

Energy Security For a New Northeast Asia: An Update

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In 2003 and the first half of 2004, the energy policies of the economies of Northeast Asia demonstrated some positive developments that indicate growing interest in the concept of energy cooperation. Although the emerging picture is still fragmented, one can detect important shifts in the focus of policymakers.

The first of these is growing concern with regard to the Middle East, in particular instability in Iraq and the internal security problems that have surfaced in Saudi Arabia. Secondly, China's booming economy and growing demand for oil and oil imports are generally perceived to be among the reasons for high oil prices. Thirdly, there is growing interest in oil and gas projects in Eastern Russia, both ongoing and planned. The economies of the Northeast Asian subregion (governments and companies) are paying close attention to existing and potential energy projects involving Russia. Thus far, this process of reassessment and economic evaluation is resulting in new policy concepts and business proposals. Finally, almost every economy of Northeast Asia is adopting a policy stance that favors multilateral energy cooperation.

This article is intended to provide an overview of these recent developments, focusing on Russia and the energy importing economies of Northeast Asia, including their policy. It will also serve as a concise update on energy projects in Eastern Russia, highlighting the impediments and problems that must be overcome in order to implement them.

1. Putin's Russia

Russia's economic recovery and domestic policies are improving its image, as well as the overall environment for discussing energy projects that involve the supply of oil and natural gas from Eastern Siberia and the Far Eastern region. It seems that traditional concerns with regard to Moscow are giving way to longer-term positive expectations and practical interest. To a significant degree, this change in perceptions is a result of the policies adopted by President Vladimir Putin.

Earlier this year, two-thirds of the Russian electorate participated in the presidential elections, with 70.5% voting for Putin. His previous four years as president provide hope for the future. In 2000–2003, Russia repaid US\$50 billion of its outstanding foreign debt, while also maintaining a solid surplus in foreign trade. The Russian Central Bank accumulated more than US\$80 billion in hard currency and gold reserves. Inflation has been reduced to about 10%, while personal consumption increased. Furthermore, its annual rates of economic growth were the highest among the G8 economies.

1.1 Putin's Second Term

The new wave of Putin's reforms is already in full swing. The first priority is improving the efficiency of the government, central ministries and other administrative

bodies, including the presidential administration. For example, the number of central ministries has been reduced from 30 to 17. The new ministries will employ 20% fewer personnel. Many economic ministries have been merged and ministerial posts are now roughly equivalent to the rank of deputy prime minister in the previous government. President Putin's long-term goals are ambitious, including (1) the doubling of GDP over 10 years; (2) poverty reduction; (3) the modernization of the armed forces; and (4) national consolidation.

The new, more efficient government must work hard to achieve these goals. On the other hand, Putin also believes in private initiative as the main source of national economic growth and modernization. The new government should provide greater security for its citizens, protect their interests and property rights, and facilitate and support entrepreneurship. The promotion of small and medium-sized enterprises is becoming the most important instrument of economic development.

In general, Putin's economic philosophy is underpinned by four key principles. First of all, Russia's economic wellbeing should be based primarily upon domestic demand and expansion, and the increased sophistication of its national market. Secondly, in order to rely more on the domestic market, Russian industries must be modernized and their competitiveness improved considerably on present levels. Thirdly, the government must introduce new mechanisms that improve the utilization of Russia's natural resources, including greater control in the fishery and forestry sectors, rational policies and transparency in oil and gas production and exports, and improved energy efficiency. Finally, new priorities include a simplified and more liberal tax system, the convertibility of national currency, a more efficient and better developed banking sector, greater construction of affordable housing and improvements in the pension system.

1.2 Energy projects and infrastructure

On the other hand, the new government is prepared to adopt a more stringent approach to oil companies that have earned exceptionally high revenues, benefiting from record high world oil prices. For example, in 2002, in world prices, the value of oil and gas produced in Russia totaled US\$116 billion, but the government failed to collect the "extra" revenues generated by high oil prices. From 2005, the new tax regime for producers and export duties for oil and products would boost the federal budget by an additional US\$3 billion or more each year provided that oil prices remain high. This amount could be sufficient to finance the construction of an oil pipeline from Taishet to the Pacific coast, the cost of which is estimated at almost US\$15 billion.

