An Executive Summary of
"Russian Oil/Gas Development and Its Implications for Japan"※

In 2003, Goldman Sachs, a leading U.S.-based financial institution, coined for the first time the term "BRICs" in its economic report. What this coined word referred to was the four emerging economies of Brazil (B), Russia (R), India (I) and China (C) which came into the world's limelight at a single stroke. Occupying one corner, Russia as an energy power has grown into a country that could afford to keep a GDP growth for eight consecutive years (up to 2006) after bottoming out in 1998, thanks in part to the ensuing oil and gas price spikes. Russia had repaid all of its official external liabilities earlier than scheduled by 2006 and currently has hard-currency reserves of a hefty $278.9 billion (at 2006 yearend, IMF statistics), the world's third largest after China and Japan. Russia showed off its presence by taking the presidency of the G8 Summit held in St Petersburg, the birthplace of President Putin, in July 2006.

Amid such developments, the IEEJ prepared a study report (entitled "Russian Oil/Gas Development and Its Implications for Japan"), which is summarized below.

<The Situation of Politics, Economy and Energy>

In an attempt to end the "Lost Decade" (political and economic stagnation during President Yeltsin's reign), President Putin, who took office in May 2000, moved quickly to restore domestic discipline by taking such actions as introducing the seven-federal-jurisdiction system to tighten the grip of the Russian federal government. Backed by a booming economy, chiefly buoyed up by well-timed burgeoning oil and gas revenues, plus well-managed political stability, Russia regained national coherence and strength in a visible way, which has enabled President Putin to keep his approval rate extraordinarily high to date. On the other hand, however, owing to the "Yukos Scandal", the setback of democracy, restrictions on press freedom, the growing power of the Kremlin and expulsion of foreign capital, among others, Russia has recently been viewed with increasingly stern eyes by the international community.

※ This report provides an English translation from the executive summary of "Russian Oil/Gas Development and Its Implications for Japan," an output of The Institute of Energy Economics, Japan (IEEJ) research project commissioned by The Committee for Energy Policy Promotion (Japan) in FY2006. This time, by courtesy of the Committee, we are allowed to publish the summary on our website. We would like to appreciate all those who are involved in the Committee for their kind understanding and cooperation. Meanwhile, the original report was authored by the following five IEEJ research staffs belonging to the Strategy and Industry Research Unit: Ken Koyama, Managing Director; Masataka Osumi, Senior Economist; Akihiro Yokochi, Senior Economist; Goichi Komori, Senior Researcher; Tetsuo Morikawa, Researcher.

How to deal with these issues is becoming one of their political challenges.

After hitting bottom in 1998, the Russian economy was ready to re-emerge along with rising oil prices. In 2005, Russia recorded trade surpluses of $118.3 billion, 2.6 times larger than 2002 levels, and by 2006 the country was able to repay fully its huge foreign debt of huge $42 billion, an amount agreed by the "Paris Club." Moscow, the capital city of Russia, and some parts of the regions have prospered thanks to the robust economy. On the other hand, Russia now faces the problems of extreme disparity in economic power between regions, a declining population, and so forth, although today's large amounts of oil and gas exports revenues conceal many above-mentioned problems.

Russia's energy sector (particularly the oil and gas sectors) is an industry of vital importance on account of its contribution to GDP growth, fiscal and exports revenues and so on. Crude oil production in Russia, which slumped sharply after the collapse of the Soviet Union (December 1991), has been undergoing revival since 1998 and continued to increase at an annual average rate of 6.5% until 2005. Social and economic stabilization and introduction of oilfield management technology from the West can be regarded as key factors behind the increases in output. The falls in natural gas production after the Soviet disintegration were smaller than those of oil. This was probably due to the fact that Gazprom, a state-run monopoly often described as "a State within the State," was resilient enough to survive the social and economic chaos and because gas supply was respected for its public interest.

<Energy Policy>

- **Domestic Energy Policy**

  An intensifying trend recently is that Russia intends to pursue its national interests by strengthening state control and involvement in the sector responsible for energy (oil and gas) supplies which, on account of their strategic value, are crucial to keeping the Russian economy strong. In industrial terms, this means that top priority is given to fostering competitive oil and gas majors in the world market, that is to say, Gazprom in the gas industry and Rosneft in the oil industry.

- **Foreign Energy Policy**

  For Russia, external energy policy is closely linked to foreign policy, and it has therefore been exercised as a powerful tool to bolster Russia's economic growth and enhance the country's presence in the international community. Russia's foreign policy is reviewed by

region as follows.

- **Relations with European Countries**

  For Russia, the first priority is to secure and enhance its position in the oil and gas export markets. In this context, Russia is undertaking projects to construct oil and gas export pipelines reaching to Europe, and is committing itself to the Energy Partnership Agreement with the EU. Recent disputes with neighboring countries including Ukraine, Belarus, Poland and Georgia over oil and gas supplies have given rise to worries on the EU side (particularly among newly accredited members) about their reliance on Russian energy. Russia for its part is pursuing the strategy of strengthening reciprocal relationships with countries such as Germany and Italy individually through specific deals that include participation in their downstream businesses.

