

A Subregional Energy Community: Climbing a Ladder of Aspirations

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On September 17–18, 2004, the 13th international conference organized by the Northeast Asia Economic Forum (NEAEF) took place in Seoul. I was invited to participate as a discussant in the third session, focusing on the theme “Toward a Northeast Asian Energy Community”. The lead thematic paper was presented by Robert Priddle, former Executive Director of the Paris-based International Energy Agency (IEA).¹

This was a most authoritative presentation by a speaker of high international stature with extensive professional experience. In his presentation, Robert Priddle spoke about issues and opportunities for promoting the idea of a subregional energy community. This is a very important subject, considering that energy projects and energy cooperation in this subregion could serve as the main building block for regional integration and economic cooperation involving Russia and its energy wealth.

This paper aims to discuss some of the main points made by Mr. Priddle, while also proposing some concrete steps relating to subregional energy cooperation, including the ongoing energy dialogue between Russia and Japan.

Highlights and Comments

First of all, several points to which the speaker referred both in his paper and the opening speech must be highlighted and discussed. For example, he indicated that today, the price and availability of crude oil has been and remains the central energy policy issue for many countries. Among the sources of pressure that international oil markets are experiencing are both genuine factors, such as growing demand for oil on the part of the US, China and India, and perceived uncertainties, including the internal politics of Saudi Arabia, the continuing war in Iraq, and the overall instability in the Middle East and Venezuela.

The long-term future of energy prices is unknown, but many experts have questioned the oil production capacity of OPEC producers, particularly long-term projections of this capacity. The *World Energy Outlook 2002* published by the IEA predicted that global oil demand in 2020 would rise to almost 119 Mbd (with 57.5 Mbd supplied by OPEC), a rise of 1.5 Mbd compared with its own figures published in the *Outlook 2001*. The IEA currently estimates the 2030 production volume to be 120 Mbd. The question

is why the IEA has altered its estimate of oil demand in the space of just one year?

Indeed, opinions differ on whether the world is going to face an absolute shortfall in the supply of oil. Views such as the “run out of oil soon” scenario and the “nothing to worry about” perspective are both extreme and erroneous. First of all, it is very difficult to estimate the quantity of resources classified as “reserves”. Secondly, future patterns of energy demand are also unknown. Thirdly, there is “investment filling” between projected demand and the available supply: demand projections that are overly optimistic about capital availability could overestimate the future supply capacity. For example, oil demand growth in 2004 is more than double the average of the preceding six years, but spare capacity is running very thin.² Finally, in the last two decades, resource additions in both oil and natural gas have dramatically lagged behind increases in demand.³

Political uncertainties and tensions also matter, as well as demand dynamics on the part of key users. Some experts insist that OPEC will only be able to produce 40 Mbd at best by 2020, as opposed to the IEA’s projection of 57.5 Mbd, with Saudi Arabia and Iraq together supplying about 20 Mbd “under ideal political, socio-economic and industrial conditions.”⁴ On the other hand, China alone could require net imports of 10 Mbd by 2030, approaching the 2000 level of US imports of oil and oil products.

Does technology offer an answer? One view is that, while deposits of non-conventional oil and gas are abundant, there are questions about their economic and technical viability.⁵ Another view is that advanced exploration methods have somewhat checked the decline in newly discovered reserves, albeit in areas with a challenging operating environment. As soon as 2010, about half of oil and gas consumption will be reliant on newly developed reserves. Most of these new reserves are located offshore, in deep-sea areas and/or in Arctic latitudes, far away from consumption centers. The increasing complexity of recovery requires advanced technologies and huge start-up investment, estimated at about \$1 trillion for the current decade alone. For example, the investment program of ExxonMobil up to 2010 is estimated to total \$100 billion.

In summary, the conditions that make oil and gas

¹ At the Niigata Energy Forum, which took place on January 31 & February 1, 2004, we were very fortunate to have Robert Priddle as the keynote speaker.

² “Serious About Depletion”, Editorial, *Oil and Gas Journal*, August 23, 2004, p. 17. See also “CERA: World Faces 50% for \$50/bbl oil in 50 days,” pp. 24–25 in the same issue.

³ Harry J. Longwell, Executive Vice-President, ExxonMobil, remarks at the Offshore Technology Conference, Houston, May 7, 2002.

⁴ Aly Morteza Samsam Bakhiari, “2002 to See Birth of New Energy Order,” *Oil and Gas Journal*, January 7, 2002, p. 19.

⁵ “Serious About Depletion,” op.cit.

harder to recover will cause the prices of these resources to increase, with the lower boundary of the proposed price band nearing \$25–\$30 per barrel over the next two decades. However, the upper boundary may be above the \$45–\$50 mark (as estimated by ExxonMobil), reflecting increasing demand for oil and gas accompanied by decreasing discovery volumes. These trends and assumptions clearly dictate that the energy-importing economies of Northeast Asia consider all potential opportunities in securing additional supplies from reserves available within the subregion.