In his 2004 Address to the Federal Assembly, Putin made special reference to energy projects and transport infrastructure in Eastern Russia. He said that, given

Russia's climatic conditions and huge territory, infrastructural expenses make up a significant portion of the cost of many kinds of goods and services. At the same time, a modern, well-developed transport infrastructure would be capable of turning Russia's geography into a real competitive advantage for the country:

"What needs to be done to achieve this? Above all, we need to unite the economic centers of the country, to provide economic regions with unhindered access to regional and international markets, and at the same time to provide infrastructure services of a world standard.... The state must control the development of the country's infrastructure for a long time to come.... The Government must announce its plans and projects, and the conditions to implement them.... For example, there are plans in the oil sector to diversify delivery of Russian oil. These plans are well-known. They involve expanding the capacity of the Baltic pipeline system, opening the Western Siberia-Barents Sea pipelines, determining routes from oil fields in Eastern Siberia, bypassing the Bosphorus and Dardanelle Straits, and integrating the Druzhba and Adriya oil pipelines.... The guidelines for passing the necessary decisions should be the realization of national tasks, and not the interests of individual companies.... As for the gas transport system, here we need first of all to develop the gas distribution network within the country, including expansion of the system to the east of Russia.¹

These plans are directly related to the energy security interests of the economies of Northeast Asia. Japan, China and the ROK—not to mention the United States—are likely to become the principal export markets for oil, oil products, natural gas, coal, and, in some cases, electricity. It is also expected that, similarly to the Sakhalin projects, investment will flow from these economies into new ventures in Eastern Russia.

However, the scale of ongoing and proposed energy projects, the enormous costs involved and the sensitive energy security concerns of the energy-importing economies would require new partnership-type relationships with Russia to be built. It seems that Vladimir Putin's first term as president has made both the leaders of these economies and the general public more convinced that Russia is capable of being a reliable partner in the long-term.

2. Oil Supply Stability and Diversity

According to estimates by ExxonMobil, by 2020, overall global energy use is projected to grow by 40% compared with 2000. Energy demand will rise from 215 million barrels of oil equivalent per day (Mboe/d) to almost 300 Mboe/d, while demand for fossil fuels will exhibit an

absolute increase of about 65 Mboe/d. Moreover, by that time, the petroleum industry may need to add about 100 Mboe/d of new supply to meet projected demand: an amount close to 80% of current production levels.²

These and similar projections are very important in comprehending the scale of the problem and the need to ensure a stable, affordable oil supply in the decades to come. What is even more important is the long-term outlook of the leading oil companies, as well as that of the governments of the oil-importing countries with regard to the geography of investment in the oil and gas sector in the next ten to fifteen years.

2.1 The Middle East

Currently, about 50% of the world's proven oil and gas reserves are concentrated in the Middle East, with Saudi Arabia alone having about one-fifth of all oil reserves. It produces about 10 million barrels of oil a day (Mbd), or close to 500 million tons a year (Mt). Its production constitutes one-third of total OPEC output, which has declined from 38.8 Mbd in 1979 to 30.5 Mbd in 2003, primarily because of the decline in production in Iran and Iraq, as well as in Libya and Indonesia.

The uncertainty surrounding the former three of these exporters has already become a source of oil supply insecurity that is one of the reasons behind the high oil prices being seen at present. Instability in the Middle East and Persian Gulf areas, and Saudi Arabia in particular, will certainly continue to influence oil prices, which are unlikely to fall much below the US\$25 per barrel (p/bbl) level, according to forecasts made by some leading oil producers, as well as independent analysts.

In fact, the future of the Iraqi oil industry depends on the safety of its sea-based oil terminals, which currently have to be protected by the coalition forces. The sophistication and scale of the operation raises the question of when, or whether, the Iraqis can safely take over this job from the United States and its allies.

In 2002–2004, energy facilities not only in Iraq, but also Saudi Arabia, were under the threat of or actually subjected to terrorist attacks. Strikes on pipelines in mainland Iraq alone have already cost the nation US\$200 million in lost revenue. Exports were almost halved because of damage to the pipeline, which feeds the Basra and Khor al Amaya terminals. However, according to *The New York Times*, referring to public attitudes, the sources of instability that could affect oil supply are much broader:

The Saudi people have been exposed to years of preaching in favor of violent global *jihad* by senior Wahhabi clerics, whose backing is a main source of legitimacy for the Saudi royal family. That helps explain why a poll taken late last year showed half of all Saudis supporting Osama bin Laden's rhetoric.... The United States, which depends on Saudi Arabia not

¹ Vladimir Putin, Address to the Federal Assembly of the Russian Federation, May 26, 2004

² See remarks by Lee R. Raymonds, Chairman and CEO, ExxonMobil Corporation, Woodrow Wilson Center for Scholars, Washington, D.C., June 7, 2004 and remarks by Rex W. Tillerson, President, ExxonMobil Corporation, Address to the U.S.-Saudi Business Council and Center for International and Strategic Studies, Washington, D.C., April 27, 2004.

