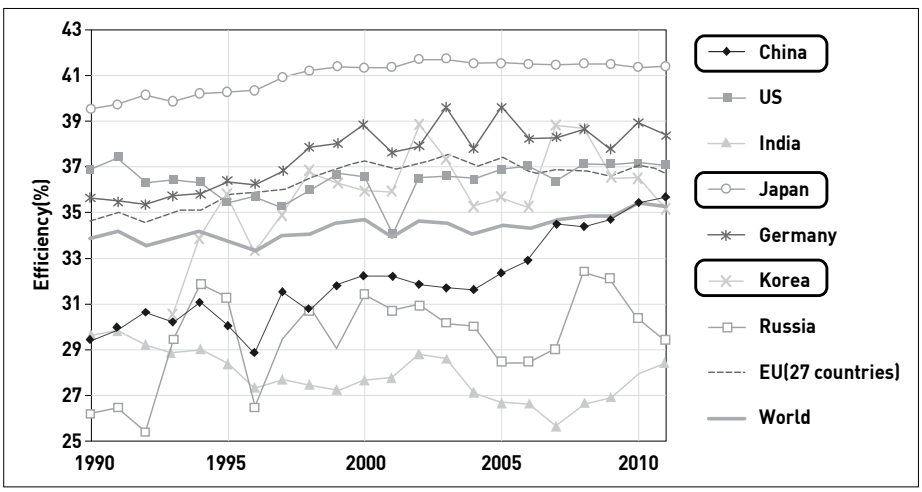
Source: Institute of Energy Economics of Japan (IEEJ) and Asia Energy Outlook 2014.

Figure 4. Primary energy supply per GDP unit of each country (2012)



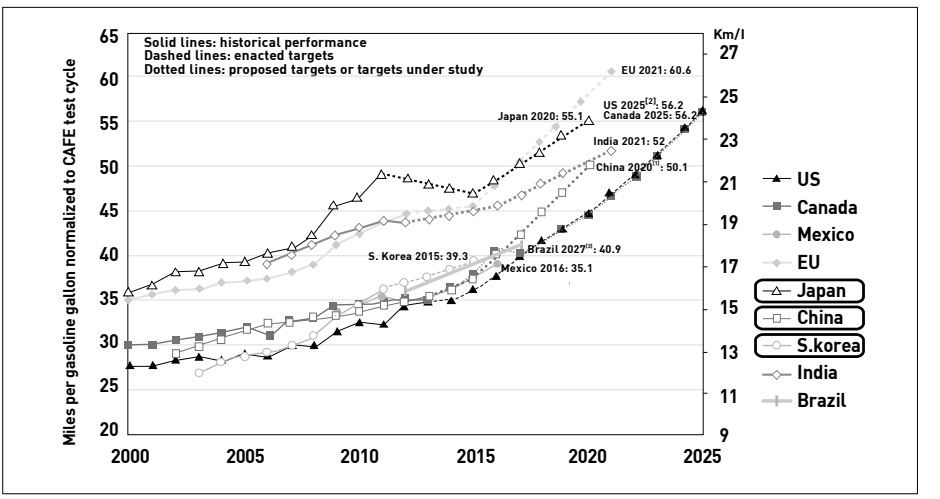
Source: Calculated based on International Energy Agency (IEA) statistics.

Figure 5. Thermal efficiency of coal-fired thermal power



Source: Research Institute of Innovative Technology for the Earth (RITE).

Figure 6. Passenger car fuel efficiency

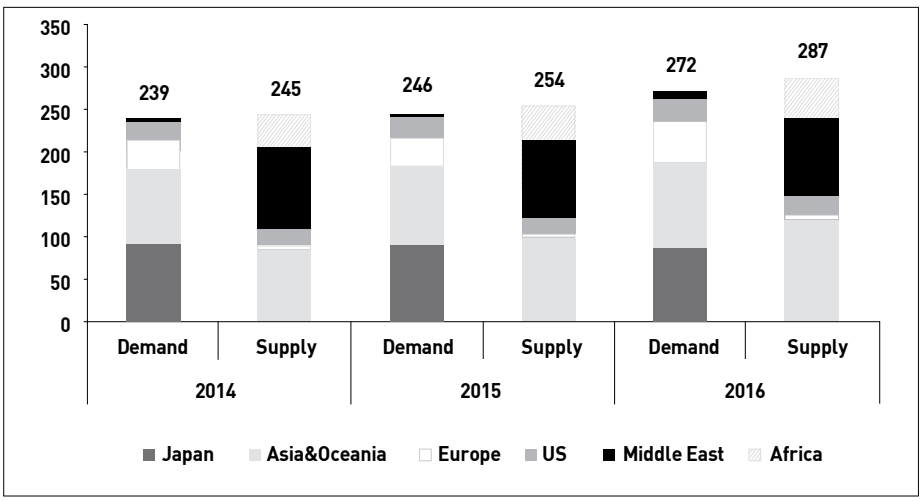


Source: International Council on Clean Transportation (ICCT).

Common Interests in Natural Gas, Oil, and Coal

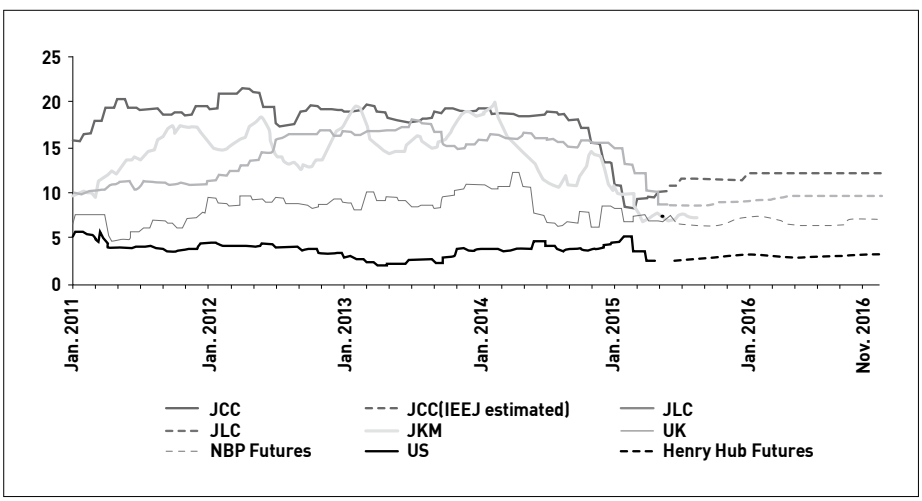
The demand for natural gas in Asia is expanding as a result the availability and potential supply of gas from new projects. Asia is emerging as an expanding import market. The price of LNG for import to Japan has dropped (along with the price drops for crude oil) which means that the 'Asian premium' has decreased (although problems remain). The 2015-2016 estimate for LNG import price is US$8.8-9.7/MMBtu. The nature of gas markets is changing. Asian consumer could gain more bargaining power through a collective approach, for example, through joint procurement and joint development. Contract formulas could be made more flexible—indexing, destination clauses, etc.

Figure 7. LNG demand/supply outlook (M tons)



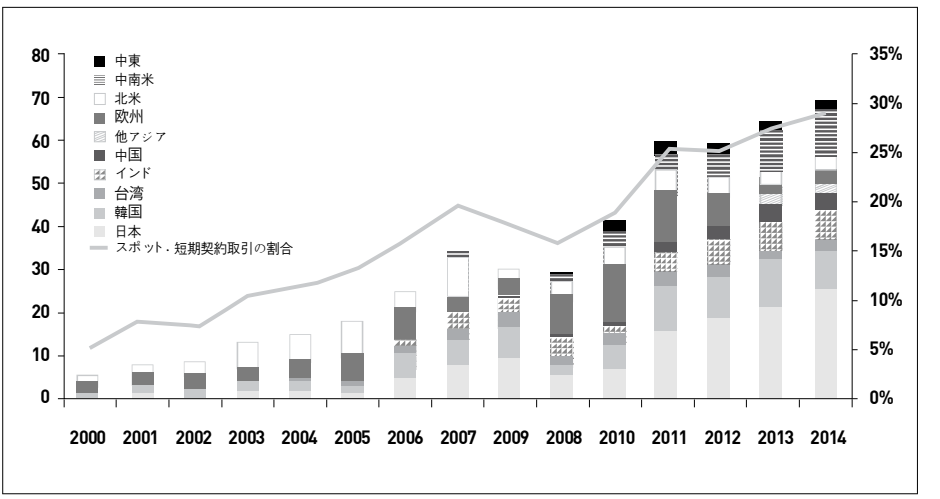
Source: Institute of Energy Economics of Japan (IEEJ).

Figure 8. Prices of natural gas ($/MMBtu)



Source: Institute of Energy Economics of Japan (IEEJ).

Figure 9. LNG spot/short-term transactions (M tons)



Source: Institute of Energy Economics of Japan (IEEJ).

Historically, Asian countries have paid a premium in their crude oil import price; this seems to be changing with Saudi Arabia no longer appearing able to command a premium price. This situation requires further monitoring. Another of area of note is in stockpiling. Japan and Korea are fulfilling their commitments to the International Energy Agency (IEA) of keeping 90 days' worth of net imports of oil, while China is increasing its stockpile. An important area of cooperation is in emergency response—an emergency response mechanism should be in place not only at the country level, but regionally as well.

Coal in the region and beyond is abundant and is relatively cheap and it will continue to be a realistic source of energy for Northeast Asia. Coal, however, is notorious for its high environmental impact, thus clean coal technologies should be encouraged more to remove or reduce pollutant emissions (SOx, NOx, CO2). These technologies include highly efficient thermal power generation, gasification (integrated gasification combined cycle or IGCC, for example), carbon capture and storage (CCS), etc.

Japan-China Energy Conservation Forum

Japan and China have made important strides in energy cooperation through their establishment of the Japan-China Energy Conservation Forum. The objectives of the forum are to deliver messages on mutually beneficial cooperation and to expand business opportunities and cooperation. Eight joint forums were held and 259 projects registered as of the end of 2014. Hitachi has participated since the first forum and has signed an agreement with China's National Development and Reform Commission (NRDC) on promoting a low-carbon/resource-recycling society, this has led to a number of cooperative projects.

Conclusion

Given their common interests, Japan, China, and Korea should adopt a functional cooperation approach to energy and climate change challenges. The three countries should work together in areas of common interest such as energy efficiency, natural gas, oil, coal, as well as nuclear energy. Businesses should play a key role in energy cooperation and should lead government policy. Finally, in view of supply chain patterns in the region, an Asian energy partnership should proceed in line with economic integration, including a free trade agreement (FTA).

A Northeast Asian Economic Community: A Russian Perspective

Sergei Sevastianov

Introduction

Northeast Asia (NEA) plays a growing role for Russia, because Moscow aims to use its political and economic relations with Asian states to enhance the economic development and comprehensive security of the Russian Far East (RFE) and Eastern Siberia. To clarify this thesis it is important to provide an operating definition of NEA, and what parts of eastern Russia could cooperate (or at best become economically integrated) with its Asian neighbors.

According to the Russian classical point of view, NEA comprises: Northeast China, Japan, ROK, DPRK, Mongolia, and the Russia Far East. However, NEA countries trying to find ways to integrate the Russian Far East's territories should not consider them as a separate entity, but only as an undivided part of Russia as a whole. It is natural to look at Eastern Siberia as a region connecting European Russia with its Far Eastern territories in a geographical and political sense. The Russian Federation government while proposing plans to develop the eastern territories never separates the RFE and Eastern Siberia.[1)]

1) See, for example "Strategic concept of socio-economic development of the Far East, Republic of Buryatia, Transbaikal territory, and Irkutsk Oblast till 2025" approved in 2009 by the Russia Government at http://insor-russia.ru›files/insor_2009_English_1202.pdf; "Program for the Development of the Gas Industry in Eastern Siberia and the Russian Far East till 2020" approved by the Russian Ministry of Industry and Energy in 2007 at http://bazazakonov.ru/doc/?ID =1608424, etc.

Past and Present Russian Regional Policy in the Far East

Currently the main strategic long-term task for Moscow is to preserve the territorial integrity of its Far East. The declining socioeconomic situation of the RFE territories is of special importance to Russia because in comparison to other parts of Russia, conditions in the RFE are much worse. Mostly it has to do with the fact that tariffs on energy, fuel, transportation, etc. are much higher here than in other parts of Russia thus making local production uncompetitive. Such a situation has triggered prolonged negative demographic changes: over the last 20 years the Russian Far East has lost about two million people, and its population now is only 6.3 million. The critical challenge for Moscow is how to stop or at least diminish the outflow of Russian citizens from the RFE to the most prosperous central part of the country.

Under market economy conditions the Russian Government could not just increase salaries for the entire RFE population (as had been the case under socialist economic conditions). Instead Moscow is relying on the abundant natural resources, especially energy, of these territories and has decided to introduce long-term plans to develop the RFE and Eastern Siberia by allocating a sizable amount of the Russian federal budget to construct new infrastructure (international energy power grids, oil and gas pipelines, high speed railways and highways, seaports, etc.). The main idea is to stimulate local and export business activities that will reproduce themselves and become permanent, create high paying jobs, bring more taxes to local budgets, and finally stop the outflow of the local Russian population.

A major increase in public funds allocated to RFE development programs (from around one billion rubles in 2000 to 2.9 billion rubles in 2004, and to 17.5 billion rubles in 2007) enabled progress in energy infrastructure projects, such as the East Siberia-Pacific Ocean (ESPO) oil pipeline, the Sakhalin-Vladivostok gas pipeline, construction of new railroads and ports, etc.

At the same time NEA is experiencing faster economic and energy demand growth than other parts of the world, while Russia is the only country in NEA possessing diversified energy resources sufficient to sustain both domestic growth

and satisfy considerable export requirements. Thus Russia proposed an idea to shift an increasing share of its energy exports to Asia, and in July 2006 Putin made a commitment to increase the Asian share of Russian energy exports in 15 years from the current 3% to 30%.[2] This means that by 2020 Russia should sell to Asia a minimum 60 million tons of oil and 65 billion cubic meter of gas per year.

Russia has placed emphasis on the benefits of integration with the Asia-Pacific region, suggesting that it will help to solve problems of development in Russia's border regions. Thus, under Putin, domestic and external linkages have been made more explicit: this is clear from the National Security Strategy of 2009, and the Long-Term Socioeconomic Development Concept to 2020, as well as the Energy Strategy to 2030—all are interlinked as part of the modernization agenda which prioritizes economic development and technological innovation.

The most visible successes so far had been achieved in realizing new infrastructure development projects to transfer oil and gas to Russian and foreign consumers. In 2007 Putin approved a proposal granting two state-owned companies (Gazprom and Rosneft) the exclusive right to develop oil and gas extraction projects on the Russian continental shelf thus allocating them a highly privileged status in comparison to other Russian and foreign companies.

In 2012 the Ministry of the Development of the Far East came into existence, one of its main objectives is the development and implementation of the government program of *"Socio-economic development of the Far East and the Baikal region."* In 2013 Yuri Trutnev was appointed as the representative of the President of Russia in the Russian Far East, along with Alexander Galushka, who was appointed as the Minister of Development of the Far East. As key tools for the development of the Far East Galushka and Trutnev announced the so-called *"Territories of advanced development."* On December 29, 2014 President Putin signed a law on "*Territories of advanced socio-economic*

2) V. Putin, Proceedings of the President Putin's third meeting with international discussion club "Valdai" members, 9 September 2006, Moscow. English version at http//www.kremlin.ru.

development in the Russian Federation."[3] Within the first three years such territories can only be created in the Russian Far East. Later on they can be created in any part of the country. This aims to create an infrastructure there and ensure provision of legal, accounting, customs and other services. Business people wishing to obtain resident status in these territories must sign an agreement with authorities. After that they became subjects of a special tax regime and simplified business rules. Unlike special economic zones, which are controlled by the Ministry of Economic Development, the territories of advanced development are controlled by the Ministry of Development of the Russian Far East.

Tightening of Western sanctions and the high costs of development in the Crimea in 2014 have slowed down some of the Russian government's investments elsewhere, but Moscow has continued to fund Primorsky Krai (region) quite generously. In 2014 the Ministry of Development of the Far East established an office in Vladivostok, while President Putin announced his intention to establish within 2015 a customs regime of a free port in Vladivostok (covering all of the southern part of Primorsky Krai).

In 2015 Putin and Trutnev publicly discussed the idea of giving free land to the residents of the Russian Far East and to those who relocated there from other parts of the country (1 hectare of land per resident and per relocated person). Provided that real economic activities take place there, after three years the land will pass into the ownership of the recipient. Decisions made in 2014 and 2015 gave evidence that the government is now reviewing the voluntarism policy of development of the Russian Far East and the Baikal region and limits to incentives for the traditional sectors of the economy. In such a case the economic development of the region could progress in a more 'natural' way and the influence of market forces would be taken into consideration more seriously.

3) See http://publication.pravo.gov.ru/Document/View/0001201412290024.

Development of Energy and Transport Infrastructure in Eastern Siberia and the Russian Far East

Due to geography, natural and climate conditions, history, and economic development, energy and transport play a crucial role in the economy of Eastern Siberia and the Russian Far East. Thus they have been chosen as Russian strategic assets and the goal is for them to become more economically integrated with Northeast Asia and to successfully develop regions on the periphery. Moscow has substantially increased public budget allocations to improve regional energy and transportation infrastructure in these parts of the country.

Due to Western sanctions, Russia is interested in increased the role of Northeast Asian countries in investing in oil and gas projects in Eastern Siberia and the RFE, and in transferring modern technology. Although Moscow has been reluctant to give foreign companies a majority stake in any Russian oil and gas projects, in February 2015 Deputy Prime Minister Dvorkovich stated at the Krasnoyarsk Economic Forum that he did not see any political obstacles to surrendering shares of over 50% in Russian strategic oil and gas deposits to Chinese companies, except for projects on the continental shelf of Russia.[4] This statement indicates a significant change in the Kremlin's traditional approach toward national control of oil and gas deposits (it is due to the negative impact of economic sanctions and substantive drop in prices for oil and gas).

The Eastern Siberia-Pacific Ocean oil pipeline (ESPO) is a very important project for Russia to supply oil to Northeast Asia. ESPO-1 is a section from Tayshet (Irkutsk Oblast) to Skovorodino (Amur Oblast); ESPO-2 is a section from Skovorodino to Kozmino (Primorsky Krai). Proven reserves of the oil fields of Eastern Siberia and the RFE are sufficient for successful operation of the pipeline for at least another 30 years at the current level of supply. In 2014, oil supplies to China by an off-shoot from Skovorodino to Daqing reached 15 million tons. In addition, 24.9 million tons of oil were shipped through the

4) Dvorkovich doesn't see political obstacles to surrender shares of over 50% in oil and gas deposits to China / RIA Novosti. 02. 27. 2015 at http://ria.ru/economy/20150227/1049908556.html.

tanker port of Kozmino. The main importers of oil from Kozmino were Japan (36%), China (23.9%), and South Korea (14.6%).[5] It is expected that 30 million tons of oil will be shipped to China (ESPO-1) and the other 50 million tons will go through Kozmino (ESPO-2) per year by 2020. At the end point of the ESPO-2 pipeline, Rosneft plans to construct a petrochemical complex with a capacity of up to 30 million tons; however the project prospective may be reevaluated due to current negative economic conditions.

In sum, main capital expenditures for the ESPO were made during the construction stage and decline in hydrocarbon prices will not reduce the already contracted volumes of exports. However, if prices remain at low levels for long, Russia may postpone expanding pipeline capacity, until prices are restored to a level of US$80-90 a barrel.

Gazprom's so called *Grand Eurasian Strategy* envisages gradual unification of gas deposits in Western and Eastern Siberia into a joint resource system that will make it more reliable and thus fully serve the interests of domestic and foreign customers. To achieve this strategic goal Gazprom is focusing on implementing three grand projects: The Power of Siberia, The Power of Siberia 2, and the Sakhalin projects (Sakhalin 2 and Sakhalin 3).

In terms of potential economic and political benefits, the optimum strategy for Russia is a combination of gas supplies to China through the Power of Siberia pipelines with implementation of LNG projects. Realization of the Siberia 2 project represents a good chance for Moscow to eschew an excessive dependence on the European gas market; in the next five years, however, construction of gas pipelines to Japan and South Korea is unlikely.

Regarding transregional transportation, two strategic routes are of great importance: The Trans-Siberian Railroad and the North Sea Route. Moscow is taking measures to promote both.

As for trans-border cooperation in NEA, Russia and China are experiencing growing interest in developing corridors between the ports of Primorsky territory

5) Kozmino exceeds the plan for the shipment of oil in 2014 / Transneft – Port Kozmino. At http://smnpk.transneft.ru/press/news/?id=17432.

and the Chinese provinces of Heilongjiang and Jilin. For example, the former could not effectively use Chinese domestic ports, because Dalian port is overloaded, making cargo transfer very expensive. Thus Jilin and Primorye are very interested in development a transportation corridor: Busan (South Korea), Niigata (Japan)—Zarubino (Russia)—Jilin Province (China).

The transport infrastructure of Primorye will experience positive change in the near future, with the recent role of a new prominent player—a big Russian holding company called 'Summa Group.' Summa plans to launch the large seaport of Zarubino in 2018. About 60% of the total load may fall on inter-China transit. The volume of freight will be 60 million tons a year at the initial stage, and later may reach 100 million tons a year. The total amount of investment into Zarubino port's strategic renovation and construction of a 'dry port' in Hunchun is expected to reach US$3 billion. Overall, it should be noted that Russia, just a few years ago, was wary of allowing major Chinese participation in Southern Primorye ports, but now Moscow has given the green light for Chinese investments in port facilities.