The Potential Role of Russia

Leaving aside global economic development trajectories and political trends, building up additional supplies could help to balance the markets. There is an opinion that new discoveries of oil and gas have not been related to price fluctuations so much as being driven by the evolution of technology and geopolitical developments that have improved access to resources.

Eastern Russia, including Eastern Siberia and the Far Eastern region, serves as an example of these “geopolitical shifts” that have improved access to resources not only for the economies of Northeast Asia, but also for the US. Russia, along with the countries of the Middle East, will meet much of the growth in both oil and gas supply, making the world (and Northeast Asia) increasingly dependent on international energy trade to balance supply and demand, as Mr. Priddle indicated.

Indeed, in 2004, Russia’s oil production is nearing 9 Mbd. In about ten years from now, its oil exports to the “eastern markets” could reach 2.5 Mbd, including 1.6 Mbd supplied by the Taishet-Pacific oil pipeline, 0.6 Mbd delivered to Daqing in China, and about 0.3 Mbd produced by the Sakhalin projects. What policy responses are needed from importers that would support these plans?

It is well known that the investment financing needs of oil- and gas-producing economies in most cases are well beyond the limits of their national budgets. In Russia, the oil sector is largely privatized and oil companies can compete with OPEC suppliers at the lowest boundary of the projected price band, investing in new projects on their own and at their own risk. A different matter is the availability of delivery infrastructure, particularly the oil and gas pipelines and export terminals that the state-owned (Transneft) and state-controlled (Gazprom) companies are going to build and operate. Once again, it seems that early policy responses from importers should support these plans.

Yet another point highly relevant to Northeast Asia is natural gas. Indeed, the entire set of issues, including gas production, transportation, markets and technological applications, is highly relevant to subregional energy cooperation. Gas is an attractive fuel both in terms of uncertainties in the oil market and environmental constraints. Indeed, Russia is the world’s leading gas-exporting country and will remain the dominant global supplier.

Already Russia alone provides 30% of Europe’s

natural gas supplies. The US is planning to buy more LNG from the Middle East and Russia. It is likely that these supplies will also include gas-based products such as synthetic fuels. However, a future balance in natural gas supplies from the Middle East and Russia and, therefore, the distribution of investment funds, flowing into new production and transportation facilities will be determined by an operating environment that could be more favorable in Russia in the long-term.

Obviously, greater energy cooperation would lead to growing energy interdependence - something that the economies of the area may prefer to limit today. However, as Mr. Priddle noted, countries obsessed with reducing their dependence on external supply can easily over-pay. On the other hand, some degree of energy dependence on Russia could also be seen as a positive factor that reduces dependence on other sources that are further away geographically and could become less stable politically.

Government-led Efforts

Cooperation in the energy sector is perhaps the most important part of the Japan-Russia Action Plan, or, at least, its economic component. On the other hand, a document concerning cooperation in the energy sector aimed at defining the directions and details for cooperation in this sector has yet to be adopted.

On the private sector front, both sides have expressed their commitment to advancing issue-specific cooperation in the realm of energy transportation, as well as expressing support for corporate-level business links in oil and gas field development. The Sakhalin II project has made significant progress, but the only advances seen in Sakhalin I have been in the “oil part”. Feasibility studies implemented *vis-à-vis* a Sakhalin-Honshu gas pipeline have confirmed its technical and commercial viability, but ExxonMobil has thus far been unable to secure an agreement with Japanese users of natural gas.

Prior to 2003, feasibility studies for joint implementation projects based on the Kyoto Protocol were implemented. In addition to the convening of the Japan-Russia Joint Committee on Environmental Conservation. Practical steps were made in the area of global environmental issues, including climate change and emissions. In the early 2004, the bilateral meeting on inventories took place in Moscow under the auspices of the Ministry of Environment of Japan and Roshydromet of Russia.⁶ This work will continue during the second workshop to be held in Niigata in early 2005. In the future, Japan and Russia may review the possibilities for specific joint implementation (JI) projects aimed at the reduction of greenhouse gas emissions.

There is a shared understanding that the development of energy resources and the delivery systems (pipelines, sea terminals) is mutually beneficial. For Japan, these activities are important in the context of the oil supply security and the stability of the international energy market. For Russia, the west-east oil and gas pipelines would contribute not only to energy security and export revenues, but also

⁶ Japan-Russia Workshop on Inventories for Greenhouse Gas Emissions, March 16–17, 2004, Moscow. See *ERINA Report*, vol. 58, July 2004, pp. 80-82.

regional economic development and closer economic links with its neighbors.

The Pacific Pipeline

On the Russian side, a political decision to proceed with the Taishet-Pacific pipeline has been made. On September 1, 2004, at the trilateral summit in Sochi, President Putin informed his German and French counterparts about progress with the feasibility study relating to this project, as well as the proposed northern gas pipeline and the expansion of the Baltiyskaya Pipeline System (BTS).