only for support in the fight against terror, but also for its role in moderating world oil prices, will certainly continue to work with the Kingdom and its leaders. It actually has little choice. But if Washington is interested in long-term stability in Saudi Arabia, it must press harder for reform. Mr. bin Laden's rhetoric strikes a resonant chord among Saudis who are increasingly anxious about the economy and their own uncertain employment prospects. The Kingdom uneasily combines a 21st-century oil industry, an absolutist and hugely corrupt family monarchy, and a fiery, fundamentalist religious establishment.³

It is widely feared that, because of various political, economic and technical impediments, Saudi or Iraqi production capacity is unlikely to cover long-term demand growth. According to Amy Jaffe, Associate Director of the Rice University energy program, current demographic trends will encourage Saudi Arabia to seek higher oil prices for domestic political reasons to put restraints on falling per capita income and fund basic social services, including education and social welfare. Saudi Arabia's oil sector employs less than 2% of the total labor force.⁴ The population is rapidly getting younger and unemployment and domestic political pressures are unlikely to ease, contributing to growing nationalism, on one hand, as well as pervasive pessimism about the Kingdom's economic future, on the other. Moreover, democratization and political reform may make capacity expansion more difficult to implement.⁵

Nevertheless, the oil-importing economies are bound to continue their high dependence on these supply sources. In order at least to retain their current levels of oil dependence on the Middle East, these economies must proactively support the development of alternative sources of supply. Therefore, broadening the geography of supply requires adjustments in the geography of investment.

Russia and the Caspian region appear to be prime

candidates for these efforts to broaden the geography of supply. In this context, the interest in energy projects involving Russia and the economies of Northeast Asia is growing both at the governmental level and among energy companies.

2.2 Russia and the Caspian Region

According to Transneft, oil output in Azerbaijan could reach 28 Mt by 2010, or a little more than 0.5 Mbd. In Kazakhstan and Turkmenistan, oil output in 2010 is estimated at 88 Mt and 18 Mt respectively. However, oil production in Russia is very likely to reach 500 Mt (10 Mbd) by 2006–2007. In 2004, its crude exports (including to the Commonwealth of Independent States (CIS)) are conservatively estimated at 4.5 Mbd and are poised to increase to 5.0 Mbd in 2005, and 5.5 Mbd in 2007 (Table 1).

In June 2004, oil production in Russia increased by 10%, while exports by pipeline, sea and rail increased by 17% compared with the same period of 2003, reaching almost 3.5 Mbd. Oil exports to CIS markets stabilized at about 0.8 Mbd.

Investment in infrastructure is the key to the enhanced role of Russia in the global energy supply. In the next 2–6 years, the government is planning an expansion of export-oriented transportation infrastructure along the seven main routes up to 6 Mbd:

- * Baltic: 1.2 Mbd through the expanded Baltic Pipeline System by 2005
- * Barents Sea: New pipeline of about 1.0 Mbd by 2010
- * Central Europe: Integrated Druzhba-Adriya pipeline, up to 0.3 Mbd
- * Black Sea-Mediterranean: Novorossiysk and Tuapse ports to 1.2 Mbd
- * Caspian-Black Sea-Mediterranean: Atyrau-Samara pipeline to 0.5 Mbd

Table 1. Non-CIS Oil Exports by Transneft, 2004 First Half (Mbd)

	2003 June	2004 June	June04 / June03	2003 (six months)	2004 (six months)	1H 2004 / 1H 2003
LUKoil	0.52	0.69	32%	0.51	0.67	31%
Surgutneftegaz	0.38	0.36	-4%	0.35	0.40	13%
YUKOS	0.65	0.73	12%	0.56	0.73	29%
SIDANCO	0.11	0.17	54%	0.11	0.17	53%
Slavneft	0.14	0.16	18%	0.11	0.16	39%
TNK	0.27	0.49	80%	0.34	0.43	27%
Sibneft	0.24	0.28	18%	0.23	0.26	12%
Tatneft	0.18	0.27	49%	0.18	0.23	26%
Transneft total	3.10	3.63	17%	2.87	3.49	21%

Source: Ministry of Industry and Energy

³ "Saudis in Terror's Shadow" Editorial, The New York Times, June 28, 2004.

⁴ ExxonMobil—the largest purchaser of Saudi crude oil exports—accounts for nearly 10% of the Kingdom's total exports, employing more than 3,000 Saudis.