Investing into the Rason Trade and Economic Zone (construction of an intermodal transshipment complex) and reconstruction of the railway between Khasan and Rajin is currently Russia's major successful project in North Korea. The primary goal of the project was to launch international container traffic from the station of Rajin along the Trans-Siberian Railway. The project implemented by Russia in Rason is part of an ambitious plan to connect the Trans-Korean Railway with the Trans-Siberian Railway, resulting in the longest Eurasian transport corridor and a platform for trilateral cooperation between the Russia, North Korea, and South Korea. Trilateral cooperation in this area has already brought positive results. In December 2014, 40.5 thousand tons of Russian coal was delivered to the South Korean port of Pohang from the North Korean port of Rajin.

Russian View and Possible Role in NEA Integration

Moscow has a strong political and economic interest in the Korean Peninsula, and is interested in the eventual formation of a unified Korea. Otherwise the Korean Peninsula would never be peaceful and would not become Russia's gate to East Asia, and regional infrastructure development projects (that will boost exports of Russian natural resources) will remain indefinitely on hold. Moscow has initiated trilateral projects involving North and South Korea that are considered as a tool to help the North Korean economy to develop and modernize.

The earliest of these projects is the one aimed at connecting the Trans-Korean railway with the Trans-Siberian railway to transit cargo from Korea and the Pacific to Russia and Europe. Another project is a power line from the RFE to South Korea via North Korea. Due to the deterioration of relations between North and South Korea, this project was also shelved, although Russia remains committed to it.

The real breakthrough could become the gas pipeline to supply Russian natural gas from Sakhalin and possibly Eastern Siberia to South Korea through North Korean territory. The Inter-Korean gas pipeline could become central to Russia's Korea policy, because it is fully consistent with Moscow's desire to establish itself as a player in Korea, guarantee regional stability, and help the North to improve its economic situation. By realizing this ambitious project Russia is especially keen to form a new energy supply chain that could contribute significantly to forming a comprehensive economic cooperation model in NEA.

However, this project also remains a hostage to political the interplay, involving not only South and North Korea, but also the US and China. But North-South hostility still remains the main obstacle, while Russia and North Korea have already confirmed their readiness to implement this project.

Overall, Moscow has substantially increased public budget allocations to improve regional energy and transportation infrastructure thus indirectly improving local population standards of living due to positive collateral socioeconomic effects. To make proposed changes a reality, the Russian Government recently complemented the above mentioned federal programs with one more critical

component—giving the RFE more economic freedom to start several territories of advanced developments (TAD) thus giving them a tool to attract more investments from Russian and foreign private investors into new projects. In terms of Sea of Japan Ring economic integration, we may give special emphasis on five recently proposed TADS in the Primorsky region: Rosneft petrochemical cluster, Zarubino seaport, Russian island (research and development cluster), Mikhailovskiy agricultural park, and Nadezhdinskiy industrial park.

In this context we can see striking parallels and complementarities when we compare Russian plans for developing Primorsky region and Chinese plans to develop Yanbian Korean Autonomous Prefecture (YKAP). Interestingly enough, Chinese officials and experts perceive realization of the Greater Tumen Initiative project mostly in terms of multi-vector development of infrastructure in Yanbian. Special hopes are pinned by them on the economic development region of Changjitu, which includes cities in Changchun and Jilin, and the region of Tumenjian river estuary with the city of Tumen. In April 2012, the State Council of the PRC established a "pilot zone of international cooperation in the city of Hunchun" that borders Russia. According to the plan, the volume of GDP in the territory of this pilot zone could become four times bigger by 2020, which, in turn, would have multiplicative effects on the economy of Russia's Primorsky territory.[6)]

These plans are very similar and correspond well with most recent initiatives by President Putin to introduce a special regime for a free port in the southern part of Primorsky region.

Subnational Models of Economic Cooperation in NEA

Subnational level cooperation between local governments (prefecture, province, oblast, krai, etc.) in Northeast Asia have taken many forms, from

6) Sergei Sevastianov(2014), "Subregional Cooperation between Yanbian and Primorye, and Possible Akita Involvement," *Akita International University Global Review*, vol. 6, 3-12.

annual conferences run by established multilateral organizations to ad hoc meetings between local government representatives. For our analysis we have selected the Tumen River Area Development Program (TRADP) and the Association of Northeast Asian Regional Governments (NEAR) as the most visible examples.

TRADP Experience and GTI Perspective

The Tumen River Area Development Program is a regional cooperation framework in NEA initiated by the UNDP and five original member countries: China, North Korea, Mongolia, South Korea, and Russia. The TRADP and its successor—the Greater Tumen Initiative (GTI)—thus far is the single example of an intergovernmental mechanism for economic cooperation in Northeast Asia.

During its history the TRADP demonstrated several shortcomings: 1) The project has never become a priority for the participating states; as a result international financial institutions (WB, EBRR, ADB) were not interested in supporting it. 2) There has been too much concentration of power in the leading donor's (UNDP) hands resulting in a neglect of participating states' interests and regional specifics thus decreasing the effectiveness of multilateral cooperation. 3) There has been limited involvement of business sector. 4) The TRADP has suffered from incomplete regional membership—the absence of Japan as a possible financial donor.

To increase operational effectiveness, TRADP new models have been discussed, and finally the TRADP evolved into the GTI. The operational model of the GTI is now mostly characterized by genuine member-state ownership. In the case of Russia, its priorities within the GTI is the role of Primorsky Krai and Vladivostok as main centers of economic growth, business activity, and regional cooperation.

In 2005 the TRADP Consultative Commission's Eighth Meeting generated the Changchun Agreement of the Member Countries of the GTI. The new Agreement was significant in three ways. First, member states agreed to expand the geographic scope of the Tumen River project to include China's northeast

provinces (Liaoning, Jilin, and Heilongjiang), the Inner Mongolia Autonomous Region, North Korea's Rajin-Sonbong area, Russia's Primorsky region, Mongolia's eastern provinces, and several provinces and cities of Eastern South Korea. This expansion of the TRADP led to the change in name to the 'Greater Tumen Initiative.' Second, the GTI extended the project's foundational agreements to 2015 and confirmed investment, transportation, tourism, energy and environmental development as the main focuses of the GTI (the GTI Strategic Action Plan 2006-2015). Third, member states proposed the establishment of a Business Advisory Council (BAC) led by senior business leaders, eminent persons and foreign investors from across Northeast Asia as a way to include private investment and corporate presence in the Tumen River project.

The core decision-making institution of the GTI is the Consultative Commission which is composed of Vice-Ministers from the GTI member governments. The Commission's role is to foster support for regional cooperation and development, and promote mutual understanding. It convenes annually to discuss key policy issues and cooperation projects among the GTI members, and hosts joint sessions with strategic partners as well as local governments. A Transport Board, Trade Facilitation Committee, Tourism Board, Energy Board, and Environmental Board have been created to strengthen cooperation and coordination on policies and project implementation in five priority sectors.

The GTI Consultative Commission Meeting in 2011 at Pyeongchang, South Korea witnessed the establishment of the GTI Northeast Asia Local Cooperation Committee (LCC), a new unit designated with the tasks of promoting local government engagement and synergy for cooperation among local and central governments. In 2012 at the Consultative Commission Meeting in Vladivostok, in an effort to build an effective financial mechanism for GTI activities and regional development, the so-called 'EXIM' or development banks from the four member states signed a Memorandum of Understanding on the Establishment of the Northeast Asia EXIM Bank Association. The member states continued to stress the GTI's focus on transportation, tourism, trade, energy, and environmental cooperation, with the aim of transforming it into a full-fledged international organization.

The main objective of the LCC is to develop an effective cooperative network to strengthen NEA local governments' capacities in regional cooperation. The LCC inaugural meeting took place 30 August 2013 in Changchun, China. Governor/Vice Governor level officials from LCC member provinces and representatives from observer provinces, as well as the managers from major transportation and logistics companies participated in the meeting. The challenge of cross border cooperation was raised by the local governments, who called for the simplification of border-crossing procedures and visa policies. Additionally, there is also a Local Development Forum within the GTI. The Forum creates an opportunity for high-level interaction among representatives of local governments, international organizations, business leaders and renowned scholars. The Forum has been held annually since 2007.[7] During the last several years GTI had undertaken several important measures to overcome one of its most fundamental challenges—limited involvement of the business sector.

Engagement of Japan and North Korea with the GTI remains a challenge. North Korea officially withdrew from the GTI from May 2009 because of disappointment with the GTI in terms of attracting foreign direct investment and also due to political reasons. Japan has been reluctant to join GTI for several reasons, mostly because the GTI does not cover the sea area of NEA. Forming transportation corridors has been one of the most successful outcomes of GTI-supported cooperation, and without inclusion of the Sea of Japan are into the GTI operational area, the benefits for Japan remain limited. Inclusion of the sea area would enhance greatly the benefits of the GTI as a 'Sea of Japan trade route' is a very important part of the GTI transport corridor. It also would expand the areas of cooperation to include not only sea transportation but also fisheries, under-sea resource development, etc. which are of interest not only for current GTI members but also potential ones such as North Korea and Japan.

Another chronic GTI problem is insufficient representation (currently at the Vice-Minister level). It should be upgraded to a Prime Minister or at least

7) Ben Lokshin, Anya Shkurko(2014), Cross Border Integration in Northeast Asia. A Preliminary Report on Current Research and Data, Stanford University. (October)

Vice-Prime Minister level. Plus the staff of the Secretariat that is permanently hosted by Beijing should be provided with more human resources and legal capacity.

The Association of Northeast Asian Regional Governments

The Association of Northeast Asian Regional Governments (NEAR) was established in Gyeongsangbuk-Do, South Korea in 1996 under the initiative of regional governments from four Northeast Asian states, including China, Japan, South Korea, and the Russian Federation (Mongolia and DPRK joined later) to promote active and smooth interaction and cooperation among various districts in NEA.

Since adopting a Charter based on the idea of co-prosperity in Northeast Asia, NEAR has been practicing extensive exchanges and cooperation projects in various fields: economy and trade to educational and cultural exchange, environment, disaster prevention, cross-border cooperation, science and technology, maritime affairs and fisheries, tourism, mineral resources development, energy and climate change, and women and children.

With the accession of new members at the 8th General Assembly held in October 2010 in Gyenggi-do Province, Korea, NEAR has grown into a local diplomacy and cooperation organization representing Northeast Asia, membership includes 70 member regional governments from six countries.

Throughout the years NEAR has established an institutional structure.[8] The General Assembly is the supreme body of the Association that unites representatives of member-regions and a meeting is held biannually. The representative of the region that will hold the next meeting of the General Assembly carries out the responsibilities of the Chair. The General Assembly according to the Charter of the Association executes a number important functions, such as approval of budget, project plans, settlement of accounts; member admission and dismissal; determination of membership fees; determination and execution of various plans

8) See http://www.neargov.org/en/page.jsp?mnu_uid=2817.

of operation, etc.

To develop cooperation within NEAR member-regions have established subcommittees (13), each addressing a particular field of interregional cooperation. The meetings of all of the subcommittees attract up to several hundred people each time, with representatives from at least five of the six member countries (North Korea is consistently absent) making this INGO the most representative body at a subregional level cooperation in NEA.

Russia also maintains a network of bilateral institutions operating in the region, both at national and subnational levels such as, the Russian-American Pacific Partnership, Permanent Mixed Commission 'Russian Far East-Hokkaido,' Russian-Chinese Coordination Council on interregional and near-border trade-economic cooperation, and others.

Conclusions and Recommendations:

Given global conditions, the argument that tense political relations lead to a slowdown in regional cooperation may be wrong. The protracted deterioration of Russian-American relations may have created preconditions for the formation of new geopolitical reality, wherein Russia's 'pivot' to the East becomes inevitable. Hence the emergence of new proposals and more active realization of existing Russian-Chinese, Russian-Korean (both Koreas) and other regional projects is becoming more probable. For example, the interests of Russian and Chinese businesses in creating an effective Zarubino to Hunchun transportation corridor (as a component of the Busan-Niigata-Zarubino-Jilin strategic sea route) are now fully matched. It should be re-iterated that Russia, just a few years ago, was wary of allowing major Chinese participation in its Southern Primorye ports, but now it has given the green light to Chinese investments in Russian port facilities.[9)]

9) Sergei Sevastianov(2014), "Subregional Cooperation between Yanbian and Primorye, and Possible Akita Involvement," *Akita International University Global Review*, vol. 6, 3-12.

At the beginning, this positive trend will affect transportation aspects of trans-border cooperation; however, in the near future, we will witness intensification of trans-border trade, tourism, energy, and other forms of collaboration, both in the GTI format and within other regional projects. In a new geopolitical reality, the Russian Far East's and Primorsky region's cooperation with China as a strategic partner is becoming stronger at all administrative levels: provincial (Heilongjiang and Jilin), YKAP, border cities (Hunchun, Suifunhe, etc.). In addition, Russia is exploring new ways of regional cooperation with North Korea.

Proposed GTI projects should be put in the larger framework of efforts to solve the Korean Peninsula security problem. In fact since the year 2014, there has been a series of high-level bilateral visits that gave a new impetus to trade, economic and investment cooperation between Russia and North Korea. Throughout the year, the agendas of bilateral Russia-North Korea meetings were dominated by several projects for developing transportation infrastructure. At the same time North Korean visits to Russia became more purpose-oriented, and the agendas of meetings with local officials were mostly devoted to concrete projects, especially in the sphere of agriculture.

Japan is the only country in East Asia that imposed sanctions on Russia, but in reality they are mostly symbolic and did not affect current bilateral projects much. Japan's West Coast prefectures (Hokkaido, Akita, Niigata, Tottori, and others) are still demonstrating readiness for mutual cooperation. But in terms of cooperation with Japan, Primorsky region could interact with it only at a prefectural level, while Russia-South Korea relations have taken on a more efficient format. This means that Japanese politics in NEA lack coherence, and in this regard, it might be the right moment for Japanese politicians and the business community to consider more active and unified engagement in regional cooperation projects within the Russia-China-Korea border triangle, projects that are experiencing a 'second wind' in their life cycles.

Toward a Northeast Asia Economic Community: Lessons from the European Union (EU), Good and Bad

Glyn Ford

In Europe, the initial impetus behind the creation of the then Common Market was post-War political reconciliation principally between France and Germany. However, the principle means were to be economic. The underpinning industrial sinews of war were to be so intertwined across nation state borders as to make a future conflict physically impossible. This was to be achieved by creating a 'common market' or Industrial Union encompassing the—then—key industrial sectors, namely coal, steel and atomic energy through the European Coal and Steel Community (1951) signed by Belgium, France, West Germany, Italy, The Netherlands, Luxembourg, and the European Atomic Energy Community (Euratom 1958). The European Defence Community proposal (1952) proved a bridge too far and was never ratified.

The Treaty of Rome (1957) established the European Economic Union enshrining in law the free movement of goods, services, capital and people. The essentially altruistic/moralistic origins of what was to become the EU were overtaken by events. By the early 1980s the imperative was economic, as the EU was increasingly forced to compete with the economic muscle of the US and Japan as an early manifestation of globalization.

To be competitive, small and medium sized nation states could no longer rely on the one or two national champions in each industrial sector being capable of competing in the increasingly global marketplace. Instead they saw the need

to create a wider Industrial Union—or a single internal market—that allowed the creative destruction of competition to winnow down each industrial sector to three or four European champions. Because of Europe's distinct social democrat traditions, the regulations and legislation for this Industrial Union saw, due to the strength of the trade union and labour movement, parallel progress in terms of social protection and provision. The logic of common industrial and social interests within the curtilage of the EU saw the inevitable development of common economic and financial interests and the drive for Economic and Monetary Union, and hence the adoption of the single currency.

By 1989, with the collapse of Soviet Empire, the EU was beginning to see the need for a Common Foreign and Security Policy. The EU's focus on deepening its integration through an 'ever closer union' was put aside in an enthusiasm for widening, as the former colonies of the Soviet Empire were ripe to be fast tracked into EU membership. It was here that the decisions that created the current problems that are today threatening to tear Europe apart were made, the aftermath of the global financial crisis, internal migration and external refugees, and terrorism.

The EU was prepared out of short-term solidarity and longer-term self-interest to sanction sizable internal transfers of resources. The Cohesion Fund provided assistance to the poorest member states, with Objective 1 monies for the very poorest regions of the other member states, Objective 2 for regions significantly below the EU's economic average, Trans-European Networks programme to provide the communications infrastructure to aid regional economic integration, and Objective 3 and the Social Fund to help keep and create jobs respectively.

The ratification of the Lisbon Treaty (December 2009) left the EU on the verge of the creation in embryo of a 'United States of Europe' with an elected President where the European Parliament Elections served to select the Electoral College. There is now a European Foreign Minister—formally named the High Representative for Common Foreign and Security Policy. The consequence of the change was that the European Political Parties, Christian Democrats, Socialists, Liberals, Greens and the Extreme Left, fielded candidates for the Commission

Presidency with their own programmes and with all the accompanying political furniture of radio and TV debates, campaign rallies, and campaign funding.

It was the first making of a European President. The two lead candidates were Jean-Claude Juncker (Luxembourg Christian Democrat) and Martin Schulz (German Socialist). The European Elections left Juncker's party 30 seats ahead of the Socialists. The Member States had no option but to nominate him and he was duly elected by the European Parliament, but only after agreeing on a Commission programme reflecting the new political balance in Brussels with a 'de facto' Grand Coalition of Christian Democrats, Socialists, and Liberals holding the ring against the Far Right and the Euro-sceptics. If Europe can survive its current crises, we are at the tipping point were the EU becomes not only a global economic power, but a global political power as well.

Where next? The financial crisis has driven the idea of Fiscal Union, while terrorism and the refugee crisis is seeing—despite resistance in some state capitals—a strengthening of Europol and Frontex, and the first steps towards an internal Security Union now catching up with the external Security Union.

EU lessons for Northeast Asia

As Bill Clinton said, 'It's the economy, stupid,' therefore, the first lesson is, start where the action is. Don't try to run before walking: it's Industry → Economy→Foreign Policy/Security. It was the Industrial Union that underpinned and led step by inexorable step to Economic and Monetary Union—and the single currency—and a Common Foreign and Security Policy, including a common trade policy. The last demonstrated by the on-going negotiations with Washington via the Transatlantic Trades and Investment Partnership (TTIP) and Tokyo with the EU-Japan FTA.

The second lesson is to pursue deepening versus widening ties. Don't bite off move than you can chew. The EU's greed for growth led to a situation where it compromised the further integration of the EU, which has created or exacerbated its current problems.

Lesson number three is that the whole is greater than the sum of the parts. Redistribution in favour of the disadvantaged pays off for everyone in a remarkably short time. This is one of the elements missing from the ASEAN Community plan.

The final lesson is, develop a cooperative neighbourhood policy. It is your neighbours that are—at the appropriate time—your future members.

Potential for Connectivity in Northeast Asia: Energy and Transport Infrastructure in Eastern Siberia and the Russian Far East

Dmitry Reutov

Due to the geographic location, natural and climate conditions, historical background and economic development of Eastern Siberia and the Russian Far East, energy and transportation industries play crucial roles in their economy. The extraction of minerals accounts for 61.6% of the Sakhalin oblast GRP (gross regional product) and 42.9% of the GRP of the Republic of Yakutia. Transportation is the leading sector of the economy of Zabaykalsky Krai (23.7% of GRP), Primorsky Krai (20.1%), Khabarovsk Krai (18.7%), Amur Oblast (21.7%) and the Republic of Buryatia (18.6%).[1] Thus, energy and transportation are the core sectors of the regional economy of the Eastern Siberia and the Russian Far East.

This chapter analyzes the potential of key energy and transport infrastructure projects of Eastern Siberia and the Russian Far East giving consideration to their competitive advantages and constraints.

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1) Отраслевая структура валовой добавленной стоимости субъектов Россий ской Федер ации в 2012 г. / Федеральная служба государственной статистики. [Электронный рес урс] — Режим доступа: http://www.gks.ru/free_doc/new_site/vvp/otr-stru12.xls (Sectoral structure of gross value added of the Russian Federation in 2012 / Federal State Statistics Service) at http://www.gks.ru/free_doc/new_site/vvp/otr-stru12.xls).

Energy Projects

ESPO

The Eastern Siberia-Pacific Ocean oil pipeline (ESPO) is a key project of Russia to supply oil to Northeast Asia. In 2014, oil supplies to China by pipeline reached 15 million tons, 24.9 million tons of oil were shipped through the tanker port of Kozmino (Primorsky Krai). The main importers of oil from Kozmino were the countries of Northeast Asia: Japan (36%), China (23.9%), South Korea (14.6%), and countries of Southeast Asia: Malaysia (6.5%), Thailand (5.7%), the Philippines (5.3%) and Singapore (4.5%).[2] It is expected that by 2020, per year, 80 million tons of oil will be shipped to China (ESPO-1) and the other 50 million tons will go through Kozmino (ESPO-2).[3]

In 2014, Moscow and Beijing agreed to increase the capacity of the ESPO-1 pipeline up to 20 million tons after 2015[4]. The oil fields of Western Siberia, as well as Talakanskoye (Yakutia), Verkhnechonskoe (Irkutsk Oblast) and Vankor (Krasnoyarsk Krai) fields form the resource base of the pipeline. Once Chayandinskoye and Srednebotuobinskoye fields in Yakutia are developed, they will also be integrated into the pipeline. At the end point of the ESPO-2 pipeline, Rosneft plans to construct a petrochemical complex with a capacity of up to 30 million tons, however the project prospective likely will be reevaluated due current economic conditions.

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2) Порт Козьмино перевыполнит план по отгрузке нефти в 2014 году / Транснефть – Порт Козьмино. [Электронный ресурс] – Режим доступа: http://smnpk.transneft.ru/press/news/?id=17432 (Kozmino exceeds the plan for the shipment of oil in 2014 / Transneft – Port Kozmino) at http://smnpk.transneft.ru/press/news/?id=17432).