Earlier, Transneft declared its intention to build the pipeline and then proceeded with the feasibility study. The length of the Taishet-Kazachinskoe-Skovorodino-Perevoznaya Bay pipeline is 4,130 km, and pipes with a diameter of 1,220 mm will be used. The pipeline route will cross seven administrative entities: Irkutskaya, Chitinskaya and Amurskaya oblasts, the Republic of Buriatiya, the Evreiskaya Autonomous Oblast, and Khabarovskiy and Primorskiy krajs.

The Pacific oil pipeline system is part of Russia's *Energy Strategy 2020* and its commercial viability is based upon an analysis of long-term forecasts of oil production and consumption in Russia and external demand in the Asia-Pacific region. Until early 2004, there was little clarity on whether the oil reserves already discovered in Eastern Siberia will be sufficient to supply enough crude oil to fill the system. This uncertainty has caused speculation and intense debate centered on the alleged competition between the Pacific route and a route to China. The picture regarding reserves began to emerge after the new government assumed its responsibilities, following the resignation of Mikhail Kasiyanov's cabinet in February 2004.

Tomskaya Oblast and the Khanty-Mansiyskiy Autonomous District in Western Siberia, as well as the oil provinces of Eastern Siberia, have been designated as the resource base for the new oil pipeline system. The largest hydrocarbon provinces are Leno-Tunguskaya and Khatango-Viliuyskaya. Also 92 oil fields have been developed in Tomskaya Oblast, with a further 19 awaiting development. In Khanty-Mansiyskiy district there are 26 explored fields. The majority of explored resources are located in Irkutskaya Oblast and Evenkiya in Krasnoyarskiy Krai, as well as in Yakutia. The crude oil supply for the Pacific pipeline from those areas may reach 56 Mt a year, excluding domestic consumption.

Most of the pipeline will be laid underground, also running across some 435 km of marshland and more than a thousand kilometers of rocky terrain, mudflows and steep hillsides. The pipeline will cross some 50 rivers, both large and small, as well as dozens of motorways and railways. The underground sections of the pipeline will be covered by three layers of an anti-corrosion coating, while the overland pipeline will be protected by an epoxy coating and

other special materials. Motorway and railway crossings will be underground, including those in permafrost areas, which will have thermo-insulation. River crossings will be carried out using both the traditional trench and the trenchless technique.⁷

Pipeline maintenance will be conducted by teams at linear stations located along the pipeline; these will be about 80–100 km apart in mountainous areas and every 200–250 km in flat sections. Remote pumping stations and linear valves in locations without roads will be equipped with helipads. Some 32 pumping stations have been designed, including 13 with tank farms with a total capacity of 2,670 thousand cubic meters. The list of installations to be built includes cargo terminals capable of accepting tankers of 300 thousand tons deadweight, piers and auxiliary facilities. The system will be highly reliable, with a minimal environmental impact. Advanced technology will be used to ensure that the environment is protected and managed appropriately. The entire pipeline system will be fully automated to deal with emergencies.

On his visit to China in late August 2004, Victor Khristenko, Minister of Industry and Energy, said that Transneft has completed the feasibility study, which is now undergoing both technical and environmental assessments. After this work is complete, financing options will be considered. Khristenko also mentioned that Russia plans to discuss the financing options with the governments of Japan and China and did not rule out the involvement of the Russian government in the implementation of this mega-project. When these negotiations begin, Russia plans to clarify China's position on a branch pipeline to Daqing, as well as its participation in the project, although the border crossing point will be moved much further eastward, compared with the route proposed by Yukos and CNPC.

In the meantime, the government has been contemplating the idea of charging oil companies a so-called "investment tariff", alongside the transportation fees that they pay to Transneft. The levy would help to finance this new trunk line, the estimated cost of which is \$14–15 billion. According to the Deputy CEO of Transneft, Sergei Grigoriev, the company used such schemes back in 2000, when it started building the Baltic Pipeline System. The increased estimated cost of the project compared with initial calculations is due to such factors as: (1) the increased international price for steel and pipes; (2) the longer route, part of which will cross permafrost areas, as well as other harsh and earthquake-prone terrain; (3) the capacity of the pipeline, which is now planned at 80 million tons; and (4) the strict environmental construction standards and safety measures.

Furthermore, the project will begin with the construction of an oil terminal on the Pacific coast and proceed in phases, with oil shipments conducted by both pipeline and rail beginning from 2006–2007. As construction progresses, the distances covered by rail shipments will become shorter, explained Khristenko.

⁷ In case of the BTS, the cross-water segments of the pipeline were made using reinforced pipes and horizontal drilling, with strict environmental standards being applied. Where large rivers had to be crossed, the pipeline was laid in a 2.5 meter-wide concrete tunnel with a 1.8 meter-wide plastic tube inside the tunnel, housing a 1.4 meter-wide steel pipe with a 1.2 meter-wide plastic pipe inside. The main 1,020 mm oil pipeline inside this structure is sealed and filled up with gas.