⁵ Amy Jaffe, "International Oil Markets Outlook," presentation at the *Seminar on the Latest Energy Situation in Russia and International Energy Markets*, Petroleum Energy Center, Capitol Tokyo Hotel, June 17, 2004.

- * Eastern Siberia: Taishet-Pacific pipeline, up to 1.6 Mbd by 2011
- * Far Eastern Russia: Sakhalin projects, up to 0.2 Mbd by 2008

Meanwhile, according to the new Federal Agency for Sea and River Transportation, Russia also could increase oil and product exports through its Black Sea terminals by 1 Mbd, mainly by transporting crude pumped through the CPC pipeline from Kazakhstan. In the west, through its own ports on the Baltic, as well as ports in Estonia, Latvia and Lithuania, Russia could raise crude and crude product exports from 2.6 Mbd to around 3 Mbd, while another 1 Mbd could be shipped to Europe as transit oil from Central Asia.

Currently, Russia matches Saudi Arabia in oil output, while lagging behind in exports.⁶ Western specialists have recently suggested that in the long-term, confirmed oil reserves in Russia could exceed those discovered in Saudi Arabia (300 billion barrels), reaching 180 billion barrels as soon as 2010.

Present estimates of Russian oil reserves based on international standards are rather conservative and remain at about 60 billion barrels. Oil companies, however, have begun to reassess their reserves. Yukos has announced an increase in reserves from 11.2 billion barrels to 13.0 billion barrels, while TNK-BP has increased estimates of its reserves from 6.1 billion barrels to 9.0 billion barrels, claiming that additional investments in exploration could allow its oil reserves to be raised to 30 billion barrels.

3. New Policy Priorities

As far as investment is concerned, the International Energy Agency (IEA) has estimated that an average of US\$200 billion must be invested annually in order to meet the world's oil and gas demand in 2030. This is approximately equal to the investment requirements for the exploration and development of new oil and gas fields, as well as the construction of delivery infrastructure in Eastern Siberia and the Far Eastern region.

Such huge sums can be successfully amassed, if governments create and maintain favorable conditions for investors. Long-term investment cooperation could also be useful, leading to increased interdependence between energy-importing countries and Russia. This, in turn, would require governments to adjust and sharpen up their diplomatic policies, favoring international cooperation in the energy sector. In recent years, in fact, Northeast Asia has seen signs of such policy changes.

3.1 Japan

On April 12, 2004, METI presented a concept for an "Asian Energy Partnership" that should serve as a major pillar of Japan's international energy strategy up to the year

2030. This concept was proposed by the Ministerial Advisory Committee for Natural Resources and Energy. This Asian Energy Partnership is aimed at developing cooperation by Asian countries on common energy challenges, covering the following areas:

- * Energy security through a strengthened oil stockpile program in Asia, while also seeking a future cooperative emergency response scheme to supplement measures taken by the IEA
- * Market reforms—particularly for oil and natural gas—through nurturing spot and futures markets for oil and LNG; trade and investment liberalization through free trade agreements and the abolition of destination clauses in oil and LNG contracts
- * Formulation and regulation of policies on the environment and energy efficiency in the domestic, regional and global context, including various policy dialogues, as well as efforts to implement these policies and persuade others to follow suit
- * The enhancement of energy supply security through resource development, transportation (pipeline and sea lane shipments) and cooperation among relevant authorities

The plan was expected to be adopted as an official policy recommendation in June 2004. METI also proposed this concept at the Energy Ministers Meeting of ASEAN+3, as well as at the APEC Energy Ministers Meeting in Manila.

Meanwhile, the dialogue on energy issues between the leaders of Japan and Russia merits close attention. The encouraging position of the Japanese government with regard to the Trans-Eastern Russia oil pipeline is well known. Moreover, Japanese gas users have already contracted large volumes of LNG from Sakhalin II, utilizing most of the production capacity of the first phase of the gas liquefaction plant to be commissioned in 2007.

Furthermore, both the Russian government and the administration of Sakhalinskaya Oblast are expecting that the progress of the Sakhalin projects will lead to a decision to build a long-distance pipeline to Tokyo area. For Japan, Sakhalin may be a significant development in terms of providing more alternatives for a secure energy supply. The Japanese government has said that public funds can be used for a pipeline project, providing that both the economic efficiency of the project and private sector participation are confirmed.⁷

3.2 The ROK

The ROK government has also made a proposal regarding the future of Northeast Asia.⁸ In 2003, the Presidential Committee on a Northeast Asian Business Hub conducted 26 working meetings, conferences and workshops, developing as result of this effort a

⁶ Russia's 2004 budget was drawn up under a base case scenario of \$22 p/bbl.