3) Система ВСТО может быть расширена до 80 млн. тонн после 2020 г. / Транспорт нефти. [Электронный ресурс] – Режим доступа: http://www.transport-nefti.com/news/3402/ (ESPO system can be expanded up to 80 million tons after 2020 / Oil Transport) at http://www.transport-nefti.com/news/3402/).

4) «Транснефть» приступает к расширению нефтепровода ВСТО / РИА Новости. 07. 10. 2014г. [Электронный ресурс] – Режим доступа: http://ria.ru/economy/20141007/1027195884.html#ixzz3QSHIKH6l (Transneft starts to expand the ESPO / RIA Novosti. 10.07.2014) at http://ria.ru/economy/20141007/1027195884.html#ixzz3QSHIKH6l).

The ESPO pipeline is an '*artery*' that supplies oil to Northeast Asia. Potential development of the pipeline implies connection to new fields and increase in pipeline capacity. Proven reserves of oil fields in Eastern Siberia and the Russian Far East are sufficient for the operation of the pipeline for at least another 30 years at the current level of supply.

The dynamics of oil consumption in Northeast Asia show mixed trends. In 2013, China consumed 507.4 million tons of oil (+3.8% compared to 2012); the oil consumption of South Korea reached a level of 108.4 million tons (however, it remained unchanged compared to 2012); the oil consumption of Japan fell by 3.8% to 208.9 million tons.

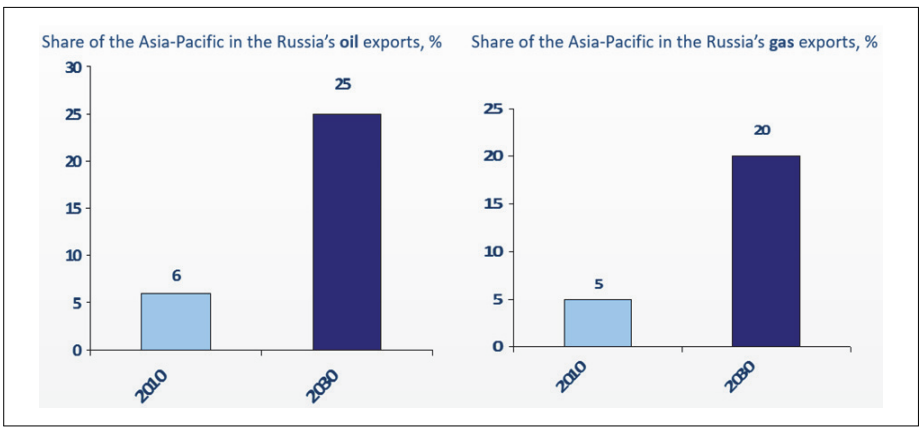
Figure 1. Eastern Siberia Pacific Ocean oil pipeline (ESPO)

Stagnation of oil consumption in South Korea and gradual decline in oil consumption in Japan have been evident for more than ten years. At the same time, China has doubled its oil consumption. Southeast Asian countries also have experienced growth in oil consumption. In 2013, Thailand consumed 50.4 million tons of oil (+2%), Taiwan—43.4 million tons (+3.9%), Malaysia—30.2

million tons (+2%), and Vietnam—17.4 million tons (+2%).[5)]

Considering the increasing gap between the oil consumption and domestic production in China and most of the Southeast Asian countries, these countries represent the most promising markets for Russia in the Asia-Pacific region. And Japan and the South Korea will maintain the role of stable and reliable consumers of Russian oil. Substantial increases in Russian oil supplies to Japan and South Korea are not expected because there is no evidence that demand in these countries will increase. In addition, Japan and South Korea pursue a policy of diversification in energy imports and do not allow any one supplier to dominate their markets.

Figure 2. Russia's energy strategy in Asia-Pacific



Source: Energy Strategy of Russia for the Period up to 2030.

At the same time Japan, South Korea and China are interested in joining Russian oil and gas projects, including projects in Eastern Siberia and the Russian Far East. The Northeast Asian countries support the activity of their national companies involved in oil and gas projects abroad. But often conditions that Russia proposes (shares in projects, operating conditions, financing, and

5) *BP Statistical Review of World Energy*(2014), p. 10, London. (June)

investment tax treatment) are unacceptable to foreign companies. Therefore, the conditions of participation of foreign companies in the Russian oil and gas projects will greatly depend decisions of the Russian government. Under current economic conditions Moscow is not eager to give away majority stakes in its oil and gas projects to foreign companies. If the economic situation in Russia becomes even more severe, Moscow may provide more favorable conditions to attract foreign investors. If Russia handles the current economic recession without serious consequences, however, foreign participation in the oil and gas projects of Russia will remain limited.

Sakhalin Oil and Gas Projects

Sakhalin shelf has enormous potential for production of hydrocarbons. There are nine proven oil and gas fields with total reserves of 1.19 trillion cubic meters of gas, 394.4 million tons of oil, and 88.5 million tons of gas condensate.

Sakhalin projects are one of the major Russian infrastructural projects with foreign investments. In 2013, Sakhalin exported 12 million tons of oil. The main customers of Sakhalin oil are South Korea (54.1%), Japan (28.7%), and China (17.2%). Natural gas in the form of LNG is shipped from Russia's only LNG terminal, which was built under the Sakhalin-2 project at Prigorodnoye in the southern part of Sakhalin. The volume of gas shipments remains stable: in 2013, it amounted to 9.5 million tons of LNG. The main importing countries are Japan (79.9%), the South Korea (19%) and China (1.1%).[6)]

In 2013, extraction of gas at the Kirinskoye gas field was put into operation. An underwater complex that allows extraction of hydrocarbons without construction of platforms was installed in Russia for the first time ever on that field. The year 2014 was remarkable due to actively conducted exploratory drilling on the South Kirinskoye field and launching of commercial production

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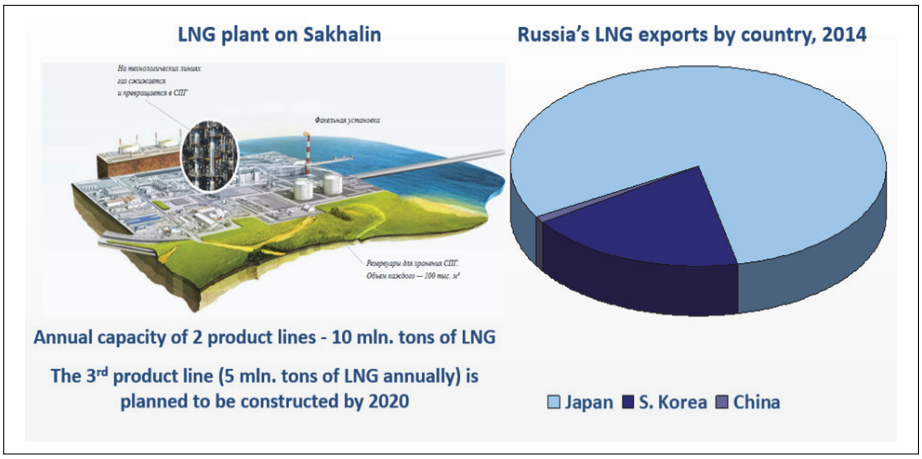
6) Внешняя торговля Сахалинской области / Официальный сай т Губернатора Сахалинс кой области. [Электронный ресурс] – Режим доступа: http://www.admsakhalin.ru/index.php?id=152 (Foreign trade of the Sakhalin Oblast / Official website of the Governor of the Sakhalin Oblast. 04.04.2014) at http://www.admsakhalin.ru/index.php?id=152).

Figure 3. Sakhalin plant and Russia's LNG exports to NEA



Source: Government of Sakhalin.

on the Arkutun-Dagi field.

The current international situation around Russia poses significant risks for the future of the Sakhalin projects. The EU and US sanctions, imposed in September 2014, ban exports of goods and technologies that can be used in deep water oil production projects on the Arctic shelf of Russia. The Kara Sea offshore drilling, which is a joint effort of Rosneft and Exxon Mobil, was repeatedly put on hold in 2014 due to sanctions. If sanctions continue, they will surely affect the Sakhalin projects. As a response to the new sanctions Moscow may throw sand in the wheels of Western oil and gas companies that have operations in Russia. An illustration of such behavior could be a situation such as that of 2007, when Shell, Mitsui, and Mitsubishi were forced to sell majority stakes to Gazprom. In order to make these companies sell their shares, Russia suspended finishing work on the pipeline and cancelled the environmental approval for the Sakhalin-2 project.

Such prohibitive measures would lead to a deterioration of the investment climate and, considering the collapse of oil prices from US$110 to US$45 per barrel, may impose limitations on the development of the Sakhalin projects.

Taking into account that Russia has no relevant technologies, equipment, expertise or capital, development of the Sakhalin projects becomes feasible only in close cooperation with foreign partners.

Nonetheless the long-term prospects of the Sakhalin projects should be assessed positively. Considering the global depletion of easy-to-recover hydrocarbon reserves, the role of offshore projects will continue to increase. Besides the Sakhalin shelf, there is an abundance of oil and gas reserves on the continental shelf of the Russian Far East, particularly, in the Sea of Okhotsk. Currently, natural gas extraction on the Kamchatka Peninsula meets the domestic demand of the region. The gas pipeline from the western coast of the peninsula to Petropavlovsk-Kamchatsky became operational in 2010. In 2011, Kshukskoye field reached its design capacity of 175 million cubic meters per annum. In October 2011, gas production began on the Nizhne-Kvakchikskoe field. Rosneft and Statoil are exploring the Magadan shelf, which is also located in the Sea of Okhotsk. The preliminary resource potential of the Magadan shelf is 2.6 billion tons of hydrocarbons.

The Power of Siberia, LNG, and other Gas Projects

"The Power of Siberia" is a natural gas pipeline under construction for transportation of gas from the Eastern Siberia to Primorsky Krai with branch lines that lead to China. Sino-Russian gas talks continued for over 10 years and ended successfully in 2014. The total price of the contract is US$400 billion. Gas supplies from the Chayandinskoye gas field with reserves of 1.2 trillion cubic meters in Yakutia will begin in 2018. The initial amount of gas to be supplied is 38 bcm annually. Full capacity of the pipeline is about 60 bcm.[7] The pipeline will run along the ESPO pipeline. In the future, fields such as Kovykta in Irkutsk oblast with reserves of 1.5 trillion cubic meters of gas are expected to become an additional resource base for the pipeline.

In addition to the branch pipeline to China, it is assumed that the pipeline

7) The Power of Siberia / Gazprom. [Electronic resource] at http://www.gazprom.com/about/production/projects/pipelines/ykv/.

will supply gas to the prospective LNG plant in Primorsky Krai. In this case, the LNG plant could simultaneously receive gas from Sakhalin[8] and Siberia that would double the existing volume of Russia's LNG exports. The LNG plant in Primorsky Krai would include at least two production lines with the capacity of 5 million tons of LNG per year each. The investment feasibility study is already approved and the engineering design works are now in progress. The first construction phase is scheduled to be accomplished in 2018; the end of construction is scheduled for 2020. The investment size of the project is over US$7 billion. Russia has significant potential to strengthen its position in the Asia Pacific LNG market by constructing an LNG plant in Primorsky Krai and by signing long-term contracts to supply LNG.

Figure 4. Power of Siberia gas pipeline

Initially the plant was expected to be built in partnership with Japanese companies Mitsui and Mitsubishi. During the APEC summit meeting in

8) Construction of a gas pipeline from Sakhalin to Vladivostok for an LNG plant was completed in 2011.

Vladivostok in September 2012, Gazprom signed an accord with the government of Japan to move forward with plans for construction of the Vladivostok LNG plant. But during Prime Minister Shinzo Abe's visit to Moscow in April 2013, Russia and Japan failed to reach any major agreement on the LNG plant deal.

In 2014, Gazprom offered China National Petroleum Corporation the opportunity to join the LNG project in Primorsky Krai. As of 2015, negotiations are still in progress. The main condition Gazprom imposes on its potential partners is to guarantee at least 6 million tons of gas demand per year.

In addition to difficulties in finding a potential partner, the new development scheme of the South Kirinskoye field, which is the main resource base of the plant, assumes that gas production will begin no earlier than 2019. The Power of Siberia gas pipeline, which is an additional resource base of the plant, will be constructed no earlier than 2020. Therefore, Gazprom has had to postpone the launch of the Vladivostok LNG plant until 2020 at the earliest.[9)]

Rosneft also has a project to construct an LNG plant in the framework of the Sakhalin-1 project. Exxon Mobil, which is an operator of Sakhalin-1, is highly interested in the LNG project, because currently Exxon Mobil has to sell associated gas to Gazprom. But in order to provide a sufficient resource base for the LNG plant, Exxon Mobil should develop new deep oil and gas fields. Taking into account the ongoing geopolitical, financial and economic situation, the development of new fields seems unlikely. This is the reason why the Rosneft—Exxon Mobil LNG plant is a very questionable project.

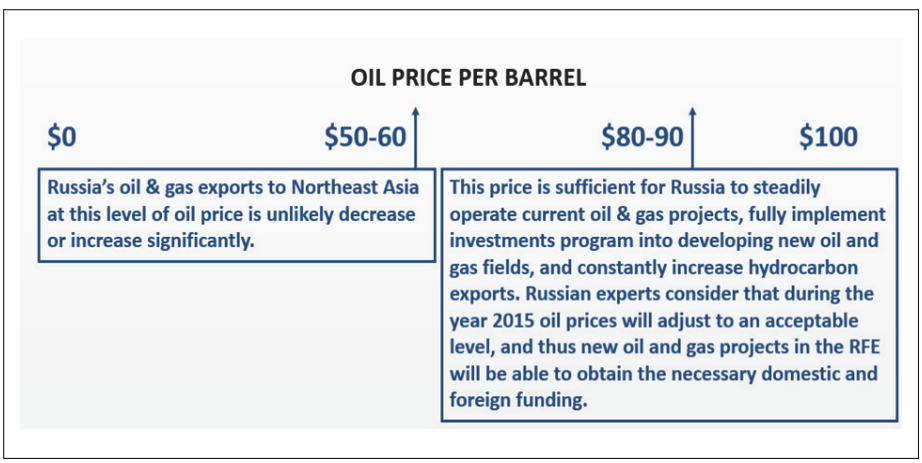
The current level of gas prices,[10)] coupled with Western sanctions, makes implementation of LNG projects almost impossible, as they require significant investments and sophisticated technologies. Moreover, it is expected that LNG supply would exceed demand in Asia Pacific by 2020. All these factors have led Russia to suspend its LNG projects in the Russian Far East at least until 2020, with the exception of the existing Sakhalin LNG project expansion. This

9) Y. Hubmer, "Gazprom Said to Face Delay Starting LNG Plant in Vladivostok," *Bloomberg* (27 February 2014) at mode: http://www.bloomberg.com/news/articles/2014-02-27/gazprom-said-to-face-delay-starting-lng-plant-in-vladivostok.

10) LNG prices in the Asia Pacific market are pegged to oil.

project will allow Gazprom to strengthen its position in the Asia-Pacific market even earlier than it would with the Vladivostok LNG project.

Figure 5. Dependence of Russia's oil and gas projects in NEA on hydrocarbon prices



During the APEC summit in Beijing in November 2014, Russia and China signed a Memorandum stipulating 30 bcm of annual gas supplies through the western route, which is also known as the Altai gas pipeline. Implementation of the Altai gas pipeline project may make Russia the largest exporter of gas to China. Considering that Western Siberia is a resource base for gas supplies to Europe, the western route will help Moscow diversify its exports and acquire additional tools for energy diplomacy. In contrast, the Power of Siberia gas pipeline without an LNG plant in Primorsky Krai creates a monopsony situation, where China will be the only buyer of East Siberian gas.

There are also projects to construct gas pipelines from the Sakhalin Island to Japan and from Primorsky Krai via North Korea to South Korea. But it should be noted that Gazprom considers a pipeline to Japan as an impractical solution from both economic and technological perspectives. The project is also associated with significant environmental risks, which are caused by the complexity of construction and operation of the pipeline in the high seas, along with seismic

activity, storms and strong undercurrents. Instead of the gas pipeline, Gazprom prefers to increase LNG supply to Japan, which is much more expensive than pipeline gas.

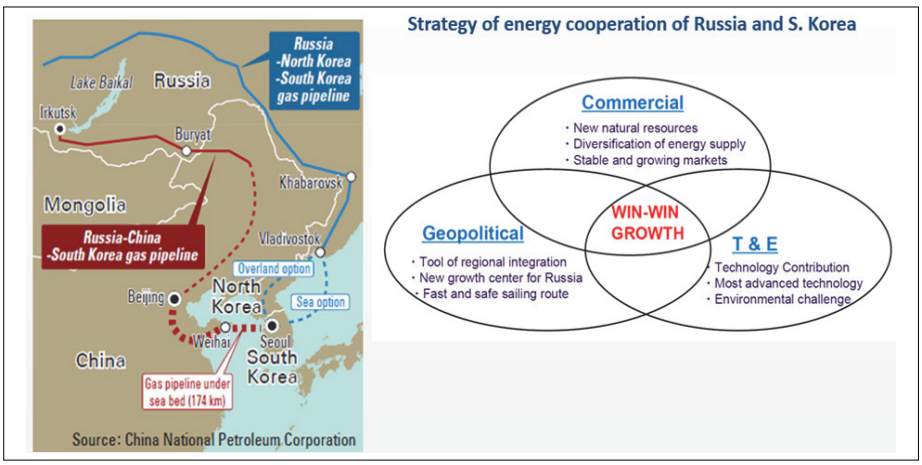
Tokyo also insists on resolving the territorial dispute over the South Kuril Islands/Northern Territories before starting the project, but the Japanese terms of agreement are unacceptable to Moscow. At the same time, Russia has shown great interest toward a gas pipeline project for South Korea, which is also associated with a number of military and political risks. The Trans-Korean gas pipeline is not only a commercial but also a geopolitical project, which aims

Figure 6. Western route

to enhance the role of Russia on the Korean peninsula.

The optimum strategy for Russia in terms of economic and political benefits is a combination of pipeline gas supplies to China through the Power of Siberia gas pipeline with LNG projects. The Altai project represents a good chance for Russia to get rid of its excessive dependence on the European gas market. Construction of pipelines to Japan and South Korea in the next five years is unlikely to be implemented.

Figure 7. Strategy of energy cooperation of Russia and South Korea



Source: China National Petroleum Cooperation.

Coal Supplies

Russia has the second largest proven coal reserves in the world (17.6%).[11] According to *"The long-term program for the development of coal industry for the period to 2030,"* Russia's coal exports will increase from the current 142.9 to 170 million tons per annum as a result of the development of Eastern Siberia and Russian Far East coal fields. According to the *"The strategy of seaport*

11) *BP Statistical Review of World Energy*(2014), p. 20, London. (June)

infrastructure development in Russia until 2030," which was approved in 2012, coal handling in Russian Far East ports will grow to 84.1-87.8 million tons by 2030. South Yakutia (57.5 billion tons), Irkutsk (7.5 billion tons), Tungus (2.5 billion tons), Lensky (1.7 billion tons), and Minusinsky (2.7 billion tons) are the largest coal basins of Eastern Siberia and the Russian Far East. Surface mining at the Elga coking coal deposit, which is the biggest coalfield in Russia, was launched in 2011. Its reserves are estimated at 2.2 billion tons. Field development was facilitated after the railway was build there in 2012. In 2014, coal extraction accounted for 3 million tons. Project capacity of the Elga coalfield is 12 million tons per annum.[12)]

The Russian Far East's main coal ports are Vostochny (21.5 million tons, or 24.6% of the total Russia's coal exports by seaports), Vanino (13.2 million tons, or 15.1%), Posyet (4.6 million tons, or 5.2%), Nakhodka (4.4 million tons, or 4.9%), and Vladivostok (1.4 million tons, or 1.6%).

The main importers in Asia Pacific of Russian coal are: Japan (17% of Russia's total coal exports), South Korea (16.5%), China (13.5%), and Taiwan (4.2%).[13)] Most of the ports use the bucket method for coal handling. Only Vostochny and Vanino have specialized handling complexes. The low intensity of the bucket method and inability to handle vessels of deadweight over 40 thousand tons reduce the competitiveness and efficiency of Russia's coal exports.

Most of the coal ports of the Russian Far East plan to upgrade their facilities in order to meet the growing coal demand in the Northeast Asia. There are also multiple project ideas to construct new coal terminals. Primorsky Krai alone has at least five projects to build new coal ports at various stages of development. But due to the limited capacity of railways, in the beginning of

12) Лебедев А. Железную дорогу осилит идущий / Информационно-аналитическое агентство «Восток России». 24.12.2014г. [Электронный ресурс] – Режим доступа: http://eastrussia.ru/people/6216/ (Lebedev A., Railways and ports of Mechel / East Russia. 12.24.2014) at http://eastrussia.ru/people/6216/).

13) Экспорт угля через морские порты России / Морские порты. No. 3 (2013) (Coal exports by seaports of Russia / Seaports of Russia. No. 3 (2013).

2015 The Ministry of Transport of the Russian Federation proposed to abandon the Sukhodol and Vera projects in Primorsky Krai with an annual capacity of 20 million tons of coal each.

Besides the development of coal ports, in late 2014 a new coal shipment line was launched on the reconstructed railway from Khasan (Russia) to Rajin (North Korea), from where coal is shipped to South Korea.

In sum, the limited capacity of the Baikal-Amur Mainline (BAM) and the Trans-Siberian Railway is the key problem in the expansion of coal shipments. Only companies that coordinate cargo traffic with Russian Railways are able to turn their projects into reality. Comprehensive development of the railway that includes construction of branch lines to new coal ports is a prerequisite that can ensure significant growth in Russia's coal exports.

Transportation Infrastructure

Railways

Development of the extracting industry of Eastern Siberia and the Russian Far East and the need to deliver minerals to ports for export require the modernization of railway infrastructure. Railways are the backbone of the transportation network of the region. The operational length of the railway network of Eastern Siberia and the Russian Far East is 17,224 km. The Trans-Siberian railroad's capacity is currently around 120 million tons per year; the BAM's capacity is 23.6 million tons.