Experience of long-distance oil shipments by rail has been accumulated in eastern Russia over several decades, as the oil refineries in Khabarovsk and also Komsomolsk-on-Amur were fed by crude transported from Western Siberia. As of today, oil exports to China have reached 6 Mt per annum, a figure that is projected to increase to 10–15 Mt in the years to come. Also in January-July 2004, Russian railways transported almost 27 Mt of oil for exports and about 9 Mt for domestic use.

The Sakhalin-Honshu Gas Pipeline

On July 1, 2003, in an interview with the Novosti Information Agency, then Deputy Prime Minister Victor Khristenko said that the Sakhalin I project cannot develop its reserves of natural gas without export delivery infrastructure. Japan is perceived as a market for this gas. According to Khristenko, an alternative approach for gas utilization could be electric power generation in Sakhalin and electricity exports to Japan via the direct current high voltage submarine cable. In the opinion of Russian experts and their counterparts from Sumitomo, this could be an alternative to the gas pipeline to Japan proposed by ExxonMobil.

Victor Khristenko also mentioned that the decision on pipeline construction or export-oriented power generation must be taken within 2004 to allow the Sakhalin I to continue its natural gas project. ExxonMobil, the operator of the project and the partner of SODECO, proposed constructing a submarine gas pipeline to the Sendai and Tokyo areas, but also named Niigata as an alternative. The company says that the distance from Yuzhno-Sakhalinsk to Niigata is about 1,300 kilometers, or 300 kilometers shorter than from Yuzhno-Sakhalinsk to Tokyo.

ExxonMobil has initiated discussions with potential customers in Japan regarding the delivery of pipeline gas from Sakhalin. The leading source of gas demand is currently the power sector, including the Tohoku Electric Power Company and the Tokyo Electric Power Company. Another important source of demand could be the Tokyo Gas Company. Commitments from these bulk users of gas are particularly important.

Niigata's market for this gas is not large enough. However, Niigata is already linked with the Sendai and Tokyo areas by two gas pipelines, including the Niigata-Sendai pipeline (261 km) operated by JAPEX. Yet another potential advantage of Niigata is its underground storage capacity, which is equivalent to 12 million tons of LNG, in the form of depleted gas reservoirs. Depleted reservoirs are attractive for storing pipeline gas because their geological characteristics are already well known. Using an already developed reservoir for storage purposes allows the use of extraction and distribution equipment left over from when the field was productive. Having this extraction network in place would reduce the cost of converting a depleted reservoir into a storage facility.

Exxon Japan Pipeline Limited (EJPL) has been working with a Japanese research company called Japan Sakhalin Pipeline FS Co., Ltd., founded by JAPEX and major Japanese trading houses. These companies have been addressing the selection of the route and design standards for the Japanese segment of the pipeline, as well as

environmental and regulatory requirements. They began surveying the Niigata pipeline route in 1999 and continue to review its feasibility. Given that it already supplies natural gas to consumption centers on the Pacific coast of Japan, a trunk gas pipeline from Sakhalin that made use of Niigata's extensive know-how and significant storage capacity would increase the prefecture's role as a "natural gas hub".

Challenges

The conundrum now faced by Japan and other Northeast Asian economies can be depicted as a "matrix of shifting priorities". The region's energy security priorities were adopted decades ago, but must now be reassessed in a number of areas. The list includes: (1) the levels, costs and associated risks of indigenous energy production best exemplified by nuclear power industry development in Japan and the ROK; (2) the policy of self-sufficiency represented by the DPRK and also, to some extent, by China's reliance on coal; and (3) constraints, both existing and perceived, in the realm of potential cross-border projects, including gas pipelines and power transmission grids that could deliver significant volumes of cleaner energy from Russia to neighboring markets.

In revising this "matrix", information exchanges and collaborative practical efforts may help to set appropriate new priorities. We have to continue our discussions on how to revise existing priorities and how to achieve practical results in establishing mutually beneficial links in the energy sector. In this context, practical efforts should be implemented with the aim of:

- Developing bilateral energy dialogues

- Merging relevant segments of this dialogue to create multilateral dialogue

- Integrating potential partners into existing multilateral settings

- Launching regional exchanges on specific issues such as:

- Natural gas

- Power interconnection

- Promoting hydroelectric power

- Technological collaboration

- GTL (gas-to-liquid)

- Promoting policy coordination where energy issues overlap with security matters

- Integrating energy security issues with the challenges of sustainable development

- Encouraging dialogue that focuses on the implementation of concrete projects and plans.

The necessity and benefits of energy cooperation in one or other geographic area can be assessed differently, depending on (1) the circumstances of the actors involved and their energy policies; (2) their current and future energy supply needs and options in balancing these needs; and (3) the long-term outlooks of the governments that may wish to see Northeast Asia becoming an integrated economic zone.