⁷ See Agency for Natural Resources and Energy, *The Energy and Resources Today*, 4. *Natural Gas* available at: <http://www.enecho.meti.go.jp/english/energy/lng/examination.html>

⁸ See: *Toward a Peaceful and Prosperous Northeast Asia*, (Seoul: Presidential Committee on a Northeast Asian Business Hub, 2003), p. 24.

comprehensive plan for regional economic cooperation in a number of areas, including the energy sector. The Committee stated that the “super consumers” of Northeast Asia (the ROK, China and Japan) lie adjacent to a “potential super supplier” (Russia), giving rise to a framework for energy cooperation within the subregion. The Committee proposed the following steps in order to promote energy cooperation:

- * The construction of a natural gas pipeline network
- * Joint exploration and processing of petroleum
- * Cooperation in supplying energy to the DPRK on a long-term basis
- * The development of cleaner energy sources, such as Siberian hydroelectric power

The Committee also proposed that, in pursuing energy cooperation, broader considerations other than immediate economic needs should be taken into account, including long-term energy security, environmental constraints and the impact of energy cooperation on overall relations among the countries of Northeast Asia. The government is supportive of new initiatives by Korean energy companies, which are seeking contact with those involved in the Sakhalin projects in order to discuss the prospects for imports and investment.

3.3 China

On April 24, 2004, speaking at the Opening Ceremony of the Boao Forum for Asia 2004 Annual Conference, Chinese President Hu Jintao outlined China’s views regarding international economic cooperation:

It is China’s sincere wish to cultivate with its fellow Asian countries an overall and close partnership geared to Asian rejuvenation, a partnership that features equality and mutual trust politically, mutual benefit and a win-win approach economically, exchange and emulation culturally, and dialogue and cooperation on the security front.... China will work actively to promote the institutional building of all kinds of economic cooperation organizations with a view to consolidating resources, prioritizing the key areas and conducting performance-oriented cooperation.⁹

On June 22, 2004, addressing the opening ceremony of the Asia Cooperation Dialogue (ACD) Third Foreign Ministers’ Meeting¹⁰ in Qingdao, Chinese Premier Wen Jiabao stated that, “We stand ready to conduct energy dialogue and to cooperate with other countries in Asia and the world at large on the basis of equality and mutual benefits.” Twenty-two participating countries—both oil producers and consumers—agreed the “Qingdao Initiative” on energy cooperation, pledging to stockpile strategic

energy reserves and develop a regional energy transportation network. Nevertheless, the Chinese premier asserted that China would mainly rely on the development of domestic energy resources.

China’s imports are growing at an average rate of over 15% annually, which has made it the third largest importer globally and the largest importer in Asia. In 2000–2004, China accounted for 40% of total growth in world oil demand. In 2003, its oil consumption exceeded that of Japan and its oil imports increased by 40%. China also leads in product demand and imports in Asia-Pacific region. Some are of the view that strong demand on the part of China is among the reasons behind high oil prices.

The rapidly growing number of motor vehicles, including privately owned ones, as well as the overall prospect of motorization in China will make this economy the second-largest importer of oil after the United States. Moreover, in recent years, China’s electricity demand has been rising by 9–10% a year and electricity shortages have forced many smaller users to turn to power generators and portable power systems, thus creating additional demand for diesel and gasoline.

In 2003, the oil pipeline project from Angarsk to Daqing promoted by Yukos and CNPC experienced a temporary setback, being subsumed into part of a larger Taishet-Pacific pipeline plan adopted by the Russian government in 2003 as part of the *Energy Strategy 2020*. However, China is interested in importing oil from Eastern Russia by rail and will be getting as much as 15 Mt annually from 2006.

In China, three medium-to-long term development plans are under construction at present: a petroleum and natural gas plan, an LNG plan, and a natural gas pipeline plan. It seems that LNG import contracts concluded with Australia have made it clear that China’s reliance on imported gas could grow rapidly. A Chinese delegation (from the State Development and Reform Commission (SDRC)) recently visited Sakhalin, reflecting China’s growing interest in LNG imports and its intention to expand the utilization of natural gas from Russian sources.

The SDRC has estimated that, by 2020, gas consumption in China could reach 200 Bcm, 31% and 32.5% of which would be consumed by power plants and urban users respectively. It has also been estimated that China’s gas imports could reach 80 Bcm by 2020 via two main channels, including LNG shipments to coastal areas and supplies via pipelines from Russia, Uzbekistan and Kazakhstan.