A situation of insufficient technological infrastructure remains the main problem for Russia's railways. It leads to a deficit of cargo capacity and demurrage of cars. Development of the railway network requires significant state and private investments. A reduction of disparities in development of different means of transportation and enhancement of a network of logistics centers are also required.

The project allowing cargo delivery from the port of Vostochny to Moscow in seven days was started in 2013. Cargo traffic along the route from Makhalino

(in Southern Primorsky Krai) to Hunchun (China) was also restored in 2013. Regular traffic on the reconstructed section of the railway from Khasan (Russia) to Rajin (North Korea) was launched in 2014.

The BAM also undergoing modernization. Territories along the BAM have large deposits of hydrocarbons, coal, and other minerals. Shortage of cargo traffic and low traffic speed are the limiting factors of the BAM.

Construction of the new tunnel on the Kuznetsovsk pass and reconstruction of Oune-Vysokogornaja section of the BAM was completed in 2012. They increased the capacity of the railway to 23.6 million tons per year. After construction of the tunnel at the Komsomolsk-on-Amur-Sovetskaya Gavan section and installation of the second main track, cargo capacity to the port of Vanino will double and could reach 47 million tons. These works are to be completed by 2020.[14)]

Construction of the railway bridge to the Sakhalin Island is of special interest to Russia. The lack of reliable transportation between the mainland and Sakhalin Island restrains the economic growth of the region. The bridge represents access for the ice-free ports of the island and strengthens the integration of Russia with the Asia Pacific. There are also proposals to construct a bridge from Sakhalin to Hokkaido. Should this become a reality, potential cargo transit to Japan could exceed 27 million tons per year by 2030.

From 2015 to 2018, some US$2.5 billion of the National Welfare Fund of the Russian Federation and US$5 billion of the Russian Railways budget will be spent on modernization of the Trans-Siberian Railroad and the BAM. These investments will be used for the purchase of locomotives and railway infrastructure development. As a result of this the capacity of the railways is expected to increase from 102 million tons in 2015 to 157-168 million tons per year by 2018. During the same period, port capacity of the Russian Far East, excluding

14) Челпанова М. РЖД решила расширять БАМ и «поддерживать» Транссиб / Ведомости. 18.05.2012г. [Электронный ресурс] – Режим доступа: http://www.vedomosti.ru/companies/news/1756115/rzhd_predpochla_bam (Chelpanova M., Russian Railways decided to extend the BAM and support Transsiberian railway / Vedomosti. 05.18.2012. at http://www.vedomosti.ru/companies/news/1756115/rzhd_predpochla_bam).

the port of Zarubino, is expected to add 134 million tons per year.[15)]

Generally, the development of railways in the region lags behind the capabilities of the port facilities. However, Russian Railways and the government of Russia continue to pursue a consistent policy to increase the capacity of the railways.

Seaports of the Russian Far East

Out of 63 Russian seaports, 22 are located in the Far East. Port infrastructure of the Russian Far East is concentrated in the southern part of the region, primarily, in Primorsky Krai and Khabarovsk Krai. Location of major ports is determined by accessibility to the railway network, convenient logistics, and acceptable climatic conditions, in particular the ice conditions of the harbors. In 2014, seaports of the Russian Far East increased their cargo transfer to 162.5 million tons (+12.3% compared to 2013). Cargo traffic of the seaports of the Russian Far East is expected to increase to 200 million tons by 2020.

Seaports of the Russian Far East can be divided into three groups:

1. Large universal ports: Vostochny—57.8 million tons in 2014 (+19.7% compared to 2013),[16)] Vanino—26.2 million tons (+10.4%), Nakhodka—20.7 million tons (+13, 0%), Vladivostok—15.3 million tons (+5.3%), and Posyet—6.7 million tons (+18.8%).[17)] These ports are connected to the Trans-Siberian railroad. Coal, oil, containers, timber and steel are the main types of cargo. Most of these ports implement modernization

15) Челпанова М. Главным грузом для россий ских портов остается нефть / Ведомости. 02.12.2014г. [Электронный ресурс] – Режим доступа: http://www.vedomosti.ru/companies/news/36728751/neft-navsegda (Chelpanova M., Oil remains the main cargo of the ports of Russia / Vedomosti. 12.02.2014) at http://www.vedomosti.ru/companies/news/36728751/neft-navsegda).

16) Including the tanker port of Kozmino.

17) Грузооборот морских портов России за 2014 г. / Ассоциация морских торговых портов. 20.01.2015г. [Электронный ресурс] – Режим доступа: http://www.morport.com/rus/news/document1559.shtml (ENG: Cargo turnover of Russian seaports in 2014 / Association of Commercial Seaports. 01.20.2015at http://www.morport.com/rus/news/document1559.shtml).

programs, but still the limited capacity of the railways remains the main obstacle to increasing the cargo transfer. By the end of 2015 Vladivostok may be granted free port status with a preferential tax and regulatory regime. Nonetheless, the existing port facilities and transport infrastructure may transfer no more than 30 million tons per year

2. Ports connected by pipelines to Sakhalin offshore fields: These include Prigorodnoye—16.1 million tons (-1.1%) and De-Kastri—8.2 million tons (+16.6%). Their cargo transfer is stable; however an expansion of these ports requires significant investments.
3. Ports for life support: They function in the absence of terrestrial communications with Russia's mainland. These ports have no opportunities to increase their cargo transfers.

The port of Zarubino, located close to the intersection of the Russia-China-North Korea border, should be given particular attention. Zarubino has access to railways and to roads, it has a beneficial location and great opportunities for development. However, so far, its cargo transfer has being extremely low. Currently, a construction project for *A Big Port of Zarubino* is under elaboration. The project aims to ensure cargo turnover between the Northeast and Southern provinces of China, and to enhance exports from the China's Northeast provinces. Estimated cargo turnover of the port will reach the level of up to 90 million tons per year. The port will include terminals for transfer of grains, containers, RORO, as well as general and bulk cargo.

Development of port infrastructure in the southern part of the Russian Far East presents the most promising area to enhance the transportation sphere of the region. Vostochny, Vanino, Nakhodka, Vladivostok, Posyet and Zarubino have the greatest potential. However, an expansion in cargo turnover and construction of new ports require improvement of the railways, pipeline network, and other related infrastructure.

Conclusion

Eastern Siberia and the Russian Far East have enormous potential for energy and transportation infrastructure development, but so far this potential has being poorly brought into reality. The region can be characterized as one of the most resource-rich and the least developed regions in the world. High costs of development and transportation of energy resources, insufficient transportation infrastructure, and poor geologic exploration are the limiting factors for the energy potential of Eastern Siberia and the Russian Far East. Exhaustion of capital assets, disparities in the development of the different means of transportation, low technological level and the poor network of logistics centers limit the development of transportation in the region. Adverse climate conditions, shortage and inefficient use of domestic investment resources, the complexity of the foreign investment environment, and a lack of qualified personnel constrain the development of both energy and transportation infrastructure.

At the same time, Eastern Siberia and the Russian Far East have access to the Northeast Asian energy market, which is the largest market of its kind in the world. The region also has tremendous transit potential. Moscow is aware of the potential benefits that can be derived from geographical diversification of exports and the comprehensive development of the region. This is the reason why it actively advances the energy and transport infrastructure of Eastern Siberia and the Russian Far East. Most of the energy and transport projects in the region are currently funded by state financial resources with limited participation of foreign investors. This limited participation is the result of the strategic role energy and transport infrastructure play in the Russian economy: Moscow strives to preserve its sovereignty over these spheres in the region. However, the current economic difficulties in Russia may increase the role of foreign investment.

Infrastructure projects are considered to be one of the most effective ways to overcome an economic recession. Infrastructure development could be the key to solving many problems for Eastern Siberia and the Russian Far East, which

suffer from negative demographic trends and a general deterioration in social and economic conditions. However, implementation of large-scale infrastructure projects is impossible without attracting foreign investment, technology, and experience. Sanctions, which affect Russia's financial sector, and restrict the export of oil and gas equipment and technologies to Russia, might open possibilities of expanding cooperation with Northeast Asian countries, primarily China and South Korea. The economic partnership between Russia and Japan will probably remain more limited due to the territorial issue and Japan's support for the anti-Russian sanctions.

Part II

Renewable Energy in Northeast Asia and Prospects for the Region

China Renewable Energy Development and Future Prospects for Cooperation

Shi Dinghuan

History and Mission of the China Renewable Energy Society

The China Renewable Energy Society (CRES) was founded in 1979 and was approved by the State Council. It is the only professional and non-profit organization in China that specializes in renewable energy promotion and development at the national level. CRES is also a member of the International Solar Energy Society (ISES) and World Wind Energy Association (WWEA).

The International Cooperation Center of CRES (ICC-CRES) was set up in 2011with a particular focus on strengthening CRES international networks and cooperation. The mission of ICC-CRES is to bring together academia, enterprises, financial and public institutions in the field of renewable energy. It aims to undertake and promote international exchanges and cooperation, and to encourage mutual understanding and contribute to sustainable development through win-win outcomes.

CRES has adopted key thematic focal areas and organized specific professional committees. The committees are:

- Wind Energy Committee
- Biomass Energy Committee
- Solar Photovoltaic Committee
- Solar Building Committee
- Solar Thermal Conversion Committee
- Solar Chemistry Committee

- Hydrogen Committee
- Ocean Energy Committee
- Geothermal Heat Pump Committee
- Gas Hydrate Committee
- Grid Connectivity Committee

CRES has approximately 4000 members all over China. Many of them belong to particular CRES networks including its policy networks at the national level (Ministry of Science and Technology (MoST) and National Energy Administration) as well as regional and local government agencies; key industrial enterprises in the energy sector; and a large number of universities and research institutes.

Renewable Energy in China

For China, the impetus for growth in renewable energy stems from a commitment to sustainable development and the acknowledged challenge of global climate change. It comes from a desire to promote an energy revolution, secure energy supplies and safeguard the ecological environment. China strives to transform modes of economic development, advance a green economy, and embrace a new technological revolution.

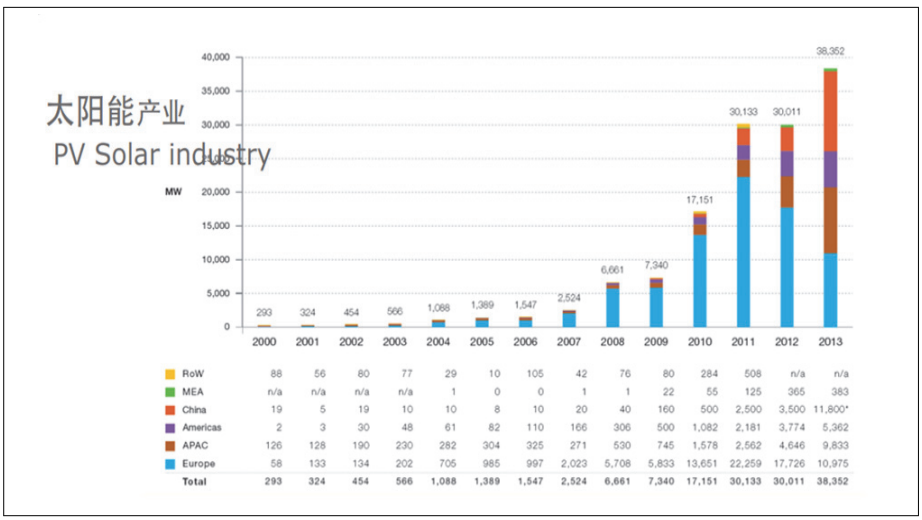
In 2014 total power generation in China reached 1360.19 million kW. Installed wind power capacity reached 96.37 GW—it now ranks first in the world. According to the National Wind Power Development Plan, China's installed wind power capacity is expected to reach 150 GW by 2020. China is home to some of the top wind power manufacturers such as, Gold Wind, United Power, Ming Yang, and Envision. China is also a leader in off-shore wind plant as well as small wind power generation.

Figure 1. Off-shore wind plant

Grid-connected installed PV capacity has reached 28.05 GW. In 2015, newly added installed PV capacity reached more than17.8 GW. Not only is China first in the world in PV module production, but it also represents the world's largest applications market. It aims to be a leader in this renewable sector, its technologies and applications, including large desert solar power plants, smart PV plants, distributed smart mic-grids, PV agricultural greenhouses, PV and fisheries, PV and building projects, etc.

As a result of China's commitment to renewables, China's solar heating and installed hydro power capacity now rank first in the world. According to China's 12th Five-Year Plan for renewable energy, the development goal for biomass power generation capacity was determined to be 13 GW by 2015, and the development goal for 2020 is 30. The geothermal energy and ocean energy industries are generally still at an experimental, demonstration, and R&D stage.

Figure 2. PV solar industry, China and the world



Prospects for Northeast Asia Cooperation

Cooperation with the United States

CRES is an active participant and promoter of international cooperation. CRES participated in "Sino-US Clean Energy Pragmatic Cooperation Strategy Forum" in Washington in 2011, a joint clean energy sub-forum organized by CRES and the American Council on Renewable Energy (ACORE). There are three key focal areas for future Sino-US cooperation at the sub-forum level: 1) the renewable energy industrial partnership; 2) renewable policy framework; 3) renewable energy investments, and 4) financing.

In addition, with the support of the Energy Forum, CRES is organizing work on the "China-US Islands Energy Research & Demonstration Program." Finally, CRES has helped many American companies, such as DuPont and Lockheed Martin, to exchange technologies, find partners and markets, etc.

Cooperation with Japan and Korea

CRES entered into an MOU with the Japan Solar Energy Society in 2013, and it will hold a bilateral meeting to discuss the main content of cooperation in the future three years. With support from China's Ministry of Science and Technology, CRES is researching cooperation areas and methods between China and Japan and China and Korea.

Status of Renewable Energy Development—Toward a Low Carbon Society

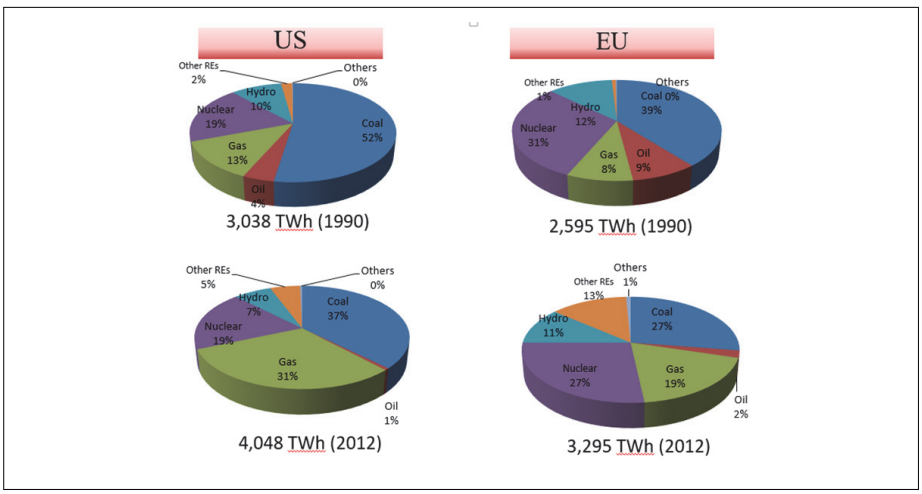
Yoshiki Iinuma

This chapter provides a comparative analysis of renewable energy development and low carbon challenges and strategies for various regions and countries. It gives particular attention to comparisons among the US, EU, Japan, and China, and to Germany's ambitious renewable energy goals.

The following figures show the variation in electricity generation mix among the US, EU, Japan, and China and changes to this mix overtime. An obvious change is the increase in gas use over coal and oil in the US, EU, and Japan. The share of renewables increased for in the energy generation of all four areas included here, the US, EU, Japan, and China. The most significant increase in the share of (non-nuclear) renewables took place in Europe.

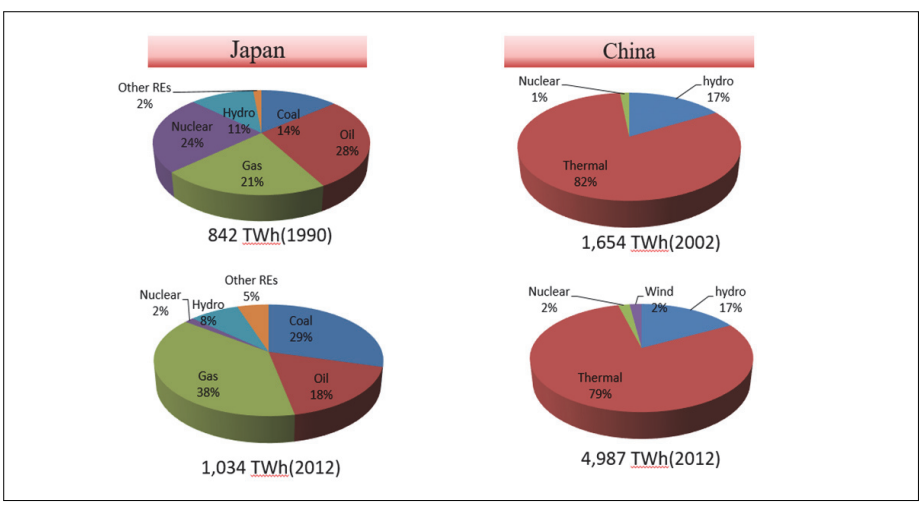
Strategies for change in energy mix reflect national resources and capacities, perceived national energy security needs, and the priority accorded to climate change mitigation strategies and commitments by each country/region (as well as its capacity). A strategy of lowering dependence on hydrocarbons and increasing renewable energy is seen as a means of achieving greater energy security and lowering greenhouse gas emissions.

Figure 1. Electricity generation mix of the US and EU



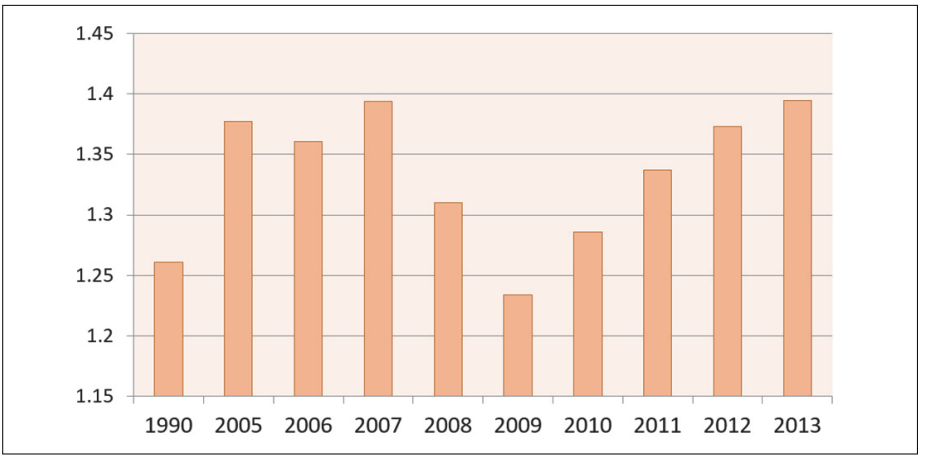
Source: OECD/IEA.

Figure 2. Electricity generation mix of Japan and China



Source: OECD/IEA and 中国電力企業聯合会.

Figure 3. Japan's GHG emissions (billion CO_2 t)



Source: Japan's Ministry of Environment.

Table 1. Intended Nationally Determined Contributions Carbon Reduction Targets

Countries	GHG intensity per GDP (kg-CO_2/$)	GHG intensity per head (t-CO_2/head)	Target Year	Base years		
				1990	2005	2013
Japan	0.29	10.6	2030	p18.0%	p25.4%	p26%
US	0.48	20.4	2025	p14-16%	p26-28%	p18-21%
EU	0.31	9	2030	p40%	p35%	p24%
China	2.64	7.9		Reducing CO_2 per head by 60-65% in 2030 comparing to 2005 and peaking CO_2 around 2030		
Korea	0.64	14	2030	+81	p4%	p22%

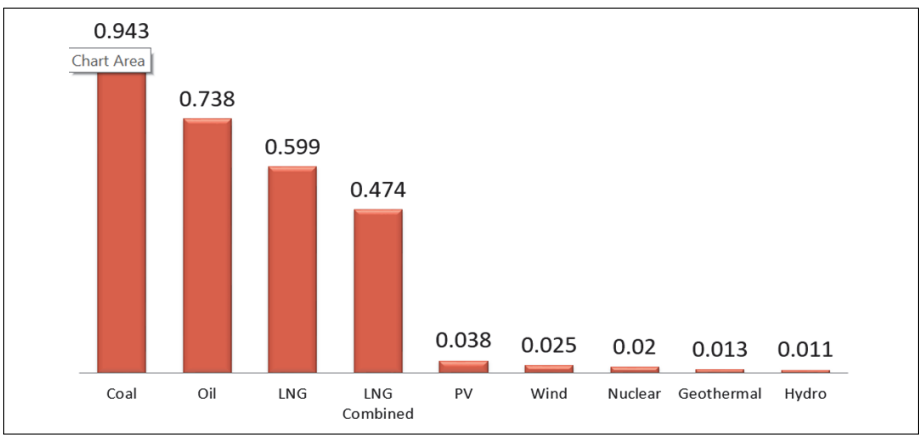
Source: Compiled by Japan Electric Power Information Center (JEPIC).

As a result of promotion policies in the US and EU, renewable generation has increased significantly. Figure 5 shows that wind generation in the US increased remarkably from 2005 to 2013. In the EU both PV and wind generation have increased quickly due to a lucrative feed-in tariffs (FIT) system. China

has seen significant increases in wind generation as well.

The government of Japan has established long-term goals to 2030 for increasing the share of renewable energy. The most significant targets for increase are in PV (7%) and biomass (3.7-4.6%), and a more modest target for wind (1.7%).