However, there is yet another solid reason to pay close attention to the opportunities that subregional energy cooperation can offer. In his foreword to the *World Energy*

Outlook 2002, Mr. Priddle referred to the OECD Alternative Policy Scenario (Chapter 12), focusing primarily on how policy continuity and deliberate policy actions can change the energy security-environmental landscapes, including future-oriented scenarios for reducing carbon dioxide (CO₂) emissions.

In the highlights box that preceded Chapter 12 of the *Outlook 2002*, the following three points deserve special attention: (1) by 2030, reductions in CO₂ emissions below the Reference Case scenario will be the largest in the EU, followed by Japan, Australia, New Zealand and the US and Canada; (2) despite these reductions, the three OECD regions will not individually reach their targets under the Kyoto Protocol, but, if the US is excluded, their targets could be met through the savings achieved in this Alternative Policy Scenario and the emission credits from other Annex B countries; and (3) if governments wish to achieve larger or faster savings in energy and CO₂ emissions, they will need to take stronger measures to shape long-term energy and environmental outcomes.⁸

It seems that the economies of Northeast Asia need such stronger measures to shape long-term energy and environmental outcomes. There is so much depends on energy experts and policy planners that evaluate all these factors, opportunities and challenges.

Proposed Follow-up Measures

It is quite likely that approaching energy security issues from the standpoint of cooperative policies could reduce costs and facilitate the implementation of a number of important projects. This would require the analysis of various proposals and existing models related to capital mobilization and project financing, including the potential role for multilateral mechanisms such as a subregional development bank. The list of practical proposals includes the following:

First, Japan-Russia dialogue is developing at the level of the central ministries of the two countries, occasionally involving companies, regional administrations and some research entities such as the Institute of Energy Economics Japan, the Petroleum Energy Center of Japan, the Japan Institute of International Affairs, Keidanren and ROTOBO. However, efforts to share the content and details of these exchanges with the general public in Japan and Russia, which should be aware of the strategic benefits that such cooperation offers, have thus far been inadequate.

Public awareness is very important because this dialogue received a considerable boost in early 2003 when Prime Minister Junichiro Koizumi visited Moscow and discussed with President Vladimir Putin the prospects for cooperation in the west-east oil pipeline project. Japan's role in providing financing for this project should not be underestimated, nor its capacity to participate in implementing the project in other ways. However, it seems that the Russian government is committed to proceeding with the project even under less favorable circumstances.

Secondly, the issue of the Pacific oil pipeline and the attitude of China deserve attention. It seems that not only the general public, but also the mass media in Japan,

Russia, China and other countries are lacking the full picture with regard to this project. At times, a poor command of the facts and a lack of understanding create unwarranted agitation within this "triangle" and beyond. This misunderstanding should be clarified: it is not that Japan is competing with China over a pipeline route (Nakhodka versus Daqing); rather, the destination proposed by Transneft (i.e. Nakhodka) responds to Russia's economic, development and energy security needs much better than the route and destination planned by Yukos (Daqing). Moreover, since the summer of 2003, Moscow has officially been proposing that both pipelines be integrated in a single project (the Eastern Siberia-Nakhodka route with a branch to Daqing).

In fact, Russia, Japan and China cannot afford misinterpretation on such key policy issues and should view this project and other proposals and plans in a broader perspective. By doing so they could create a positive frame of mind for trilateral and multilateral collaboration. In other words, there is a need for a trilateral discussion forum on energy issues, involving China, Russia and Japan. Such a trilateral forum could begin with informal expert-level exchanges, gradually moving towards more formal consultations.

Thirdly, attention should be given to the prospects for natural gas promotion in the context of Northeast Asia, as a matter of priority. Natural gas should be seen as critical to the energy security of the economies of Northeast Asia. For Russia, the central goal is to establish an integrated gas delivery system in eastern regions which (1) is linked to all major gas fields in the area; (2) adequately responds to the needs of both domestic and regional gas users; (3) is economically feasible and competitive with LNG; and (4) contributes to regional energy security, the efficient use of energy, sustainability and environmental soundness.

These considerations are behind the proposal to build in Eastern Russia a central trunk gas pipeline, which will be linked with the gas transportation network in the western regions. The proposed system would ensure the stability of supplies, including exports. Beginning with the northern areas of Irkutskaya Oblast, this pipeline could be integrated with the Taishet-Nakhodka oil pipeline in terms of the route and construction plans.

It is important that this project is seen as a stepping stone for subregional cooperation in promoting natural gas use and cross-border gas trade in Northeast Asia. There are numerous applications for natural gas that could assist the economic and technological advancement of areas linked to gas pipelines, including heating, cooling, distributed power generation, industrial uses of gas, chemical products manufacturing and natural gas use in transportation, including compressed gas vehicles and fuel cell vehicles.