3.4 Russia

The position of Russian government on energy projects relevant to Northeast Asia is also becoming increasingly proactive. After the government adopted the *Energy Strategy 2020*, Russia’s position on oil and gas pipeline projects in Eastern Siberia and the Far Eastern

⁹ Speech by President Hu Jintao of China at the Opening Ceremony of the Boao Forum for Asia 2004 Annual Conference, Boao, April 24, 2004.

¹⁰ The ACD Foreign Ministers’ Meeting is an informal, non-institutionalized forum for dialogue and consultation, established in 2002.

region gradually took shape. In the process, the following priorities were emphasized:

Transport infrastructure for hydrocarbons is to be built primarily within Russian national territory, thus ensuring (a) national energy security, (b) the industrial and social development of the regions where infrastructure is to be built, and (c) access to diverse markets in the whole of the Asia Pacific area.

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 Koreas.

The domestic market has been assigned a symbolic priority, if nothing more than that—because it is not big enough—over export markets in terms of the delivery, pricing and use of gas. The implications of this approach are as follows:

- * Gazprom will retain its exclusive right to export gas, including in Eastern Russia
- * The Eastern Consortium¹¹ will lead the development of new fields
- * Natural gas will be exported to Asian markets in the same manner in which it is exported to Europe
- * Kovykta gas can be diverted to the domestic market only

At the same time, the decision has been taken to transform the representative office of Gazprom in Beijing into a regional office that will also cover Japan and the Korean Peninsula, as well as other economies in the Asia-Pacific region, in order to promote gas exports and Gazprom’s participation in various projects, including investment, production and services. For example, one of Gazprom’s top management (Alexei Miller) and one of the leaders of Sumitomo (Kenji Miyahara) recently discussed the prospects for cooperation in gas-to-liquid (GTL) production.

There are also signals from the government that may encourage foreign investors. At the recent meeting of the Federal Antimonopoly Service (FAS) board, its head Igor Artemiyev made some important comments. Firstly, the FAS wants to see licenses for new mineral resource deposits allocated via auctions, or at least tenders. Foreign companies should be entitled to bid in these, except in rare cases where there is a potential threat to national security. Secondly, the FAS will strive to ensure nondiscriminatory third-party access to gas, oil and oil product transportation systems, as well as to the services of companies in the oil and gas storage business. If these good intentions were translated into action, Russia’s oil and gas sector would become more attractive both to foreign investors and independent domestic gas producers.

4. Project Update

Over the last several years, several energy ventures in Eastern Russia have entered the active implementation phase, with multi-billion sums having actually been earmarked for investment in these. The first project worthy of note is Sakhalin I, which was launched almost three decades ago with the participation of Japanese companies. Its total cost is estimated at US\$15 billion. Progress on Sakhalin II, which has total investment of US\$10 billion, is somewhat further ahead, with the first LNG contracts having recently been secured. Yet another mega-project is the oil pipeline to be constructed from Eastern Siberia (Taishet) to the Pacific coast (Perevoznaya Bay). The cost of implementing this project from 2005 is estimated at US\$15 billion.

4.1 The Taishet-Pacific Pipeline

The Taishet-Pacific pipeline project is the modification of the “Angarsk-Nakhodka pipeline plus Daqing branch pipeline project”. This project was endorsed in the *Energy Strategy 2020*, integrating Transneft’s proposal to build a pipeline to the Pacific coast and the Yukos-CNPC plan to link Angarsk with Daqing. Neither plan was able to clear the environmental approval procedures because both proposed routes were too close to Lake Baikal.

The investment assessment study for the Taishet-Pacific pipeline was contracted out to Transneft Company. The pipeline, which is planned to be 4,130 km long and 1,220 mm wide, should pass through the territories of seven provinces: Irkutskaya, Chitinskaya and Amurskaya oblasts, Buriyatiya, Evreiskaya Autonomous Oblast and Khabarovskiy and Primorsky krais. The pipeline will be operated with 32 pumping stations, 13 of which will be equipped with tank parks with a storage capacity of 2.67 million m³. A new oil port will be constructed on the Pacific coast with several wharfs, including a terminal suitable for supertankers.

The project is complex, as the pipeline has to cross more than 450 marshlands, more than 1,000 km of rocky terrain, and areas with permafrost and less-than-stable seismic conditions, as well as about 50 rivers and streams and dozens of railroads and motorways.