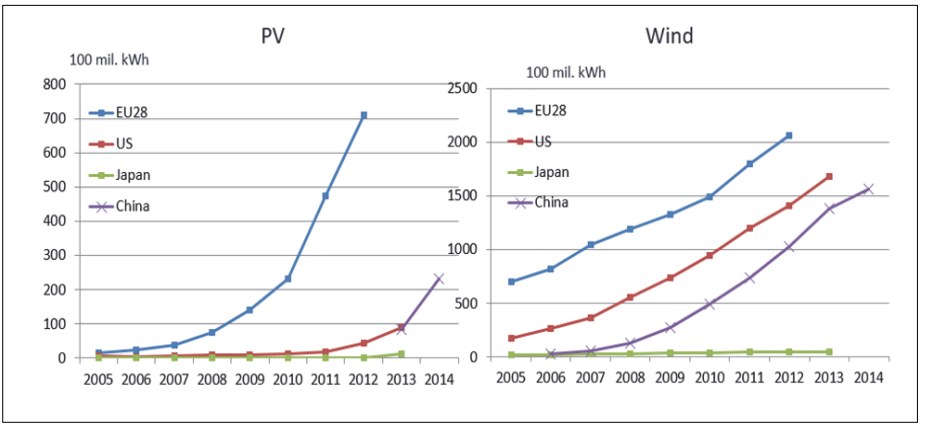
Figure 4. CO_2 intensity by generating technology (kg-CO_2/kWh)



Notable, within in the EU is the example of Germany. Germany has set ambitious goals for renewables. According to an estimate by the Centre for Solar Energy and Hydrogen Research Baden-Wurttemberg (ZSW) and the German Association of Energy and Water Industries (BDEW), the share of renewables in Germany's gross electricity consumption in 2015 was around 33 percent. That translates to renewables generating 193 billion kilowatt hours (kWh) of electricity in 2015, "…around one-fifth more than in the previous year."[18] In keeping with this progress, the German government has set the share of renewable energies in total electricity consumption at 80% for 2050, as indicate in Figure 7.

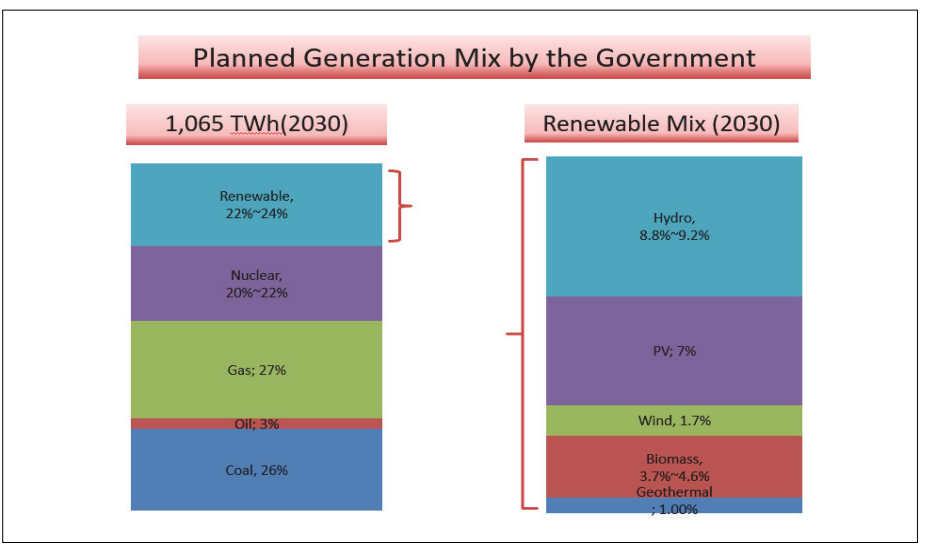
18) German Association of Energy and Water Industries (BDEW) Press Re (3 November 2015) at https://www.bdew.de/internet.nsf/id/EN_press-release.

Figure 5. Renewable energy generation in China, EU, Japan, and US



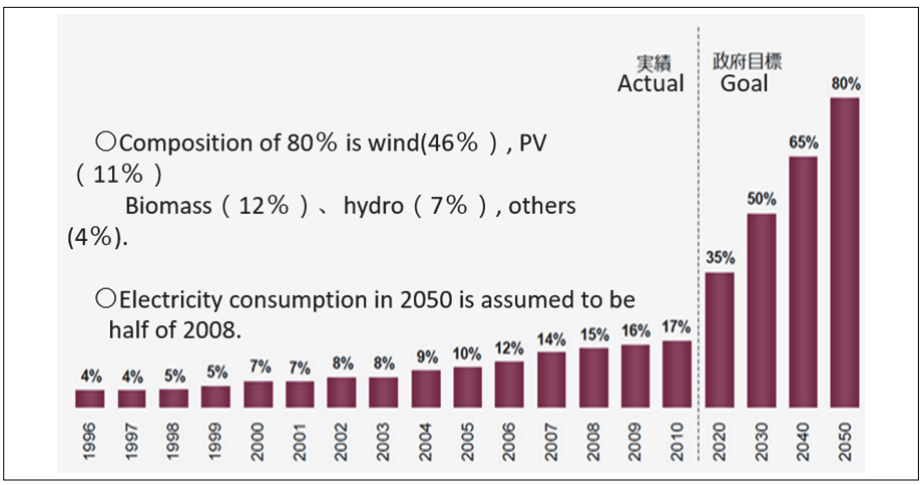
Note: including solar thermal.
Source: DOE/EIA, European Commission, FEPCO.

Figure 6. Long-term electricity outlook of Japan (2030)



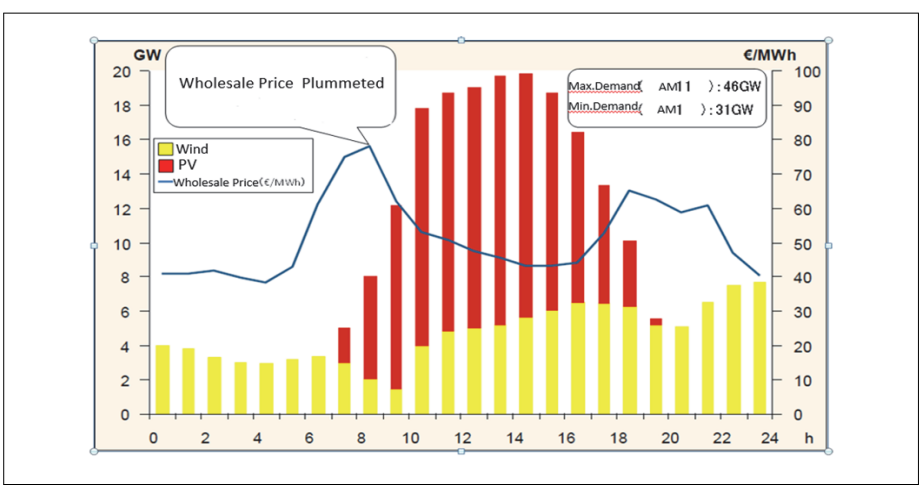
Source: METI.

Figure 7. German government goals for renewables



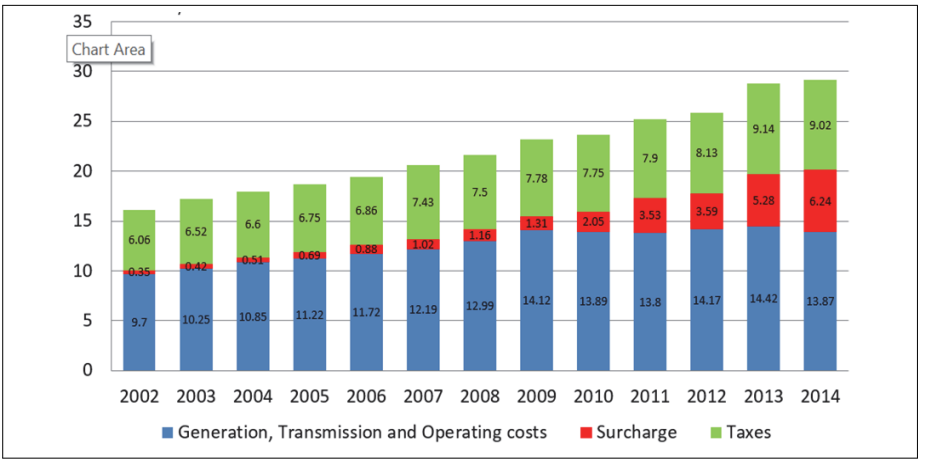
Source: German Association of Energy and Water Resources (BDEW).

Figure 8. Impact of PV and Wind on the Wholesale Price: German Case



Note: Recorded on 17 April 2012.
Source: RWE.

Figure 9. Renewable surcharge for residential customers in Germany (Euro cent/kWh)



The ambitious goals of Germany do give rise to some concerns or questions, in particular the potential impact of distributed energy resources (DER) on the traditional electricity supply system. These include concerns over:

- More volatile wholesale markets
- Price plunges in the daytime
- A fall in capacity of gas-fired plants
- The occurrence of the so-called 'missing money' problem
- Disincentives to invest in a back-up power source
- Accelerated closure of uncompetitive generating plants
- Adequate generating capacity

Is the capacity market a solution?

Hawaii's Clean Energy Transformation

Mark Glick

Introduction

Hawaii's location in the middle of the Pacific Ocean is both a challenge and blessing. As the most oil dependent state in the United States, Hawaii spends nearly US$5 billion per year on imported foreign oil. This takes a serious toll on our economy, business and residents' way of life.

Hawaii's per capita energy consumption is among the lowest of the 50 states, yet we lead the nation in energy costs on a per unit basis. For the past four years energy costs have averaged about 10 percent of our total economic output. We also have the highest electricity rates in the nation. Right now, residents and businesses pay an average of 31 cents kilowatt-hour. Hawaii's rates are three times the national average, which is about 10 cents. Hawaii's consumers have paid too much for too long and have relied on outside sources to power our homes and businesses. Continuing down this path puts Hawaii's economy and energy security at risk.

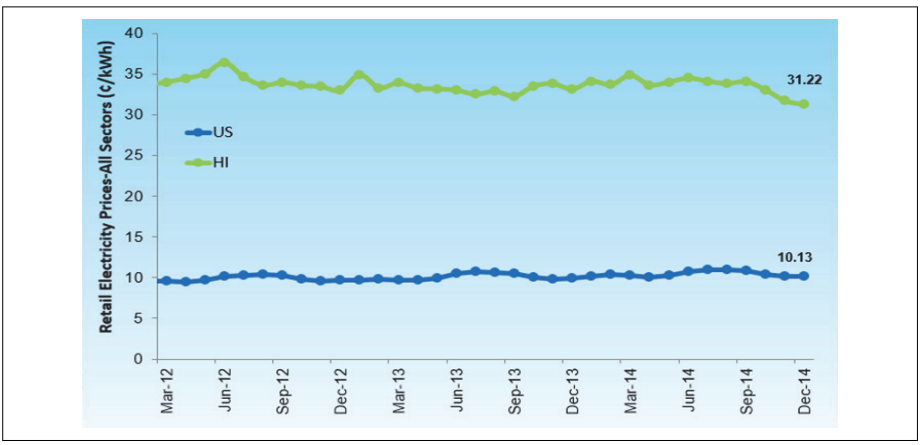
Under Hawaii law, the Director of the Department of Business, Economic Development and Tourism (DBEDT) is the state's Energy Resources Coordinator (ERC), responsible for energy planning, policy and programs. A key function of the ERC is to review proposed state actions that are deemed to have significant effects on the state's energy objectives and to report to the governor their effects on the state's energy program. The State Energy Office has been established and delegated with planning and carrying out the state's energy agenda and with identifying the high impact solutions that make the biggest

difference on fulfilling the state's energy objectives.

Figure 1. Hawaii energy costs as a percent of GDP

Note: *estimated.
Source: Research and Economic Analysis Division, Hawaii Department of Business, Economic Development and Tourism (DBEDT).

Figure 2. Electricity prices US vs. Hawaii



Source: Energy Information Administration.

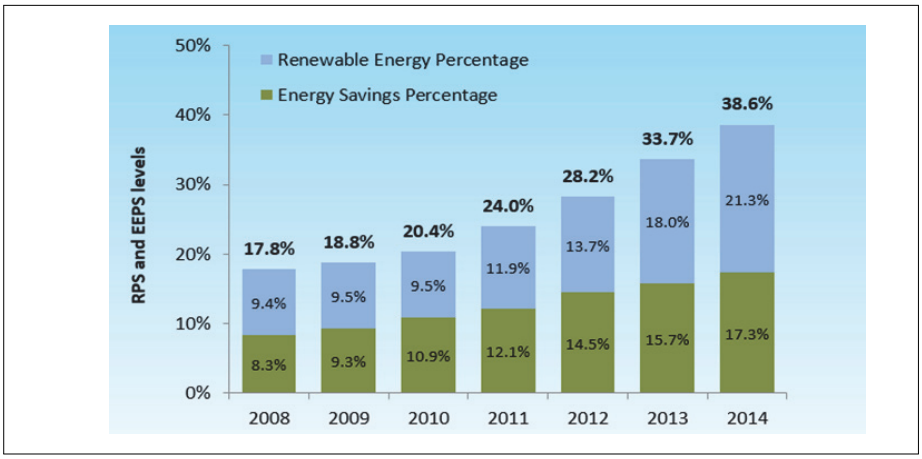
Driven by the recognition that Hawaii's over-reliance on oil is unsustainable over the long term the state has undertaken an ambitious clean energy transformation. Since 2008, we've characterized this agenda as the Hawaii Clean Energy Initiative (HCEI). The Initiative, which began as a groundbreaking partnership between the State of Hawaii, the US Department of Energy, the military and the private sector, is in the process of being updated to reflect Hawaii's evolving clean energy landscape. It has become clear that Hawaii is capable of going beyond the original goal of 40% renewable energy portfolio standard by 2030.

The reenergized HCEI is helping grow Hawaii's innovation sector. This new emphasis will stimulate deployment of clean energy infrastructure as a catalyst for economic growth, energy system innovation, and test bed investments. Hawaii's emergence as a clean energy test bed is a vital part of the growing clean energy economic cluster beyond tourism and military spending.

Renewable Energy and Energy Savings

The State Energy Office recently received updated Hawaii's Renewable Portfolio Standards (RPS) and Energy Efficiency Portfolio Standards (EEPS) figures for 2014. Hawaii has made significant gains in both metrics since the HCEI was established in 2008. The RPS and EEPS are ahead of the interim targets codified under statute. The RPS topped 21 percent at the end of last year, well ahead of the 2015 interim target of 15 percent. On the efficiency side, the state has reduced electricity demand by more than 1,500 gigawatt-hours. A report prepared for the Public Utilities Commission (PUC) last year concluded that Hawaii has the potential to significantly exceed its 2030 target of 4,300 gigawatt-hours of savings, reaching perhaps as much as 6,200 gigawatt-hours of savings.

Figure 3. Portfolio standards: renewable and energy efficiency



Source: Renewable Portfolio Standards Reports, 2008-2014, Hawaii Public Utilities Commission.

This success has prompted both the Administration and the Legislature to rethink the potential of Hawaii's clean energy transformation. The Legislature, with the support of the Department of Business, Economic Development and Tourism (DBEDT), is poised to approve a bill this session that would increase Hawaii's RPS target, which measures renewable energy as a percentage of net electricity sales. The latest draft of HB623—the leading legislative vehicle—calls for achieving a 70 percent RPS by 2040 and 100 percent by 2050.

Hawaii's aggressive push to adopt renewable energy has made the state tops in the nation in terms of rooftop solar. About 12% of our homes have a PV system, and we generate more solar energy on a per capita basis than any other state in the country. A report released by Environment America put Honolulu's installed PV capacity at 276 watts per person in 2014, more than double the next closest city. A similar report released last year by the Interstate Renewable Energy Council ranked Hawaii No. 1 among the 50 states for PV generating capacity per capita in 2013.

Based on economics, we can expect Hawaii energy consumers to continue to support renewable energy since it competes favorably on price with the

avoided cost of generating electricity from oil. But it can't be done with rooftop PV alone. In order for Hawaii to reach its clean energy targets in a cost effective way we will need a balance of utility scale and distributed generation.

But this surge in distributed PV also places stress on the electrical grid. Across the Hawaii Electric Co. (HECO) territory an increasing number of circuits are straining to manage increasing demand for rooftop solar. More than one-third of all circuits on Oahu and Hawaii Island have PV penetration above 100 percent of daytime minimum load (DML). And there are an increasing number of circuits where the penetration exceeds 250 percent of DML. The saturation of PV has resulted in a slowdown in PV installations on many of HECO's circuits, although the utility is clearing up the queue.

Interconnection is one of the priorities the Hawaii State Energy Office (SEO) is focusing on in order to maintain momentum in the state's clean energy transformation. Among the issues we are working on is understanding the relative costs of mitigation efforts—and how far that takes us beyond what's in the queue today, including more aggressive strategies to incorporate demand response and greater consumer choice.

The State Energy Office is involved in a host of dockets currently before the Public Utilities Commission that are part of a broad effort to improve the planning process at Hawaiian Electric Co. so the utility will be better prepared to handle the rapid growth of distributed solar PV. Through its responses filed in the various dockets, the Energy Office is attempting to provide clarity on how to achieve a comprehensive solution to grid modernization.

The SEO newly formed Energy Systems and Transportation Branch will provide guidance to our electric utilities and the PUC on what are the range of acceptable options that should be pursued to achieve greater penetration of renewables. With this added capacity within the SEO we will be able to model mitigation strategies from the utilities' perspective and cost them out to determine what is optimal.

The analysis takes a holistic perspective focused on cost and the reduction of fossil fuel imports. This is done by looking at the hourly demands on the system throughout every hour of the year. Accordingly, the Energy Office is

modeling both load reduction and load management options such as energy efficiency and demand response on an hourly basis so as to reduce the need for new infrastructure such as power plants. The state also will look at alternatives to meet customer demand with a combination of solutions through both energy production such as wind, solar, geothermal, and biofuels as well as ways to help balance the state's overall load including advanced battery storage and inter-island grid ties.

Tackling Transportation

The next phase of HCEI will give us an opportunity to reexamine Hawaii's clean energy potential and develop new low-cost strategies to tap that potential. Hawaii's efforts under HCEI thus far have focused largely on the electricity sector. Although transportation was targeted in the original Hawaii Clean Energy Initiative, minimal progress has been made in curbing petroleum use in the sector. But we know that a serious effort must be made to tackle transportation because it accounts for two-thirds of the state's petroleum consumption. We have enlisted the help of a world class partner in this effort—the International Council on Clean Transportation (ICCT). The State Energy Office has contracted with the ICCT to provide the technical expertise and policy knowledge needed to establish a renewed commitment on a set of goals and a timeline to reduce petroleum-based fuels for transportation.

ICCT will conduct stakeholder consultations and issue a final report offering a set of actionable steps that can be realistically implemented to reduce consumption of petroleum-based fuels in the transportation sector. One area of focus is the feasibility of implementing electric-drive infrastructure across the state that could also support grid balancing and energy assurance objectives. ICCT noted in a preliminary report that hydrogen fuel cell and plug-in electric vehicles are complementary technologies, both of which can contribute to the reduction of petroleum in ground transportation.

Reducing Energy Demand

We will also use the next phase of the HCEI to accelerate our efforts to reduce energy use through efficiency and conservation. To date, our hard work on energy performance contracting has played a major role in energy use reductions. The Energy Services Coalition has recognized Hawaii for three consecutive years as the national leader in performance contracting on a per capita basis. The Energy Office provides technical assistance to state and county agencies, including analysis of energy saving measures, review of financing documents, and advice on agency-specific issues.

Hawaii's success in performance contracting has also earned the recognition of the Clinton Global Initiative (CGI). The State Energy Office has successfully completed its 2013 Commitment to Action under CGI America by doubling the value of performance contracts in the state and extending its national leadership in the Energy Services Coalition's "Race to the Top" by ranking.

Table 1. Energy Services Coalition—Race to the Top

State	Population	Performance contracting	Dollars per capita	Job years created	Source energy saved	Tons carbon avoided
Hawaii	1,360,301	$320,678,850	$235.74	3,486	2,660,993	45,708
Delaware	897,934	$138,707,463	$154.47	1,508	1,150,994	19,771
Ohio	11, 536,504	$1,252,683,627	$108.58	13,616	10,394,769	178,551
Kansas	2,853,118	$278,951,861	$97.77	3,032	2,314,742	39,760
Colorado	5, 029,196	$447,377,551	$88.96	4,863	3,712,338	63,767

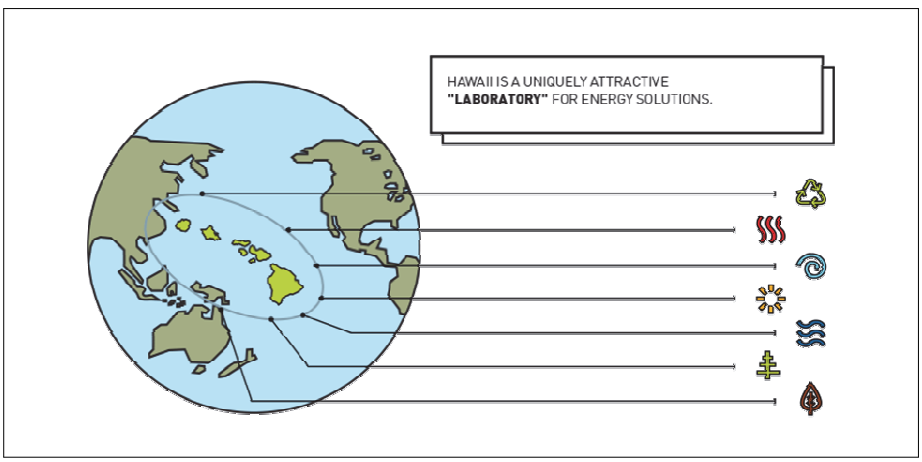
Source: Energy Services Coalition, Performance Contracting Impacts-State Comparison.