In the longer-term perspective, particularly in the context of tight oil markets, the economies of Northeast Asia should also consider GTL technologies, promoting the production of synthetic fuels. Indeed, the GTL industry is becoming a global enterprise and GTL will play a major part in the energy mix of the future, possibly advancing to prominence faster than the LNG industry did in the last 30

⁸ *World Energy Outlook 2002* (Paris: OECD/IEA, 2002), pp. 335-336.

years.

GTL technology has been around for decades. Various companies, large and small, have their own exclusive production techniques, but all have to reduce costs. A consortium formed in Japan (JOGMEC, Nippon Steel and other companies) is undertaking a pilot project involving the production of GTL that could, at some point, open the way for a cooperative regional enterprise.

Fourthly, close policy coordination focused on the facilitation of specific projects is necessary. Large-scale cross-border gas pipeline projects require strong support from central governments. This was the case with pipelines built between the former Soviet Union and Europe and is still the case in negotiating new pipeline projects from Russia to Germany and the UK. Needless to say, a gas pipeline from Sakhalin to Japan would also require firm political backing and support on the part of central governments.

The Sakhalin-Honshu gas pipeline can be considered as a realistic and important bilateral project in the context of Japan-Russia energy links. ExxonMobil, the operator of the Sakhalin I project, officially considers Niigata as a potential destination. As mentioned above, two pipelines already link Niigata with gas consumption centers on the Pacific side of Honshu, so a trunk pipeline from Sakhalin would enhance Niigata's role as a "natural gas hub".

The company proposes to build a medium-sized pipeline with an annual capacity of 8–10 billion cubic meters (Bcm). Gas will be able to be delivered about 5 years after firm commitments are made by buyers and it will be able to provide a reliable supply for at least 40–50 years. Moreover, this project could be focused not only on Sakhalin I, but also on other ventures, including Sakhalin II, which could also deliver gas to Japan via a pipeline.

Furthermore, it is becoming increasingly evident that the future of the natural gas trade in Northeast Asia requires a comprehensive approach, one that integrates the issues of energy security, development, transportation infrastructure, market access and technology focused on utilization. Above all, in order to be sufficiently comprehensive, this approach must start with government-level policy support measures aimed at promoting reliance on natural gas. This promises mutually beneficial opportunities for managing environmental problems, including carbon dioxide emissions. In this context, specific regional projects could benefit, if integrated with dialogues and practical efforts aimed at reducing emissions.

Fifthly, there are abundant potential sources of cleaner energy in Northeast Asia, including not only natural gas, but also hydroelectric power and biomass energy. Utilizing these would have a positive impact on the environment of the region as a whole. In this context, energy security dialogue in general and specific regional projects in particular could benefit if integrated with dialogue and practical efforts aimed at reducing emissions through projects undertaken through the clean development mechanism and joint implementation (CDM/JI) frameworks.

Sixthly, energy cooperation could go hand-in-hand with crisis management. Comprehensive energy cooperation at the subregional level cannot be advanced

without addressing the problem of the DPRK. The rehabilitation and development of energy infrastructure in the DPRK must be studied and discussed in detail. Partner institutions should consider holding a conference regarding the alternative options for improving energy supply in the North. Such a conference could generate ideas and proposals involving the DPRK, as well as providing additional material for the six party talks.

Finally, potential options for institution building centered on energy cooperation must be studied. We have to admit that, in some instances, perceptions shape the reality. Establishing a subregional energy community could be a distant goal. The current circumstances do not necessarily strongly favor this vision. However, even as an idealistic final destination, the notion of community could smooth the interaction among central bureaucracies, regional authorities and businesses, encouraging broader, more inclusive views that integrate specific energy projects, national plans and regional initiatives.

Conclusion

Determining the necessity of cooperation and defining the benefits of such cooperation is possible only in the context of the national interests of the countries involved, and the question is how broad the definition of these national interests could be. As a matter of fact, these national interests were at the very heart of the pipeline route controversy.

In reality, it is not that Japan and China were competing for a pipeline route; rather, diverse interests inside Russia are the true competitors. In Russia, there are interest groups which would prefer to monetize the oil and natural gas reserves in Eastern Russia as soon as possible, without much coordination or benefits for local industries and local communities, and without considering overall development needs.

There are also groups that prioritize regional development, social advancement and national energy security, as well as access to multiple markets in Northeast Asia. The problem is that the Chinese decided to side with the former interest group within Russia, while the Japanese sided with the latter. Tokyo was only supporting (not proposing) the pipeline route that Transneft already advocated and President Putin strongly favored. As a matter of fact, the Pacific route would offer oil not only to customers in Japan, but other oil-importing economies, including China and the US, as well as the ROK.

Protecting national economic interests is not unusual, but Russia wants to bring its oil and gas to the markets of Northeast Asia in very large volumes: this is the official policy line. In part, this policy was adopted because the domestic market in Eastern Russia for oil and gas is too small to justify multi-billion dollar investment in mega-projects such as the Pacific oil pipeline.