The crude oil needed to operate this system would originate from Tomskaya Oblast (92 discovered oil fields and 19 fields under exploration), Khanty-Mansiyskiy district (26 discovered oil fields), as well as from the discovered and newly found fields in Irkutskaya Oblast, Krasnoyarskiy Krai (Evenkiyskiy region) and Yakutiya. It is expected that about 56 Mt of oil will be transported annually from the fields located around the Taishet and Kazachinskoe segments of the pipeline. However, during the initial phase of the pipeline’s operation, some of these sources may only complement oil originating from Western Siberia.

According to Transneft, a 30 Mt capacity branch pipeline from Skovorodino to Daqing could also be constructed as part of the Taishet-Pacific project, provided

¹¹ A consortium formed by Gazprom, Rosneft and Surgutneftegas.

that the government confirms the plan. However, the company says that transportation of the entire 80 Mt volume of oil to the Pacific coast would enhance the economics of the pipeline, enabling the diversification of markets and international price-setting rules to be adhered to.

The concept of an integrated, Trans-Eastern Russia gas pipeline system is also under discussion. Some Russian experts have suggested that in Eastern Russia such a system should link the gas-producing centers of Evenkiya (Krasnoyarskiy Krai), Irkutskaya Oblast and southwestern Yakutia, delivering gas to markets located east of the Enisei River and for exports.¹²

In fact, a number of hydrocarbon fields discovered in Eastern Siberia contain gas, gas condensate and oil, which must be recovered during and even prior to the full-scale production of natural gas. In this respect, the proposed Trans-Eastern Russia oil pipeline project that recently became known as the Taishet-Nakhodka trunk oil pipeline is very important for future natural gas pipeline projects. In order to reduce construction costs, the gas trunk pipeline could be routed through the same corridor as an oil pipeline, or about 150 km to the north of Lake Baikal.

According to the plans recently outlined by Gazprom—the monopoly in charge of coordinating all domestic and export-oriented gas pipeline projects—specific gas fields in Eastern Russia must be developed to supply designated export markets in order to avoid competition among the projects. It is therefore proposed that Kovykta be developed primarily to fulfill domestic needs, as the cost of production promises to be less expensive. Meanwhile, more expensive natural gas from remote and hard-to-develop areas will be directed to the export market. According to Gazprom, the development of the remote Chayanda gas field in Yakutia would be feasible only if domestic markets were added to those of China and the Koreans. In the event that the Kovykta project was promoted first and its output exported, the prospects for developing the Chayanda field would be bleak.

4.2 Sakhalin I

The Sakhalin I project operated by Exxon Neftegas Limited (ENL) will develop three oil and gas fields, including Chayvo, Odoptu and Arkutun-Dagi. The total anticipated recovery is 2.3 billion barrels of oil (307 Mt) and 17.1 trillion cubic feet of natural gas (485 Bcm). Chayvo production is scheduled to begin in late 2005.

Yastreb, a 70 m tall earthquake-resistant land rig, has been assembled to develop the first offshore field. The rig was designed specifically for drilling wells from shore to the Chayvo field some 8 to 10 km offshore. More than 20 extended-reach wells are planned, making this project the

largest cluster of such wells in the world. In addition, these wells will be the longest extended-reach wells ever built. The rig is designed to operate in very low temperatures. Yastreb is the first component in the development-and-production chain that will be created in the project's initial phase. Another component is the Orlan platform, an offshore concrete island drilling structure. This structure is being upgraded at the Sovetskaya Gavan shipyard and its installation is scheduled for 2005.

Oil produced from Yastreb and Orlan will be transported by pipeline at a rate of 250,000 barrels a day (12.5 Mt a year) to the Chayvo onshore processing facility and across the Tatar Strait to the De-Kastri mainland export terminal. Over 50 Russian enterprises were contracted by ENL to carry out various operations, including two Russian shipping companies that have been contracted to transport crude.¹³

4.3 Sakhalin II

The first phase of the Sakhalin II project is now producing about 70,000 bbl/d of oil at the Vityaz Production Complex, which has been built around the Molikpaq platform. Oil is transported from the Molikpaq to a floating offloading and storage area. Currently, oil production is seasonal and limited to seven months a year. The second phase of the project includes the construction of onshore pipelines to transport oil and gas to the ice-free terminal in the south of Sakhalin.

Full-scale construction work on the LNG plant commenced in the spring of 2004 and includes the creation of an integrated oil and gas development and transportation system. Offshore platforms will be installed on the Piltun segment of the Piltun Astoskhskiye field and at the Lunskiye gas field. These platforms will be linked to the shore by pipelines. During the second phase, the Molikpaq platform will be also connected to the new pipeline infrastructure, allowing year-round production. Oil and gas will then be transported via an 800 km pipeline to Prigorodnoye, in the south of Sakhalin, the site of a new LNG plant and oil and LNG export terminals.