Hawaii: A Clean Energy Test Bed

The push to break Hawaii's addiction to imported oil is having a bigger impact than on just energy costs. Our isolated island grids, high levels of

renewable penetration and Asia-Pacific connections are proving to be an ideal environment for developing, testing, and proving emerging clean energy technologies. Hawaii's clean energy transformation is laying the foundation for a new knowledge-based sector of the economy fueled by innovation and ideas. Creation of such a clean energy innovation sector will bring with it a supporting ecosystem featuring good-paying jobs in a host of complementary professions.

Figure 4. Hawaii as a clean energy test bed



Our growing reputation as a laboratory for clean energy solutions has already attracted dozens of cutting edge companies to participate in the Honolulu-based Energy Excelerator, an initiative of the Pacific International Center for High Technology Research. Among the companies in a recent Energy Excelerator cohort is Stem Inc., a technology company that uses predictive analytics and advanced energy storage to help businesses run more efficiently, and to help the grid integrate more renewables. Stem has partnered with Hawaiian Electric to install 1 megawatt of energy storage to help stabilize the Oahu grid and incorporate more renewable energy.

And innovation doesn't have to be limited to technology. The state is developing innovative financing tools to help open up the grid to more

distributed generation. DBEDT's recently opened Green Energy Market Securitization (GEMS) program employs an innovative financing structure to channel low-cost capital from the bond market to make clean energy more affordable. Hawaii State has already issued US$150 million in green infrastructure bonds to support the GEMS program. The bonds will provide a source of low-cost capital for clean energy that will not compete with private-sector financing. The GEMS program will help undeserved consumers finance PV panels and other clean energy improvement. GEMS has begun accepting applications from nonprofit organizations, who can borrow from the program to install PV systems that will save them money on their electric bills from Day 1, with no money down. We expect interest rates on loans to be in the 6.5 percent to 8.5 percent range. Bill savings are expected to run from 20 percent to 47 percent over current utility rates.

Part III

Financial Cooperation in Northeast Asia

Financing the Asian Infrastructure Investment Bank (AIIB): Issues for Further Discussion

S. Stanley Katz

Development Bank Objectives

The development bank has two basic purposes. One purpose is to mobilize savings in developed countries' capital markets and additional concessional-term funds from donor countries, and to transfer these savings to developing countries for investments in projects on terms and conditions that are more favorable than the country could secure on its own. The other purpose is to assist in identifying, designing and implementing investment projects to ensure they are technically feasible, of high economic priority, yield substantial economic benefits, and use resources in the most cost-effective manner.

Asia is a capital-short region, and financing is needed in particularly for infrastructure that will integrate the economies of the countries of the region. However, the terms and conditions on which such financing is provided must take full account of the debt servicing capacity of the project and the borrowing country.

On the basis of currently-available information, it is not clear whether the proposed AIIB will be able to meet these two objectives, in terms of:

Financing: The ability to mobilize foreign savings and donor-country concessional- financing and apply the proceeds to the region's long-term infrastructure investments on favorable terms and conditions; and

1. *Technical Assistance Services*: The ability to provide the continuing technical assistance required to identify, design and implement infrastructure projects for a period of years.
2. This note chapter focuses only on the first category: financing issues. Other questions concerning the provision of technical assistance by the AIIB are still to be reviewed. They are outside the scope of this analysis.

AIIB Financial Arrangements and Parameters

AIIB Capitalization

The announced financial arrangements and parameters of the proposed AIIB are as follows. Total capitalization of the Bank has been set by its Chinese sponsors at US$100 billion. Fifty-seven governments have expressed an interest in joining the AIIB. Under currently envisioned share-allocations, Beijing would have a 26% stake in the Bank, which translates into 26% of the Bank's shares and corresponding representation on the Bank's Board of Directors. Of the balance, India would have 7.5%; and Russia 5.9%. The membership of the Philippines and six other nations is pending and will be decided later this year.

The United States and Japan have opposed establishing the AIIB. They consider it unnecessary and redundant, and they have declined to join. Some of the problems, issues and omissions raised by the details announced so far are discussed in the following paragraphs.

Proposed AIIB Capital Structure

The AIIB's US$100 billion capitalization should not constrain the Bank for some years in terms of the amount of outstanding loans it can carry on its books. However, information is not available on the portion of AIIB shares that will be "paid-in" and the portion that will be "callable." A decision on this matter is needed for AIIB's borrowing in overseas capital markets.

Under a *hypothetical scenario,* the "paid-in" portion would be 50% of the total price of each share. The cash payment would be transferred to the Bank (in instalments) in convertible currencies (US dollars, Sterling, Yen or Euros). Monies received for the "paid-in" portion of the shares purchased would be used by the Bank's management to get the Bank up and running—e.g., for recruiting staff, travel, equipment, supplies, etc.

The balance (50%) of the total price of the shares purchased by pledging countries would be "callable." The callable amount would be called by the Bank only in the unlikely event of a major default on AIIB loans, or a total collapse and closing of the Bank.

Managers in foreign capital markets view the proportion of capital that is "paid-in" as a barometer of the commitment of the participating countries to the success of the new Bank. The "callable" portion is considered a form of long-term insurance against catastrophic developments.

The sharp decline in China's stock markets in July 2015 indicates that the country's financial markets are thin and fragile. It does not inspire confidence in the strength and depth of China's financial markets. For these reasons, it is unlikely that China's callable capital would be considered as secure as those of the US and Japan. The consequences might be a lower bond rating, higher interest costs, and possibly a cap on the total amount of AIIB borrowing.

The present distribution of AIIB shares would give three countries a disproportionately large share (39.4%) of ownership and Board of Directors representation. These are not countries whose capital markets are deep and globalized, whose currencies have been fully convertible and whose bonds have been rated AAA by the international rating agencies. It is questionable therefore whether the AIIB's bonds would be rated AAA, the same as the ADB and World Bank bonds. This, as noted, would likely mean higher costs and shorter maturities and a possible cap on total AIIB borrowing.

Presently-planned allocations of AIIB shares would leave only 60.6% of the Bank's total shares available for 54 countries. On that basis, each country would, in principle, be eligible to purchase approximately 1 share.

It is doubtful that the countries that are expected to become a source of

capital for the AIIB's on-lending operations (South Korea, and Western European nations) would be satisfied with so small a proportion of the Bank's share capital and Board representation (the size of the Board is still to be determined). The allocation of AIIB shares does not leave any room to accommodate possible changes in the position of the United States or Japan on the question of membership.

Special Fund Resources[1)]

Large, multi-county infrastructure projects typically yield economic returns slowly and over many decades, and loan repayments usually extend beyond the grace and repayment periods of loans available from an investment bank's "ordinary capital" resources. To fill the remaining repayment gap, and to make it possible for some of the least developed countries to borrow funds, the World Bank and the Asian Development Bank supplement their financing from "ordinary capital" with additional financing (as grants or loans) from a separate *Special Fund (i.e., IDA or the ADF).*

It is not known whether the question of establishing a Special Fund for financing large, long-term infrastructure projects has been considered for the AIIB. Such a concessional facility would be important for AIIB's ability to carry out its proposed infrastructure financing.

Special Funds may be used to cover a loan's later maturities, or they may be blended with "ordinary capital" loans to reduce the cost of borrowing. Special Funds are contributed (and periodically replenished) by a band's major donor countries. Special Funds make it possible for the Bank to finance large, long-term projects on blended or extended terms.

Such Special Funds are included in the existing banks' financing packages,

1) The ADB Board of Directors recently approved the merger of the Bank's Ordinary capital and ADF resources. This decision will give the Bank additional capacity for its lending activities. However, insufficient capacity is not a primary Bank problem at present. The principal problem the ADB faces is a shortage of bankable projects. The consequences of the merger of these two sources of funds for the ADB's ability to finance both large, long-term infrastructure projects as well as conventional projects in least advanced members countries is not clear.

and they are often an essential part of the funding of long-term infrastructure projects. It is likely that the AIIB's member countries will be requested to establish and fund a "soft window" facility for the AIIB.

It should be noted however that donor countries have become increasingly reluctant to commit funding for Special Funds—which tend to become an open-ended commitment. The absence of an AIIB Special Fund window may prove to be a major problem in terms of the Bank's planned financing of infrastructure projects—although China might create and finance a Special Fund from its own resources.

The United States and Japanese Absence

To qualify for an AAA rating, and to receive the attendant lowest cost of borrowing and longest maturity periods, the managers of foreign capital markets prefer that the institution's shareholders include a significant number of developed, industrialized countries, since these countries have enough liquidity to cover any major adverse financial or economic developments that may affect the Bank. For these reasons, foreign capital market managers consider it important that the US and the Japanese governments are significant shareholders in the existing development banks.

The absence of the US and Japan from the AIIB may prove to be a major impediment to the AIIB's operations. Both of these countries have deep and developed capital market; and both provide not only funds but also the "confidence and comfort" foreign capital market lenders require.

The capital markets of these two countries would be expected to provide a significant share of the funds borrowed by the AIIB for its on-lending operations. It is not at all clear how their financial markets would react to their governments' absence from list of AIIB's shareholders. A lower bond rating, higher costs, and shorter maturities are one possibility. Another might be a decision to stay on the sidelines for proposed AIIB borrowing.

The absence of the US and Japan from the AIIB also means the absence of the "full faith and credit" guarantees of the AIIB portfolio by these two

governments. As noted, these guarantees provide "comfort" to the overseas rating agencies and to the lenders of capital.

Finally it should be noted that the absence of the American and Japanese governments from the AIIB, combined with the dominance of AIIB by three countries with political interests in the countries of the region might raise questions about the independence and objectivity of AIIB management and operations.

Creating a Multilateral Development Fund for Financial Cooperation in Northeast Asia

Jai-Min Lee

Recent Developments Impacting the Northeast Asian Development Bank Proposal

The Asian Infrastructure Investment Bank (AIIB) was launched in 2015. Thus far 57 nations have joined the AIIB with the notable exception of Japan and US. The AIIB is expected to play a significant role as a funding source to support infrastructure construction projects in the Asia-Pacific region. The launch of the AIIB, however, represents somewhat of a disappointment for proponents of establishment of a Northeast Asian Development Bank (NEADB).

It is feared that the AIIB might undermine the momentum to establish the NEADB. The NEADB and AIIB share similarities in terms of a focus on providing financial support for infrastructure projects in Asia. With the establishment of the AIIB, it might seem unnecessary to promote another multilateral development bank (MDB) n the region. Moreover, as China is now preoccupied with the AIIB, it might be less enthusiastic in promoting the NEADB, but China's role is quite important to the establishment of the NEADB.

The Need for the NEADB Has Not Been Weakened

Despite the establishment of the AIIB, the need for the NEADB remains:

the NEADB targets Northeast Asia, while the AIIB covers the entire Asia-Pacific region. In addition, the NEADB plans include support for North Korea. The NEADB more directly can help North Korea's transition to a market economy, which is vital to the security of the Northeast Asia region. The launch of the AIIB shows that additional MDBs can be created for Asia, if necessary. The original argument that there was no need for an additional MDB in Asia has lost ground.

The Korean Government Still Has Expectations for an NEADB

The Korean government should be prepared to lay out concrete rationales for the NEADB and persuade neighboring countries to come on board. We should continue to exert efforts to establish the NEADB.

Creation of NEA Fund

What Approach Should We Take to Set Up the NEADB?

First of all, it is necessary to build solid financial cooperation within the Northeast Asia region. Unfortunately, we haven't seen any significant cases of the financial cooperation in this region until now. Many ideas or suggestions for the financial cooperation have been introduced in NEAEF conferences, however, none has been realized yet. The plan for financial cooperation should be more feasible. I propose the creation of a multilateral fund program, which would be less complicated and less restricted than a legal organization.

Proposed Structure for an NEA Fund

The development banks of China, Japan, and Korea should conclude a 'Co-Investment Program Agreement' to constitute an international fund. In the initial stage, three banks such as China Exim, JBIC, and Korea Exim can act

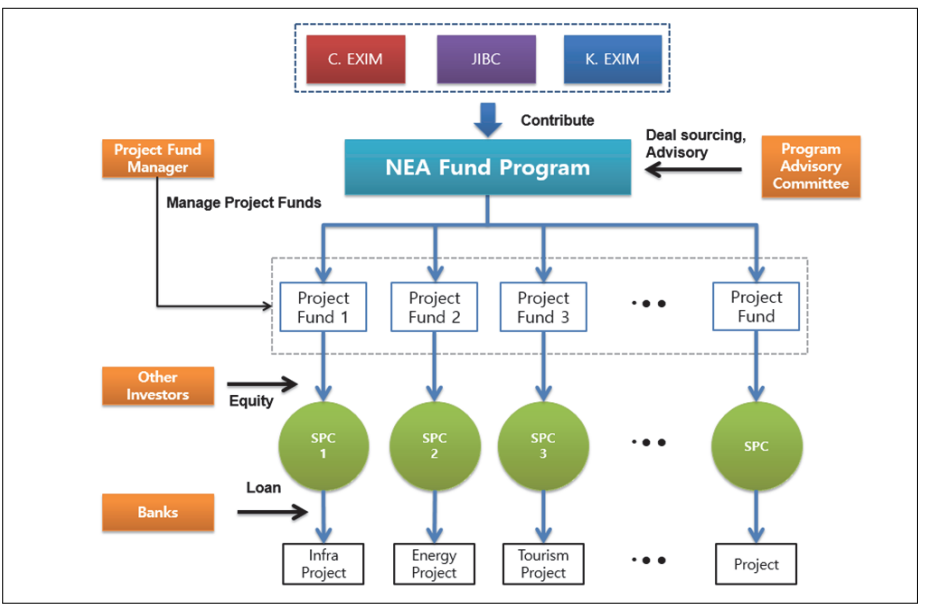
as program leaders. Each bank will commit a certain amount as a contribution to the Fund, this will be a target amount to be 'called.' For instance, the target amount of each ECA may be US$1 billion adding up to the total target amount of US$3 billion.

This might be described as a 'fund of funds' in which capital is invested to finance multiple projects. Each fund will serve the purpose of each project. Each project fund will provide financial support for development projects. Each project fund establishes its own special purpose company (SPC) for the construction and operation of a project.

In this way it could attract many institutional investors as co-investors. MDBs such as AIIB and ADB, sovereign wealth funds, some development banks in NEA could participate in the project funds. If a project is expected to be profitable, it could attract many private investors.

The three ECAs will provide loans or guarantees with the project.

Figure 1. Structure of NEA fund



Commercial banks can participate in lending under the guarantees of ECAs. The SPC can raise funds by issuing project bonds in the international capital market.

Procedures of the NEA Fund Program

Program leaders will seek relevant investment opportunities. They will conduct due-diligence and make independent investment decisions. Once they reach a consensus on investing in a project, they will then propose investment opportunities to prospective co-investors. Co-investors go through their own discrete and independent due-diligence process and make the final decision.

Advantages of the NEA Fund Program

It is relatively simple to embark on financial cooperation of this kind. With only an agreement on co-investment signed by the three ECAs, the NEA Fund Program can be established—and the basis for financial cooperation is set. It does not require a sophisticated legal entity, which attendant complicated procedures.

Contributions to the fund do not need to be made at once. In the beginning, the leading investors set the amount committed to the Fund. When a project is found to be feasible, they then make partial payments for the total committed amount. Importantly, political obstacles could be reduced by such a fund, making funding easier. Project funds will be used on a project basis. If a project is profitable, it could raise a large sum of private capital.

Role of the Greater Tumen Initiative (GTI)

The Greater Tumen Initiative (GTI) could take the leadership in the NEA Fund Program. To realize the Fund, there needs to be a main agent that will take on the task. The function and organization of the GTI could well serve this purpose.

Table 1. List of Projects Studied by GTI

Sector	Implemented Projects
Transport	TREDA Transport Forecast Study (1997-1999)
	Pre-Feasibility Study for Mongolia-China Railway (1997-1998)
	Rajin-Wonjong Road Pre-Feasibility Study (2001)
	Integrated Transport Corridor Study (2012)
	Evaluation Study of Sea-Land Routes in Northeast Asia (2013)
	Study on Software Support to the Operationalization of Transport Corridors in the Greater Tumen Region (2014)
	Trans-GTR Transport Corridors: Financing Infrastructure Development (2014)
	Rajin(DPRK)—Khasan (Russia) Railway and Port Study (2014)
Trade & Investment	Investment Guides for Yanbian (1998), Rajin-Sonbong Zone (1996-1998), Primorsky Territory (1998-2000)
	Tumen River Investor Services Network (1999-2005)
	GTR Comprehensive Trade Facilitation Study (2013-)
Tourism	Mt. Paekdu/Changbai Tourism Study (1998-1999)
	Training in Tourism Marketing Techniques (2000-2001)
	Tourism Marketing and Product Development (2002)
	Multi-destination Tourism (MDT) Study (2013)
Energy	Baseline Study for Energy Cooperation (2005-2006)
	Energy Capacity Building Enhancement Programme (2013-)
	Preliminary Economic Analysis of Power Generation and Transmission through Korean Peninsula Project (2014)
	Industrial Energy Efficiency Experience Exchange Workshop (2014)
	Post-Workshop Research on Regional Industrial Energy Efficiency Cooperation
	Feasibility Study of Cooperation on Coal to Synthetic Natural Gas in Northeast Asian Region
Environment	Survey of Leopard and Tigers in Jilin Province (1998)
	Jilin Pulp and Paper Mills Pre-Feasibility Study (2002)
	Musan Iron Ore Mine Pre-Feasibility Study (2000-2005)
	Tumen River Area Water Quality Assessment (2010)

Source: Wang Weina(2014), *Regional Economic Cooperation under the Framework of the Greater Tumen Initiative*, p. 8, Greater Tumen Initiative.

The GTI is the only Northeast Asian Consultative body with a Secretariat dedicated specifically to the development of this region. GTI membership includes China, Russia, Mongolia, and South Korea. North Korea was a member until 2009, and Japan takes part in the GTI Local Cooperation Commission. The GTI mission is to increase mutual benefits, to strengthen economic cooperation, and to attain sustainable development in the Northeast Asia region.

A Northeast Asia EXIM Bank association within the GTI could become the guiding agency in implementing the Fund Program. A NEA EXIM Bank Association was organized to enhance financial cooperation in the GTI's development projects in September 2014. It could take the initiative in designing and implementing the NEA Fund program by utilizing its network and staff. NEA The members of the NEA EXIM Bank Association are China Exim, Korea Exim, Russia's VEB, and the Mongolian development bank. They have been examining how to promote financial cooperation among GTI members in a more practical way. Korea Exim bank was the Chair bank in 2015, and was very active in pursuing tangible results.

Conclusion

Even though the AIIB has been launched, we should continue to promote the establishment of the NEADB. Until the NEADB is established, we need to build up financial cooperation in the NEA region. The NEA Fund Program is a relatively simple financing tool to make realize financial cooperation in an effective way. This Fund program should be led by the NEA EXIM Bank Association as an affiliated organization of the GTI.

Establishing a Northeast Asian New Financial Institution to Promote Regional Economic Cooperation and Development

Zou Lixing

Global economic reforms and adjustments and development in the 21st century demonstrate the important features and dynamics of "regionalization, networking, and coordination." Development of a 'capital economic circle' in Northeast Asia, the free trade zone of Greater Tumen River Area, and the China-Mongolia-Russia high-speed corridor all require financing and 'intelligent support.' It is of great importance for Asian and global development to deepen financial cooperation in Northeast Asia, to establish a new financial institution in this region, and to promote organic regional economic cooperation and infrastructure interconnection.

Strategic Value of and Market Demand for a Northeast Asian New Financial Institution

A New Fund Facilitates Infrastructure Construction for "Two Circles and One Corridor"

The capital economic circle comprising Beijing, Tianjin and Hebei, Seoul, and Tokyo, a multilateral free trade circle with the Tumen River as the core,

and the China-Mongolia-Russia high-speed corridor closely related to the Silk Road demonstrates the important features of the global economy as "regionalization, networking, and coordination." This may give rise to a new 'cluster development' situation of the "two circles and one corridor." A new Northeast Asian financial institution could perform its special financial functions and gradually develop both the core and new-types of financial support mechanisms for regional economic integration in Northeast Asia, in order to promote sustainable and balanced economic development in this region.

A New Financial Institution to Bring about Peace and Development in Northeast Asia

As a new financial institution for Northeast Asia would aim to provide financing for projects involving cooperation and geared toward regional economic and social development, it is of high possibility that the institution and the projects it finances could act as a breakthrough in solving political issues. Such an institution can engender a sense of a Northeast Asian community, advocate equality, mutual trust, inclusiveness, cooperation and a win-win spirit. It can help turn challenges into opportunities and conflicts into cooperation. It can enhance political mutual trust, improve friendship, and calls for joint efforts to develop a peaceful, stable and prosperous Northeast Asia.

A New Financial Institution as a Strategic Platform to Strengthen Mutual Trust and Cooperation and Integrate Financial Support

A Northeast Asian financial institution would work closely with forums and academic groups in this region to bridge the government and the market and connect strategies and actions across sectors. Such cooperation would represents a 'track 1.5' communication mechanism and a negotiation channel in the region; it would become a new measure to generate new content, progress, and new form of mutual trust and coordination in Northeast. Such an institution could also contribute to the transformation and upgrading of the economic structures

of Northeast Asian countries**.** The new institution could also improve the region's capability of countering the financial crises.

The Relationship between a New Northeast Asian Financial Institution and the Asian Infrastructure Investment Bank (AIIB)

A new Northeast Asian financial institution is conceived as a new mechanism to deepen subregional financial cooperation. Cooperation and complementarity between this new financial institution or fund and other international financial institutions, especially the AIIB might work as follows:

A Northeast Asian financial institution would strategically complement the AIIB in terms of financial services. According to preliminary estimates between 2014 and 2024, the cross-border financing demand for infrastructure construction in Northeast Asia will total US$3,300 billion, or US$330 billion annually, leaving a funding gap as high as 90%, which can be filled neither by the Asian Development Bank nor the Asian Infrastructure Investment Bank. The new fund could help resolve this funding bottleneck.