On the other hand, Gazprom will retain its exclusive right to export gas, including in Eastern Russia and its strategy is to avoid a situation in which the more easily developed Kovykta gas would have to compete with other projects in the markets of Northeast Asia. Kovykta gas can be diverted to the domestic market only because it is cheaper compared with Yakutia gas. Moreover, the

hydrocarbon transport infrastructure is to be built primarily within Russia's own territory, thus ensuring national energy security and the industrial and social development of the regions where the infrastructure is to be built. It is quite likely that oil and gas ("west-to-east") pipelines, linking oil and gas fields with the Pacific Coast, will be integrated into one mega-project.

This approach makes "north-to-south" pipeline projects, including the Kovykta-China-Korea gas pipeline, unlikely in the foreseeable future. However, Sakhalin gas could flow "north-to-south" to Japan, China, and the Koreans. In addition, President Putin has adopted a policy that envisages building a gas pipeline that can deliver natural gas to the ROK via the DPRK. This project was officially approved by the leaders of the South and the North and was mentioned in the official statements that they have signed bilaterally with President Putin. Nevertheless, to proceed with the trans-Korea gas pipeline project requires strong political will and a commitment to change the underlying politics in and around the Korean Peninsula. These "wills" and "commitments" can only originate from within the Koreans, not from the outside. Once again, depending on definition, national interests can bring the parties together, but could also keep them apart.

Furthermore, national energy security interests could mislead experts and politicians in identifying sources of strained oil markets. For example, China is seen as the emerging global competitor for oil imports. But China is just another economy that expands its oil imports due to motorization and other needs, following other economies, including the US, the EU, the ROK and Japan. Neither blaming China for motorization, nor indulging in finger-pointing at the owners and/or manufacturers of SUVs, nor complaining about miles of traffic jams will solve the problem. These and other issues should be dealt with through technological improvements, economic and administrative incentives, educational efforts and the promotion of new ethics in consumption standards.

In any event, according to many forecasts, there is little chance that higher oil prices can be avoided in the long run and the expansion of supply is important. There are now several areas around the world from which additional supply could originate, including the Persian Gulf and Eastern Russia. The key question is where and when to invest the huge amounts of money needed in order to expand oil supply to alleviate the problem. In addition, shifting from oil to alternative sources of motor fuel such as natural gas could help to restrain the demand for oil.

In order to promote energy security throughout Northeast Asia, the experts should think not in terms of competition among the countries, but competition among fuels and technologies, as well as the sources of oil supply. The necessity of closer energy links in Northeast Asia could be also evaluated from the standpoint of (1) geography, including the distances between markets and sources of supply; and (2) overall dynamics in energy use and supply, including growing demand and increasing imports, on the one hand, and large export potential, on the

other. The standpoint of security of supplies must also be considered, including the very high import dependence of the economies of Northeast Asia on the Persian Gulf for sources of oil and the need for diversification away from this region.

The benefits can be multiple and significant, or narrow and limited, depending on the willingness of the parties to develop strong, long-term bonds in the energy sector. Some of the potential benefits include: (1) increased choice of suppliers; (2) stronger price competition; (3) lower or more stable energy prices; (4) reduced dependence on oil; (5) increased reliance on cleaner energy sources; (6) market creation and expansion in technology and equipment; (7) regional development; (8) regional integration; and (9) the reduction of security risks.

In order to adopt and implement these measures effectively, political leadership and longer-term outlooks are needed, as well as a tradition of working together. Among the economies of Northeast Asia, such a tradition has yet to be cultivated. But this subregion, objectively speaking, has "subregional" opportunities to enhance the energy security of each and every economy, promoting choice in investment decision-making, diversification and competition.

Cooperative relationships in the field of energy are proliferating. In North America, there are already deep energy links between Canada and the US, but almost everything is driven by the private sector. In contrast, governments lead the cooperative energy process in ASEAN. In Europe, there is an energy dialogue developing between the EU and Russia that could potentially lead towards an energy partnership.⁹ There is also a new energy dialogue between the US and Russia. Climbing the "ladder" of energy cooperation in Northeast Asia could be a timely goal for this region as well.

Obviously, Northeast Asia is currently lagging behind other regions and areas, but building multilateral dialogue in this part of the world is a very new idea for governments, including the Russian government. It could be difficult, because each and every economy has thus far aspired to greater independence and self-reliance in its energy supply. Furthermore, it is difficult to build an institution between energy-importing economies - i.e. China, Japan, the ROK - and Russia as the exporter of energy.

Within a group with such diverse interests, energy price could be the central problem, if traditional approaches are applied, such as the ASEAN+3 energy cooperation dialogue, for example. This mostly brings together consumers, but not potential producers such as Russia. Perhaps a new and unifying approach towards energy security issues, energy efficiency and the sustainable use of energy should be explored to bring these economies together beneath one "policy roof". Moreover, some initial approaches towards institution building are taking shape among the aforementioned energy-importing economies. In time, this could open the way for dialogue with Russia.