4.4 Other Sakhalin Projects

A draft production-sharing agreement (PSA) feasibility study for the Sakhalin III project was appraised in June 2003; it was decided that it should be reworked and submitted to the Commission for Mineral Use Conditions Development. Since the block has been deleted from the list of projects eligible for PSA treatment and the results of the 1993 tender had been invalidated, PegaStarNeftegaz was considering participating in an auction for the right to develop the block under the existing taxation system.

With regard to Sakhalin IV, the partners involved have

¹² See A. F. Safronov, "The Raw Materials Base for Natural Gas, Prospects for its Growth and the Export Strategy of the Republic of Sakha (Yakutia)", 8th *International Conference on Northeast Asian Natural Gas and Pipelines: Multilateral Cooperation*, March 8–10, 2004, p. 115.

¹³ Contracts have been awarded for delivering three ice-class tankers (US\$185 million), two similar tankers (US\$240 million) and an ice-class vessel, as part of the program to procure drilling on the Orlan platform (US\$77 million) and construction projects in Chayvo and Odoptu (US\$70 million). Finally, a US\$29 million contract has been awarded for providing helicopter services to onshore and offshore facilities.

adjusted the feasibility study for the Astrakhanov structure in order to analyze the efficiency of the project without conducting offshore drilling.

As part of the Sakhalin V project, the prospecting license for the Kaigan/Vasyukan block was obtained by Rosneft as part of its alliance with BP. The allied partners conducted 3D seismic prospecting across the entire block (approx. 2,500 sq. km) and have begun studying the data obtained from this. An agreement has been reached to create a joint operating company to carry out prospecting and to extract raw materials. Joint corporate structures with BP are being established and registered, including the operating company Elvari Neftegaz; in addition, a management company is being formed.

5. The Challenges

Energy cooperation and the coordination of energy policies and priority projects in Northeast Asia are the long-term goals for the countries of the subregion. The realization of these aims will take time, persistent policy efforts and thoughtful adjustments in economic and energy strategies. Numerous challenges are certainly likely to complicate progress, including the following problems:

- * The lack of pipeline infrastructure in Japan and northeastern China will slow down gas exports from Eastern Russia, including Sakhalin
- * It may be impossible to build cross-border pipelines without intergovernmental agreements and governments taking a leading role in such projects
- * Massive long-term investment in delivery infrastructure has yet to be matched with relevant policy efforts similar to those adopted in the EU-Russia dialogue
- * There are as yet no mechanisms for foreign investors to participate in financing exploration activities in eastern Russia
- * In bilateral energy dialogues, little attention has thus far been paid to technological cooperation (GTL, energy efficiency, etc.)
- * A much stronger system of economic incentives is needed to promote economically viable cleaner energy sources, hydroelectric power in particular

- * The opportunities offered by international organizations such as APEC have yet to be utilized
- * Uncertainties relating to the DPRK will not only impede overland energy infrastructure projects, but may spoil the emerging climate of cooperation in the area

Both positive developments and the remaining problems require that efforts be concentrated on “Track Two” networking by practitioners. This type of informal networking could lead to better understanding at the official level of the opportunities offered by multilateral cooperation.

Thus far, multilateral energy discussions among the economies of Northeast Asia have taken place within the framework of ASEAN+3 consultations and, more recently, among the energy ministers of Japan, China and the ROK. These discussions have mainly been focused on the policy coordination efforts of these countries as energy importers. As this overview demonstrates, this multilateral process has only recently begun to take shape and we have to wait and see whether, when and how Russia can join these consultations. Obviously, the need for it to do so could be questioned, given that the interests of Russia as the energy producer and those of China, Japan and South Korea as potential importers of Russian oil and gas may differ substantially. As far as oil and LNG exports are concerned, trade can and will take place among companies, without requiring government-level bilateral or multilateral cooperation. However, in natural gas pipeline and electricity projects that may require cross-border links to be economically viable, multilateral cooperation could prove indispensable.

Furthermore, for Russia’s eastern regions to develop economically and achieve higher standards of living and other social advances, the country must cultivate close economic ties with neighboring economies. Energy projects should be seen as a stepping-stone in forming long-term and mutually beneficial relations with neighbors. From this perspective, participating in multilateral dialogues could offer greater opportunities to Russia, which, in terms of its economic engagement with Northeast Asia, is only now taking its first serious steps forward.