The new fund can also serve as a strategic tool to promote subregional cooperation especially in energy saving and environment protection, Northeast Asian countries, joined by mountains and rivers, share the same destiny and strong will for cooperation, but lack effective approaches.

Basis and Path to establish a New Northeast Asian Financial Institution

With 57 founding members, the Asian Infrastructure Investment Bank (AIIB) was established in June 2015, receiving initial capital of US$100 billion, 26% from China, 7.5% from India, 5.9% from Russia, and 60.6% from the remaining 54 members. Its establishment has garnered positive attention from the international community but also has given rise to some doubts.

First, the integrity of the AIIB is affected by the refusal of Japan and the US to become members.

Second, some believe the purpose of the AIIB if for China to make more money, market its capacity and products, and expand its influence across the region—bring more countries under its influence and challenge the current international order and governance structure.

Third, there is concern that the dominance of the three major stakeholders (all three emerging countries) may result in a low credit for the AIIB which may affect lending costs and terms. This may also result in a poor capacity for risk control—the bank may fail to control investment risks of large projects. Finally, there are concerns over the ability of a bank dominated by the three largest stakeholders to adopt an efficient, transparent, and equitable approach to maintaining sustainable development. Such concerns are understandable and can be resolved.

Financial Cooperation in Northeast Asia: Japan's Perspective

Hideo Naito

The Potential of Northeast Asia

The countries and regions in Northeast Asia are endowed with economically complementary natural and human resources. This potentially allows for huge opportunities to develop mutual cooperation. The complementarities are based on the advanced technologies and capital from Japan and South Korea; the well-trained competitive labor force of China, and the natural resources of Russia and Mongolia. Recent initiatives by the countries of Northeast Asia signal their expectation to take advantage of the potentials the region has to offer.

The Chinese central government, for example, announced an action plan to assist its Northeastern regions with a list of new measures to: 1) free up private businesses, 2) deepen reforms of state-owned enterprises (SOEs), 3) develop modern agriculture, 4) renovate urban rundown areas, and 5) launch dozens of infrastructure projects in the Northeastern provinces of Liaoning, Jilin, and Heilongjiang.[1] Another example is the Russian government stating that the development of Siberia and the Russian Far East is a national priority for the 21st century, and its intention to invest $US 240 million in the infrastructure of its Far East.[2] Other examples include South Korea's "Northeast Asia Peace and Cooperation Initiative" and its "Eurasia Initiative," as well as Mongolia's

1) China Daily (20 August 2014).
2) Moscow Times (16 July 2015).

"Third Neighbor Policy" (that is, the pursuit of enhanced economic relations with countries other than Russia and China), and the Mongolia-Japan Economic Partnership Agreement (EPA)—the first EPA for Mongolia.

Emerging Cross-Border Projects

A number of cross-border projects also serve as examples of the potential of Northeast Asia, and they signal a willingness by the countries of Northeast Asia to take advantage of this potential. The Russian Direct Investment Fund (RDIF) is considering collaboration on a project to construct the **'Big Port of Zarubino**,' a new universal port in Primorsky Krai. The project is led by PortTrans, which is controlled by Summa Group. According to an agreement of intent on joint development signed by RDIF and PortTrans, RDIF will also assist in attracting leading international investors from the Asia-Pacific Region. The Big Port of Zarubino will have an estimated freight turnover of 60 million tons per year, and will be constructed in Troitsk Bay of the Khasansky District, Primorsky Krai. The port will include grain and container terminals, as well as a general cargo terminal. A number of major international port operators and investors have shown interest in participating in the project.[3)]

The **'Power of Siberia'** is another important project exemplifying the potential for economic cooperation in Northeast Asia. In 2014 Alexey Miller of Gazprom and Zhou Jiping, Chairman of the China National Petroleum Corporation (CNPC) signed a contract to supply pipeline gas from Russia to China via the eastern route. According to the 30-year contract, Russia will supply China with 38 cubic meters of gas annually.

The government of the Chinese province of Jilin has proposed to construct a **high-speed railway** between Hunchun (on the China-Russia border) and Vladivostok. The idea was discussed at a meeting between Primorye Governor Vladimir Miklushevsky and the first secretary of Jilin Province's Communist Party of China Committee, Bayin Chaolu. If the project is implemented it would

3) Russian Direct Investment Fund n (RDIF).

be the first cross-border high-speed railway between the two countries. It has also been reported that China's Heilongjiang Province has proposed launching **passenger rail service** between Harbin and Vladivostok.

The idea for a **Russia-Japan energy bridge** emerged in early 2000 and has recently been revisited. The Russian section of the energy bridge between Sakhalin and Hokkaido prefecture in northern Japan was estimated at US$5.5-6 billion. Four factors involved in this project cited by the governor Sakhalin Region are: 1) modernization and construction of generation facilities and power lines on the island of Sakhalin; 2) electric power connection between Sakhalin and Japan in La Perouse Strait, 3) development of necessary grid infrastructure in Hokkaido, and 4) construction of electrical devices on the islands of Hokkaido and Honshu.[4)]

Recent Trends in Financial Cooperation in Northeast Asia

Asian Infrastructure Investment Bank (AIIB)

In October 2013, Chinese President Xi Jinping announced the AIIB initiative during a visit to Southeast Asian countries. A year later 22 Asian countries gathered in Beijing to sign an MOU to establish the AIIB. In May 2015 the final text of the Articles of Agreement (AoA) was adopted at the 5th Chief Negotiators' Meeting held in Singapore. In June 2015, Representatives from 57 prospective founding members (PFMs) gathered in Beijing at a signing ceremony of the bank's AoA; 50 PFMs signed the Articles. To date there are 37 regional members[5)] and 20 non-regional members.[6)]

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4) Government of Sakhalin Region, ITAR-TASS News Agency (January 28, 2014).

5) Regional Members: Australia, Azerbaijan, Bangladesh, Brunei Darussalam, Cambodia, China, Georgia, India, Indonesia, Iran, Israel, Jordan, Kazakhstan, Korea, Kuwait, Kyrgyz Republic, Lao People's Democratic Republic, Malaysia, Maldives, Mongolia, Myanmar, Nepal, New Zealand, Oman, Pakistan, Philippines, Qatar, Russia, Saudi Arabia, Singapore, Sri Lanka, Tajikistan, Thailand, Turkey, United Arab Emirates, Uzbekistan, Vietnam.

6) Austria, Brazil, Denmark, Egypt, Finland, France, Germany, Iceland, Italy, Luxembourg, Malta,

The purpose of the AIIB is to: 1) foster sustainable economic development, create wealth and improve infrastructure connectivity in Asia by investing in infrastructure and other productive sectors; and 2) promote regional cooperation and partnerships in addressing development challenges by working in close collaboration with other multilateral and bilateral development institutions. The head office of the AIIB would be in Beijing, China, other offices may be opened elsewhere.

The authorized capital of the AIIB is set at US$100 billion. The breakdown for regional and non-regional members is 75:25. The basic parameter for allocation of capital stock to members is the relative share of the global economy of members (based on GDP) within the regional and non-regional groupings. The three largest shareholders are China, India, and Russia, in that order. Members' voting power is based on the sum of their Basic Votes, Share Votes, and where applicable, Founding Member Votes.

Regarding the banks governance, all powers of the AIIB are vested in the Board of Governors. The AIIB will have 12 directors on its Board: nine elected by regional members and three elected by non-regional members. The president will conduct the business of the bank under the direction of the board of directors.

The New Development Bank, BRICS (NDB BRICS)

The intention to establish a development bank was announced in March 2013 at the fifth BRICS Summit in Durban. In 2014 Brazil, Russia, India, China, and South Africa agreed on the establishment of the New Development Bank (NDB). In July 2015 the NDB was formally launched in Shanghai.

The purpose of the NDB is to mobilize resources for infrastructure and sustainable development projects in BRICS and other emerging market economies and developing countries. It is envisioned that the NDB will complement the existing efforts of multilateral and regional financial institutions for global growth

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Netherlands, Norway, Poland, Portugal, South Africa, Spain, Sweden, Switzerland, United Kingdom.

and development. The bank is to be headquartered in Shanghai, China with the first regional office in Johannesburg, South Africa.

The founding members are Brazil, Russia, India, China and South Africa (the BRICS), and membership will be open to members of the United Nations at such times and in accordance with such terms and conditions as the bank shall determine by a special majority of the board of governors.

The voting power of each member is equal to the number of its subscribed shares in the capital stock of the bank. The initial authorized capital is set at US$100 billion and the initial subscribed capital at US$50 billion. All the powers of the bank are vested in the board of governors. The board of directors is responsible for the conduct of the general operations of the bank. The board will also elect a president from one of the founding members on a rotational basis.

The Silk Road Fund/One Belt, One Road/the Belt and Road Initiative

In September 2013 the Silk Road Economic Belt concept was introduced by Chinese President Xi Jinping during a visit to Kazakhstan. In October 2013 President Xi proposed building a close-knit China-ASEAN community encouraged by the construction of a '21st Century Maritime Silk Road' to promote maritime cooperation. Also along these lines, in March of 2014 Premier Li Keqiang called for accelerating the construction of the 'One Belt, One Road.'[7)]

According to an announcement by President Xi Jiping, China will contribute US$40 billion to set up a Silk Road infrastructure fund to boost connectivity across Asia. The fund will be for investing in infrastructure, resources, industrial and financial cooperation, etc. The goal of the fund is to 'break the connectivity bottleneck' in Asia. The fund is to focus on China's 'Silk Road Economic Belt' and the '21st Century Maritime Silk Road' initiative, which aim to build roads, railways, ports, and airports across Central Asia and South Asia.[8)]

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7) The State Council the People's Republic of China.

8) "China to Establish $40 billion Silk Road Infrastructure Fund"(2014), Reuters. (8 November).

Figure 1. Silk Road economic belt and 21st century maritime Silk Road

Partnership for Quality Infrastructure

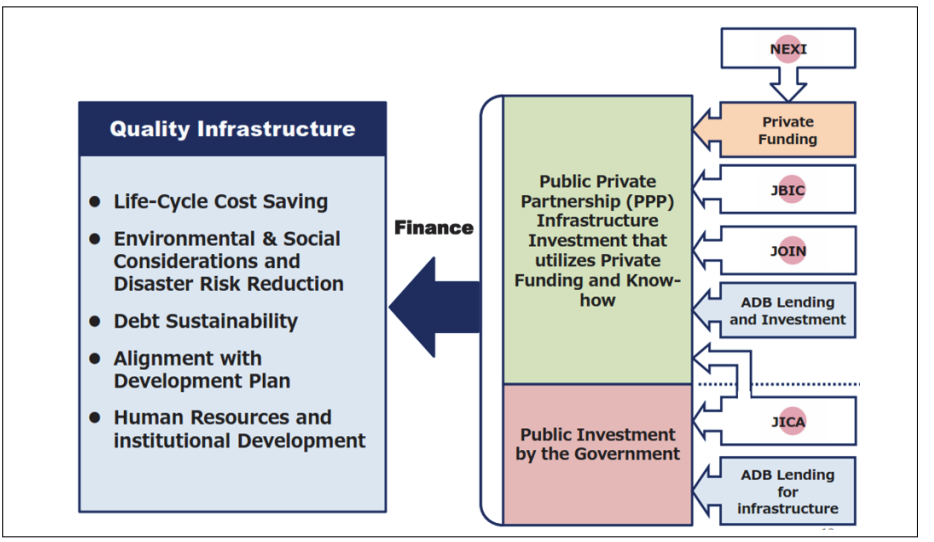
Investment for Asia's Future

For its part, Japan is promoting 'quality infrastructure investment' through a policy of 'Partnership for Quality Infrastructure: Investment for Asia's Future,' which consists of four pillars defined in Table 1. The partnership involves collaboration with other countries and international organizations. To that end, Japan, in collaboration with a strengthened Asian Development Bank (ADB), will provide approximately US$110 billion (about a 30% increase) for quality infrastructure investment in Asia over the next five years.

Table 1. The Four Pillars of a Partnership for Quality and Objective

Partnership for Quality				
1st Pillar	2nd Pillar	3rd Pillar	4th Pillar	
Expansion and acceleration of assistance through full mobilization of Japan's economic cooperation tools	Collaboration between Japan and ADB	Measures to double the supply of funding for projects with relatively high risk profiles by enhancement of the function of JBIC	Promoting "Quality Infrastructure Investment" as an international standard	➡ Pursuit of both 'Quality and Quantity' by way of mobilizing private finance

Figure 2. Japan's financing tools



Examples of Quality Infrastructure Investment

The Delhi, India metro is an example of 'quality infrastructure investment.' The metro provides comfortable and convenient means of transportation for

about 2.5 million people every day. It mitigates traffic congestion and air pollution in the metropolitan area. The project disseminates the idea of 'safety first' and the importance of 'on-time delivery' at construction sites. The metro also contributes to reducing electricity consumption and CO2 emissions with a Japanese high-tech brake system.

Another example is the Jakarta-Bandung high speed railway. This high-speed railway reduces long-term life-cycle costs. It realizes safety operations based on the experience of Japan's high speed rail, the Shinkansen (zero passenger fatalities in 50 years) and its cutting-edge technology to prevent (or manage) damage from earthquakes. The Jakarta-Bandung high speed rail also realizes efficient operation by Indonesians from the Day One through the human resource development experience of Japan.

Finally, in Vietnam the Nhat Tan Bridge (Vietnam-Japan Friendship Bridge) achieves high resilience despite the softness of the ground by applying a construction method in which Japan has superior skills and experience. The project is an example of technology transfers to Vietnamese engineers through the construction process. It also contributes to improving the safety level throughout the country through the adoption of the construction method introduced by the project as a national standard.

Japan and NEA Potential

JBIC and Mongolia

The Japan Bank for International Cooperation (JBIC) actively works with Mongolia in quality infrastructure investment. In June 2013, JBIC extended an export line of credit to the Mongolian government. A general agreement with the Ministry of Economic Development of the Government of Mongolia resulted in the first export line of credit equivalent to 8 billion yen. This credit line is to provide medium- and long-term financing for the purchase of Japanese machinery and equipment by Mongolian local companies.

A second export line of credit agreement in June 2015, supports the export of Japanese mining equipment to Mongolia. A loan agreement in the amount of up to about 200 million Japanese yen (JBIC portion) is intended to provide, through the Ministry of Finance of Mongolia, the necessary funds for the Mongolian company Khishig Arvin Industrial to purchase from Sumitomo Corporation mining machinery made by Komatsu (and related services).

Table 2. PPP-Readiness Assessment Criteria

Legal and regulatory framework
Consistency and quality of PPP regulations Effective PPP selection and decision making Fairness/openness of bids, contract changes Dispute resolution mechanisms
Institutional framework
Quality of institutional design PPP contract, hold-up and expropriation risk
Operational maturity
Public capacity to plan and oversee PPPs Methods and criteria for awarding projects Regulators' risk allocation record Experience in electricity, transport, and water concessions Quality of electricity, transport, and water concessions
Investment climate
Political distortion Business environment Political will
Financial facilities
Government payment risk Capital market for private infrastructure finance Marketable debt Government support and affordability for low income users
Sub-national adjustment
Sub-national adjustment factors (national adjustment for states)

Source: "Evaluating the environment for public-private partnerships in Asia-Pacific: The 2011 Infrascope," EIU/ADB.

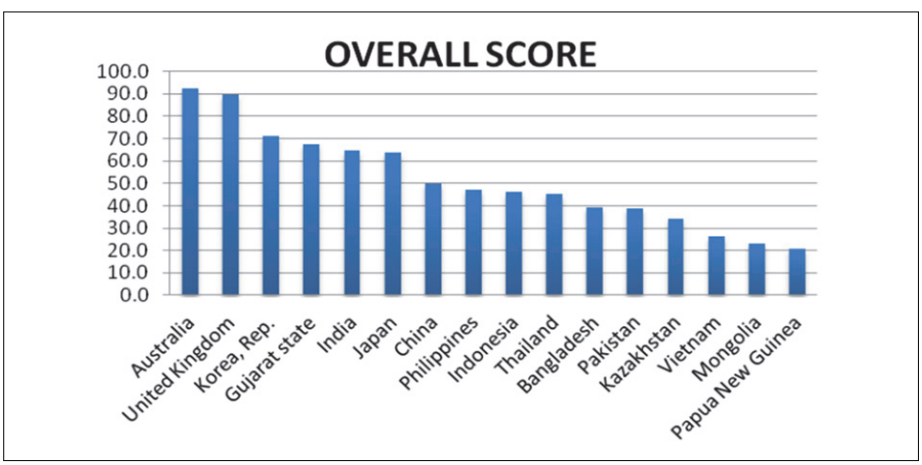
Potential Infrastructure Project in Mongolia

The Combined Heat and Power Plant Number 5 Project (CHP 5), is also a significant example of the potential for cooperation and investment in infrastructure in Northeast Asia. The project site is near Ulaanbaatar, Mongolia. The project involves the Mongolian Government and sponsorship from Sojitz Corporation (30%), Engie (30%), POSCO Energy (30%), and Newcom (10%).

Public Private Partnership (PPP) Readiness in Asia-Pacific

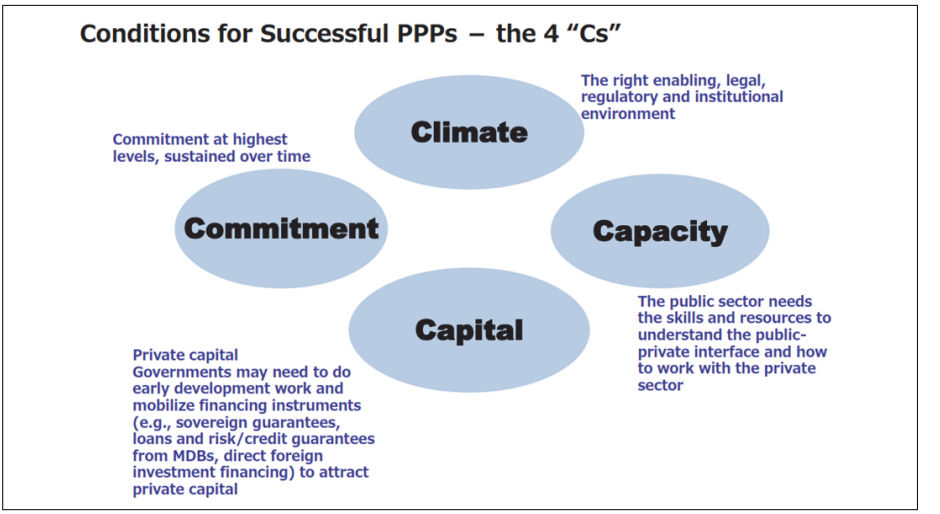
In discussing the potential of Northeast Asia, it is important to consider and assess PPP readiness in Asia-Pacific. The scoring criteria for such an assessment takes into consideration: 1) the legal and regulatory framework, 2) the institutional framework, 3) operational maturity, 4) the investment climate, 5) financial facilities, and 6) subnational adjustment factors.

Figure 3. PPP readiness overall score comparison



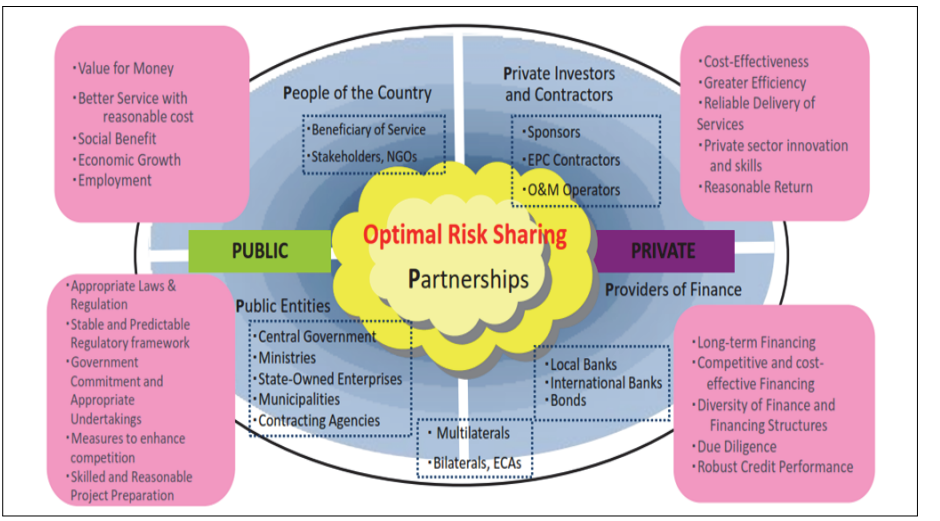
Source: "Evaluating the environment for public-private partnerships in Asia-Pacific: The 2011 Infrascope," EIU/ADB.

Figure 4. World Bank Group infrastructure strategy



Source: "Transformation through Infrastructure," *Infrastructure Strategy Update FY2012-2015*, World Bank Group.

Figure 5. Acceleration of infrastructure development through PPP



Acceleration of infrastructure development is achieved through PPP. Obligations and risks are shared among all parties in an optimal way. Optimal risk sharing leads to minimizing costs and waste of time, while promoting further competition, and enhancing the performance and quality of services provided by the PPP project.