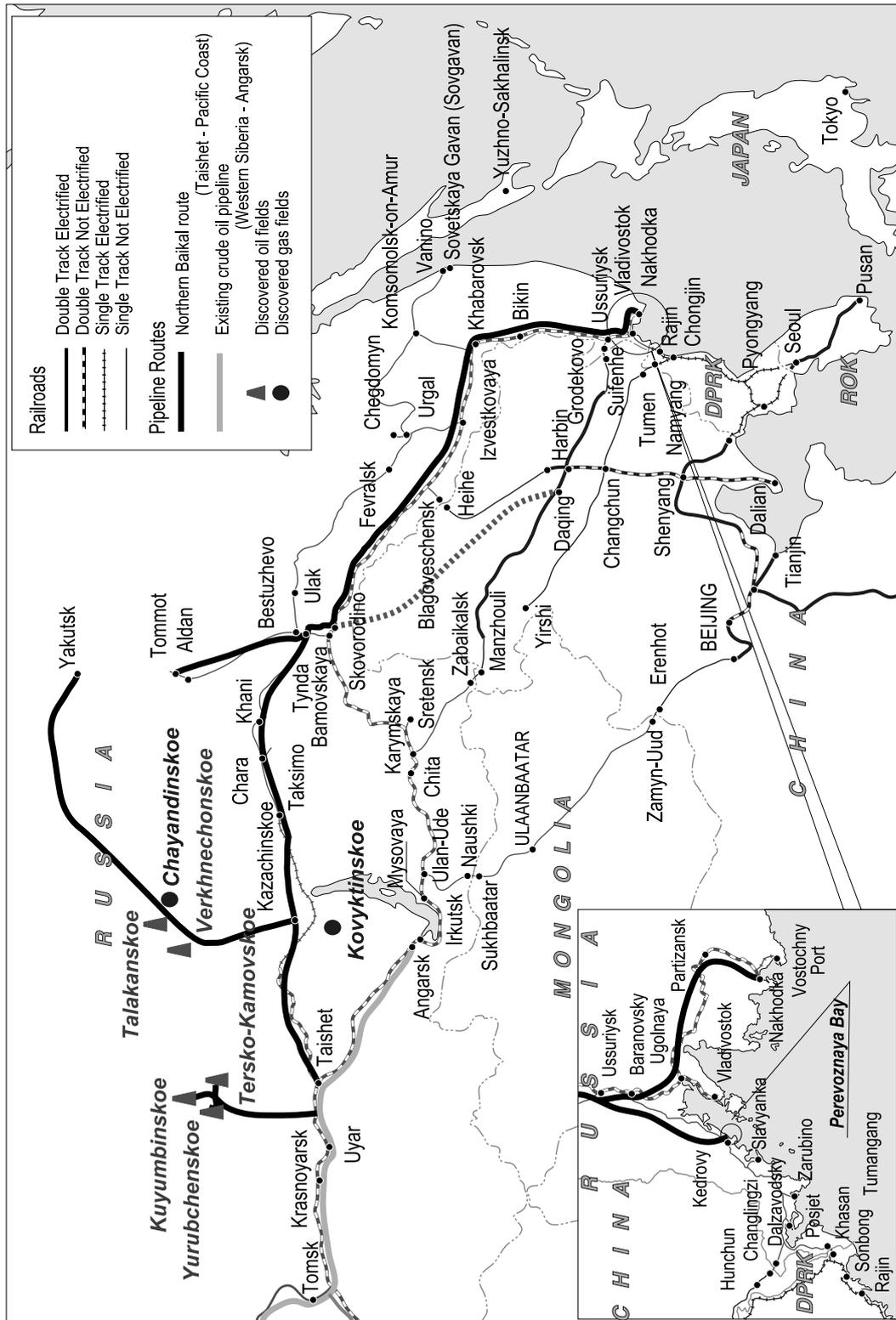
What is important is that institutional cooperation, even in "soft formats", could both speed up large-scale

⁹ A partnership is defined as a relationship in which states, organizations and private companies, directed by their mutual interests, work together to achieve common goals by sharing efforts and responsibility to achieve those goals.

energy projects and lead to concerted changes in energy policies, making them less isolated and inward-looking. For Russia's eastern regions development, for example, the country must cultivate close economic ties with neighboring economies in order to develop economically and achieve higher standards of living and other social advances. Energy projects should be seen as a step up the ladder towards the formation of long-term, mutually

beneficial relations with each country's neighbors. However, sooner or later, these projects will be implemented even under less favorable conditions, even in the absence of cooperation. The oil and natural gas trade between Western Europe and the former Soviet Union serves as a reminder of how energy security needs punctuated the barriers of the Cold War.

Proposed Pipeline Routes



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