Table 3. Annual Infrastructure Investment Needs in Northeast Asia (US$billion)

	Country/ Area	Northeast China	North Korea	Mongolia	RFE	Cross-border	Total
Sector	Period covered	2010-20	2011-20	2010-15	2013-25		
Transport		12.6	4.3	0.7	4.0	0.8	22.4
Energy		31.0	1.0	0.8	0.9	1.2	34.9
ICT		4.0	0.0	0.1	0.0	0.1	4.2
Environment		1.2	0.0	0.1	0.0	o.1	1.4
Total		48.8	5.3	1.7	4.9	2.2	62.9

Source: Masahiro Kawai(2013), Financing Development Cooperation in Northeast Asia, ADBI Working Paper Series, no. 407, Asian Development Bank Institute. (February)

Project success is dependent on the provision of stable finance and formation of good projects. Stable finance comes from public lenders (multilaterals, bilaterals, ECAs, etc) and private capital (international banks, institutional investors through capital markets, credit enhancement by public lenders and/or host government—to mobilize private capital, and local banks and capital markets. Good projects require the right conditions for PPPs (the World Bank 4Cs, 5Ps), support from the public sector, and an enabling environment defined by stable economic and politcal conditions, a stable and predictable investment climate and regulatory framework, and bankable feasibility instead of wishful thinking.[9)]

9) Marco Airoldi *et al.*(2013), "Bridging the Gap, Meeting the Infrastructure Challenge with Public-Private Partnerships," The Boston Consulting Group. (February)

The Belt and Road Initiative: Ambition and Reality of China's "Go Global" Strategy

Liu Ming

"One Belt, One Road" is a development strategy initiated by the Chinese government in 2013. It refers to the New Silk Road Economic Belt, which will link China with Europe through Central and Western Asia, and the 21st Century Maritime Silk Road, which will connect China with Southeast Asian countries, Africa, and Europe. The two are collectively known as the Silk Road Initiatives. Neither the belt nor the road follows any clear line geographically speaking; they serve more as a roadmap for how China wants to further integrate itself into the world economy and strengthen its influence in these regions. Many of the countries mentioned have traditionally had close trade and investment relations with China, and China's development strategy aims to deepen cooperation in these areas, especially in terms of building infrastructure and other development projects. The strategy underlines the government's push to have a bigger say in global economic and political affairs, and to export China's technologies and solve the overcapacity problems of some Chinese industries such as, steel manufacturing.

The Silk Road has a long history. The ancient Silk Road was a pivot on which human history turned. Ancient empires including the Roman Empire, Parthian, Kushan, Hephthalite, Persian, Khwarezmian, and Mongolian all played important roles on the Silk Road in promoting exchange and the integration of the civilizations the East and West. The Silk Road also facilitated international

migration. There is strong willingness in China to revisit this history of success and promote a new era of the Silk Road.

However, although China tries to assure the countries involved that the new "Belt and Road" strategy has enormous potential to create positive benefits for China's neighbors, there are a great many challenges to implementing the strategy. This chapter will illustrate that China's new "Belt and Road" strategy has enormous potential to create positive benefits for China's neighbors, that it will take time and require a very careful approach ensure the plan's potential is maximized.

Background of the Belt and Road Initiative

According to the National Development and Reform Commission of China (NDRC), China's proposal of a Belt and Road initiative is vital. Complex and profound changes are taking place in the world. The underlying impact of the international financial crisis continues as the world economy recovers slowly, and global development remains uneven. The international trade and investment landscape and rules for multilateral trade and investment are undergoing major adjustments; and countries still face enormous challenges to their development. According to China, the initiative to jointly develop the Belt and Road illustrates a desire to embrace trends toward a multipolar world, economic globalization, cultural diversity, and broadening IT application. It is designed to uphold a global free trade regime and open world economy in the spirit of open regional cooperation. It aims to promote an orderly and free flow of economic transactions, a highly efficient allocation of resources, and deep integration of markets. It encourages countries along the Belt and Road to achieve economic policy coordination and carry out regional cooperation that is broader, and more in-depth, and of a higher standard. It will allow the joint creation of an open, inclusive and balanced regional economic cooperation architecture to the benefit of all.

Trade and investment trends are providing great opportunities for China.

As China's relations with European and Asian countries have developed rapidly over the past 20 years, the old Silk Road has been reinvigorated. As the world's most rapidly developing economy, China values the development of new opportunities. Instead of seeking domination in regional affairs and carrying out military expansion, China advocates that countries should pursue common development and enhance mutual trust, strengthen cooperation, and common prosperity. The long history of the Silk Road provides evidence that countries of different races with different beliefs and cultural backgrounds are able to cooperate in order to benefit from peace and common development.

Belt and Road Initiative: Challenges

Ideally, the Belt and Road initiative will create a better international environment. However, it remains a challenging strategy. It requires cooperation among all countries involved as well as the mobilization of international capital. Regional financial development is a critical issue. China has already proposed and taken concrete steps to promote the establishment of the Asia Infrastructure Investment Bank (AIIB). Originally, China wanted to establish the AIIB with a 'traditional friends' such as Cambodia, Laos, and Pakistan. Given that the World Bank (WB) and the Asian Development Bank (ADB) cannot cover all projects demanded from the various member countries, China originally wanted to make the new institution play a complementary role to the WB and ADB. However, China also believes that through financial 'expansion', it is able to increase its voice in the world and that it can promote its financial power through a new institution. Thus, when interest in the AIIB grew, China reconsidered the originally more limited bank membership. In April 2015, for instance, the United Kingdom declared its interest in supporting the AIIB, this was followed by interest from other European countries, and then Korea (the United States and Japan have declined to join). As a result, China's ambitions for the AIIB have now expanded along with its potential membership.

Nonetheless, most countries continue to have reservations about the AIIB

and are don't want to see China use the AIIB as the main financial tool for developing the Belt and Road plan—they see potential risks for themselves in this. The Trans-Pacific Partnership Agreement (TPPA) led by the US as well as the Eurasian plan initiated by Russia and ASEAN+3 countries, geographically overlap with the Belt and Road initiative. Competitiveness for a dominant position is obvious. Moreover, the large area of the Belt and Road includes places where war, religious and ethnic conflicts continue to brew.

Data from the International Country Risk Guide (ICRG) on 56 Belt and Road countries and 34 OECD countries was used to evaluate the political, economic, and financial risk of the Belt and Road area. The ICRG political risk index covers 12 factors and measures a country's political stability. According to the data, most of the 56 Belt and Road countries are categorized as high political risk countries. Only three countries are considered low risk and another five of modest risk. All others are considered high risk countries, and about 20% fall into the category of highest risk, among them, Iraq, Syria Yemen, Ukraine, and Afghanistan.

Table 1. Weight of Political Risk in Belt and Road Area

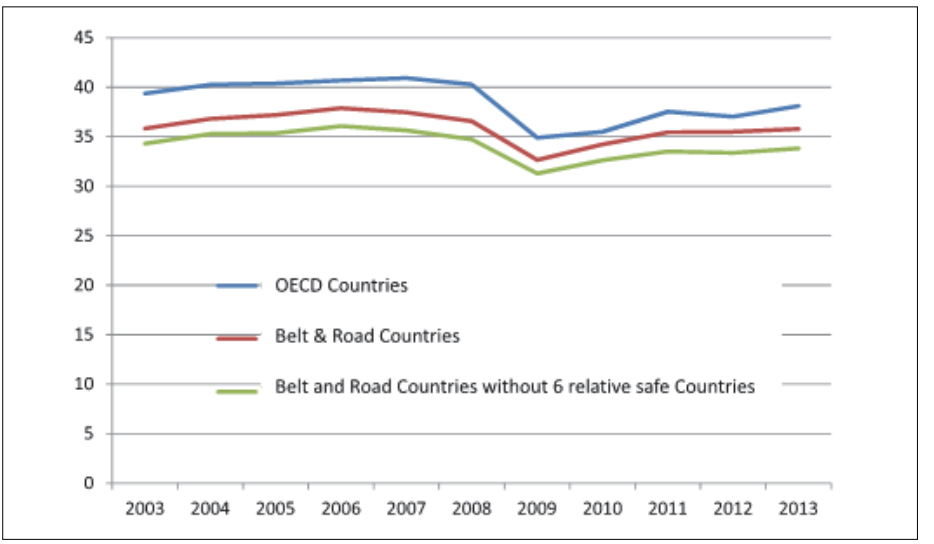
Government stability	12%	Military power (intervene)	6%
Socio-economic environment	12%	Religious tensions	6%
Investment environment	12%	Law and social order	6%
Internal conflict	12%	Ethnic tensions	6%
External conflict	12%	Democracy	6%
Corruption	6%	Administrative institutions	4%

Note: 2003-2013 data.
Source: International Country Risk Guide (ICRG).

The ICRG also provides economic risk measurements. Five variables are included in the index for this: 1) current account/GDP, 2) national debt/GDP, 3) inflation rate, 4) real GDP growth, and 5) GDP per capita. Figure 1 provides

an economic risk index comparison of OECD countries and Belt and Road countries. Among the 56 Belt and Road countries, the OPEC member countries and Singapore are considered developed countries, as such, they have very low economic risks. Overall, however, the economic risk of Belt and Road countries is about 10% higher than that for OECD countries, and this difference has not been affected by the financial shocks.

Figure 1. Economic risk index comparison of OECD countries and Belt and Road countries (2003-2013)



Note: Higher score denotes lower risk.

The ICRG financial risk index looks at five variables: 1) current accounts/exports, 2) interest payments/exports, 3) overall debt/GDP, 4) stability of exchange rate, and 3) reserves. After the 1997-1998 Asia financial crisis, many Belt and Road countries accumulated a huge amount of reserves and reduced debt, while developed countries did not. This explains why the financial risk of the Belt and Road Area is relatively on par with that for OECD countries.

Conclusion

The Belt and Road initiative aims to fulfil a global demand for investment and development that can connect millions of people and spur increased economic growth for both China and many other countries. It has been said that China relies too much on money to solve its problems. As its experience in Sri Lanka, Myanmar, and elsewhere indicates, China needs to grapple with political, social, and economic considerations inherent to successful investment and development. With the international development community prioritizing sustainability, it is in the interest of China, the US, and partner countries to ensure that the Belt and Road initiative continues to evolve and adapt in the coming months and years. Such adaptation can not only achieve important economic development—it can also ensure China does so sustainably and in a manner that does not undermine that very development the initiative seeks.

Appendix

Appendix
The Beijing Statement and Agenda

The Beijing Statement of the Northeast Asia Economic Forum Special Meeting

The Northeast Asia Economic Forum (NEAEF), with support from the Korea Institute for International Economic Policy (KIEP), the Freeman Foundation, the University of Hawaii's College of Social Sciences, and other institutions, convened for the 2015 Special Meeting in conjunction with the Tenth NEAEF Young Leaders Program in Beijing, China from the 26th to the 28th of August, 2015. Representatives from South Korea, the People's Republic of China, Japan, Mongolia, Russia, the United States, and the European Union assembled to discuss and promote economic cooperation and integration among Northeast Asian countries and their global partners. The event was held at the Beijing Institute of Technology in Beijing, China.

The NEAEF Special Meeting panels focused on building a Northeast Asian Economic Community in functional terms of energy and financial cooperation. This year's Forum built upon the 23-year legacy of an open dialogue among member countries toward regional integration, cooperation and peace building in the region. The meeting advanced NEAEF's mission by targeting key issues and developing plans to increase regional cooperation and economic integration in Northeast Asia.

The Special Meeting opened with introductory comments from Dr. Lee-Jay Cho, Chairman of the NEAEF, followed by welcoming remarks from Shi Dinghuan, President of the China Renewable Energy Society. Denise Konan, Dean of the College of Social Sciences of the University of Hawaii at Manoa,

and Steve Cowper, former Governor of Alaska, also provided key introductory remarks to open the meeting.

The morning session focused on renewable energy and the prospects of a low carbon future, beginning with introductory statements regarding China's recent developments in clean energy and an emphasis on clean energy collaboration between the nations of Northeast Asia. The presentations considered the current status of renewable energy developments toward a low carbon society, island energy resources and Hawaii's clean energy transformation. The distinguished speakers believed the essential questions to address were energy conservation, the reduction of GHG emissions, energy security and the costs associated with renewable energy consumption and production. Many of these discussions focused on photovoltaics (PV), their varying regional prices, instability they cause within the power grid, and the role of government in subsidizing PV installation. They also encouraged the promotion of innovation in renewable technology such as power grids, PV, wind power, and other affordable renewable energy resources.

The presenters agreed that the recent climate change agreements between China and the United States, the world's largest economies and carbon emitters, should set an important precedent for climate change and clean energy deals in the future. They also agreed that Hawaii would be a crucial area to demonstrate a high-level renewable energy society, and there are significant areas for Hawaii to collaborate with Northeast Asian countries in areas such as energy storage, transportation, PV, hydropower, and big data. The final remarks pointed to the progression of NEAEF talks on renewable energy and a low carbon future where participants believed that the forum should not just discuss policies, but should also consider tangible projects and practical products. They expressed their anticipation for next year's forum and hoped that the private sector would be represented in order to open these ideas to the market.

The afternoon session on financial cooperation in Northeast Asia focused primarily on the need for deeper financial cooperation through economic incentives and cooperation at sub-regional levels. Integration of markets and connecting regional financial and economic giants such as Beijing-Seoul-Tokyo is a crucial component of the Northeast Asia community. The need for collaboration has

become ever more pronounced under the newly enacted initiatives such as the Asian Infrastructure Investment Bank and One Belt, One Road (OBOR) that afford a strong backbone to the Asia region, but are mainly geared toward widening as opposed to deepening ties in Northeast Asia. All speakers concurred on the call for an establishment of a multilateral FTA and the need to continue to push forward with a Northeast Asian Infrastructure Fund as a prelude to the Northeast Asian Development Bank.

The second day began with an institutional framework with an emphasis on FTAs between China-Japan-Korea and China-Korea. All speakers concurred that a deeper emphasis on breaking trade barriers will allow the sub-regions to integrate more effectively and promote the economic growth of the Northeast Asia community. The speakers believed OBOR was one path toward establishment of infrastructure in currently underdeveloped regions. OBOR will allow for an influx of much needed economic growth, but should serve as a floor, rather than a ceiling, for Northeast Asian integration. The speakers stressed the importance of encompassing logistics, urban development and linking new markets with China's economic production. Providing regional public goods on a mutually beneficial basis is important in China's future FTA policies and economic cooperation.

The speakers discussed the important role of energy in regional integration. Joint efforts in energy production are an integral part of effective and prosperous regional development. The importance of energy efficiency, natural gas, oil, coal and nuclear energy in climate change was emphasized. Russia-Mongolia-China trilateral cooperation has already brought positive results. Agriculture, logistics, food production, construction material, and petrochemicals, as well as education and tourism are areas that should be taken into consideration when focusing on sub-regional development.

The sessions discussed a comparative perspective of the European Union for a Northeast Asian Economic Community. Five critical lessons included the need for time, a step-by-step approach, deepening rather than broadening ties, and the whole being greater than the sum of the parts. Additionally, the speakers agreed on the need for greater economic cooperation to enhance the economies

of underdeveloped regions within countries and among countries. The session emphasized the importance of natural gas trade within Northeast Asia, along with sustainable and safe nuclear energy projects. The speakers concluded with a discussion about the active participation of the DPRK with an emphasis on the importance of beneficially integrating it into the future Northeast Asian Economic Community.

The Northeast Asia Economic Forum offers its sincere appreciation to the host institution, the China Asia Pacific Institute, which sponsored the Special Meeting. The Forum is grateful to KIEP, the Freeman Foundation, the University of Hawaii College of Social Sciences, Nankai University, Tianjin Municipal Government, and Beijing Institute of Technology for their consistent support and cooperation. Special thanks to the SK Foundation China for their contribution. Thanks also to Beijing Film Academy and TRACK2ASIA. The NEAEF would like to express its deepest gratitude to all participants in the 2015 Special Meeting and looks forward to another successful year of progress toward establishing and promoting its mission.

AGENDA

2015 Beijing Meeting in Conjunction with
The Tenth Young Leaders Program (YLP)

24-29 August 2015

Beijing, China

Organized by
Northeast Asia Economic Forum (NEAEF)

With Support from
Freeman Foundation and Other Institutions

Monday, August 24

9:00-9:30 **Introduction to China Asia Pacific Institute**

Zou Lixing, Deputy Director, Research Institute of China Development Bank

9:30-10:30 **Session: China's Aging Population**

Presenters:

Xiao Zhenyu, Director, Committee of Experts in Population, Health and Longevity Studies, China Socio-Economic System Analysis Research Association

He Xinhua, Senior Researcher, Institute of World Economy and Politics, China Academy of Social Sciences

10:40-12:00 **Session: Infrastructure Development and Physical Connectivity in the Context of Regional Integration in Northeast Asia**

Presenter:

Dmitry Reutov, Head of Marketing, Dalzavod Co., Ltd.

Moderator:

Sergei Sevastianov, Director, Asia Pacific International Institutions and Multilateral Cooperation Studies Center, School of Regional and International Studies, Far Eastern Federal University. Russia

13:30-14:50 **Thematic Group Presentation: Trade in Northeast Asia**

15:00-16:20 **Thematic Group Presentation: Infrastructure Development for Physical Connectivity in Northeast Asia**

Tuesday, August 25

Field Trip

14:00-15:20 **Thematic Presentation: Energy and Environment Protection across Borders in Northeast Asia**

15:30-16:50 **Thematic Group Presentation: The Northeast Asia Economic Community**

Wednesday, August 26

9:00-12:00 **Session on Renewable Energy and Low Carbon Future Co-Sponsored by China Renewable Energy Society and the Northeast Asia Economic Forum**

Co-Chairs:

Shi Dinghuan, President, China Renewable Energy Society

Denise Konan, Former Chancellor, University of Hawai'i at Mānoa; Dean, College of Sciences, UHM

9:00-9:20 **Welcome Remarks**

Shi Dinghuan, President, China Renewable Energy Society

Congratulatory Remarks

Steve Cowper, Former Governor of Alaska; CEO and Chairman, Alpha Wolf Production Inc.

9:20-10:40 Presenters:

Li Jun, Executive Director, China Renewable Energy Society

Yoshiki Iinuma, Senior Director, Research Department, Japan Electric Power Information Center
Mark Glick, State Energy Administrator, State of Hawaii

10:50-12:00 Discussants:
Kenji Sumida, Former President, East-West Center; Secretary General, North American Committee, Northeast Asia Economic Forum
Steve Cowper, Former Governor of Alaska; CEO and Chairman, Alpha Wolf Production Inc.

13:30-16:00 **Session on Financial Cooperation in Northeast Asia: Individual Perspectives**
Co-Chairs:
Lee-Jay Cho, Chairman, Northeast Asia Economic Forum; Chairman, Research Center for Financial Cooperation in Northeast Asia
Wang Shuzu, Former Vice Mayor of Tianjin, China

13:30-15:00 Presenters:
Zou Lixing, Deputy Director, Research Institute of China Development Bank
Hideo Naito, Managing Executive Officer and Global Head, Infrastructure and Environment Finance Group, Japan Bank for International Cooperation
Lee Jai-Min, Former Vice President, Korea Export-Import Bank; Professor, Korea Maritime University
Stanley Katz, Former Executive Vice President, Asian Development Bank

15:15-16:30 Discussants:

Jae Hyung Hong, Former Deputy Prime Minister and Minister of Finance, Korea

Zou Ping, Chairman, China Asia Pacific Institute

Zhang Xiaoyan, Deputy Secretary General, Tianjin Municipal Government, China

Zhang Jiangping, Director, Department of International Economic Cooperation, National Development and Reform Commission, China

Liu Ming, Associate Professor, Nankai University, China

16:30-17:30 **Concluding Remarks**

Jiang Zhenghua, Former Vice Chairman, National People's Congress, China

Thursday, August 27

9:00-12:00 **Session on Building a Northeast Asia Economic Community: Country Perspectives**

Chair:

Lee-Jay Cho, Chairman, Northeast Asia Economic Forum; Chairman, Research Center for Financial Cooperation in Northeast Asia

9:00-10:40 Presenters:

Lee Chang Jae, Distinguished Research Fellow, Korean Institute for International Economic Policy (KIEP), Korea

Fu Jingyun, Associate Professor, Institute of Asia-Pacific Studies, Chinese Academy of Social Sciences, China

Tanabe Yasuo, Former Director General, Ministry of Foreign Affairs, Japan; Vice President and Executive Officer, Government

and External Relations, Hitachi
Sergei Sevastianov, Director, Asia Pacific International Institutions and Multilateral Cooperation Studies Center, School of Regional and International Studies, Far Eastern Federal University. Russia
Glyn Ford, Professor and Director, European Center of Asian Studies, European Union

11:00-12:00 Discussants:
Zha Daojiong, Professor, School of International Studies, Peking University
Tony Michell, President, Korea Associates Business Consultancy

14:00-14:30 **Concluding Statement**

Friday, August 28

9:00-10:30 **Policy Makers Meeting with YLP Fellows**
Panelists:
Stephen Cowper, Former Governor of Alaska; CEO and Chairman, Alpha Wolf Production Inc.
Kenji Sumida, Former President, East-West Center; Secretary General, North American Committee, Northeast Asia Economic Forum
Glyn Ford, Professor and Director, European Center of Asian Studies, European Union
Denise Konan, Former Chancellor, University of Hawaii at Mānoa; Dean, College of Social Sciences, UHM

Moderator:
Lee-Jay Cho, Chairman, Northeast Asia Economic Forum; Chairman, Research Center for Financial Cooperation in Northeast Asia

10:30-10:45 **YLP Evaluation**

10:45-12:00 **YLP Completion Ceremony**

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Charles E. Morrison and Marcus Noland eds.

15-02 Building a Northeast Asian Economic Community
Lee-Jay Cho and Chang Jae Lee

2014

14-01 Financing Economic Integration and Functional Cooperation for Northeast Asia A Multilateral Financial Institution

14-02 China's Regional Economic Changes and Korean-China Cooperation

14-03 Changes in Chinese Regional Economic Climate and Korean SMEs' Strategies to Make Inroads into Chinese Market

14-04 Financing Economic Integration and Functional Cooperation for Northeast Asia: Toward a Northeast Asian Economic Community

2013

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