- **Relations with the Middle East**

  Partly taking advantage of its political influence in this region that it has enjoyed since the Soviet era, and in opposition to hegemony held by the U.S. alone, Russia is now adopting an increasingly assertive diplomacy, even to the extent of driving a wedge in cooperation with China if this is seen as necessary. A series of Russian moves that include re-acquisition of its stakes in the Iraqi oilfield (West Qurna), participation in the Saudi gas initiative project (by Lukoil) and cooperation in the Iranian Bushehr nuclear power plant, demonstrate that Russia's desire to remain involved in the major countries of this region is as strong as ever.

- **Relations with China**

  Russia regards China as a new oil and gas export market (diversification of outlets from the Russian perspectives), and this can also be an effective means of checking demanding European customers. As the first phase of the East Siberia-Pacific Crude Oil Pipeline Project, construction of the Taishet~Skovorodino section is under way ahead of the rest. On the political front, in concert with China and partly through the forum of the Shanghai Cooperation Organization (SCO), Russia is putting checks on U.S. involvement in Central Asia. However, future developments need to be watched carefully, since someone in the Russian government is reportedly advancing a "Chinese Menace" argument, and also because the Russo-China talks on crude oil and gas prices are currently at a standstill.

<Present Situation and Prospects for the Oil and Gas Sectors>

- **Oil sector**

Despite historic price surges, the pace of increase in crude oil output has been slowing since 2004. This slowdown can be attributed to the decline in incentives for output increases resulting from raised taxation on crude oil production and exports as well as a pause in the upsurge output at existing oilfields, where most of the incremental oil has been pumped these years.

By region, of total crude oil production in Russia in 2005, West Siberia accounted for 71.1%, European Russia accounted for 17.4%, Urals accounted for 10.5%, and East Siberia, the Sakha Republic and Sakhalin together accounted for 1%. This reveals the huge reliance on West Siberia in contrast to the scant share held by East Siberia and the Russian Far East. The Russian government in its "Russian Energy Strategy to 2020" (released in 2003) expressed the hope that the share of crude oil production in East Siberia and the Russian Far East would be on the rise and reach 16% in 2020. However, despite affluent resource potentials, uncertainties persist because any increase in future crude oil output in Russia will depend on investment in exploration and development by the Russian oil companies, the possibility of introduction of foreign capital, and the oil policy of the Russian government.

Main Crude oil pipelines are monopoly of Transneft in Russia. Compared with the CIS (Commonwealth of Independent States) and Eastern and Western European countries, crude oil pipelines in East Siberia and the Russian Far East are not still somewhat well constructed.

Russia has an oil refining capacity of 256.71 million tons/year (about 5.13 million b/d), with a utilization rate of 84% as of 2005. However, the refineries in Russia are aging and are generally inefficient. Crude oil exports amount to 222.33 million tons/year (about 4.45 million b/d, 2005 records), with 92% bound for Europe (incl. Central/East Europe). Petroleum product exports totaled 95.09 million tons in 2005 with 64% destined to Europe (including Central and East Europe).

- **Gas sector**

  Russia has the largest recoverable proven reserves of natural gas (39.48 trillion cubic meters) and is also the largest natural gas producer (640.6 billion cubic meters as of 2005) in the world. As in the case of oil, the leading gas-producing area is West Siberia, where the four giant fields of Urengoy, Yamburg, Medvezhye and Zapolyarnoye are producing 66% of Russia's total. The problem is all these fields except Zapolyarnoye have declining

outputs, giving the Russians a reason to develop new gas fields.

Natural Gas pipelines in Russia, (which are called UGTS:United Gas Transportation System) are owned by state-run Gazprom. Most of the major natural gas pipelines run from West Siberia to Europe and/or the CIS, with a few located in East Siberia and the Russian Far East. Russia's Gas exports amounted to 236 bcm (2005 records), of which 32% was shipped to the CIS, 19% to East Europe and 40% to West Europe.

A challenge for the oil and gas sector is how to counter the slowdown in production. Above all, it is essential to maintain and stabilize production level in West Siberia, the principal producing area. There is an urgent need for Russia to develop East Siberia, the Russian Far East and Sakhalin in order to increase natural gas production. Furthermore, the currently lopsided natural gas exports to the EU and CIS need to be diversified toward Asian and North American Countries.

With regard to natural gas, one of Russia's top priorities is to make full-scale entry into LNG business.

<Oil and Gas Industrial System and Management Strategy>

Following the Yukos Scandal, the Russian government has been tightening its control and involvement in the oil and gas industry. Rosneft and Gazprom, both of which are state-run entities, are intensifying their presence among oil and gas companies, respectively. Chairman Sechin of Rosneft is the Deputy Secretary of the President's Office. Chairman Medvedev of Gazprom is the First Deputy Prime Minister. They are both close confidants of President Putin.

The major oil companies in Russia are Lukoil, Rosneft, TNK-BP and Surgutneftegaz, while the main crude oil domestic pipelines are under the exclusive control of Transneft. Lukoil, the biggest crude oil producer in Russia, is a private oil company in which ConocoPhillips of the U.S. has a 20% stake. Lukoil, which enjoys amicable relations with the government, is in favor of business expansion not only to the Caspian Sea but also to the European downstream sector. Rosneft, which took over the principal subsidiaries of Yukos, is a fast-growing state-run corporation. An initial public offering (IPO) by Rosneft, made on account of its financing needs, gave foreign oil companies such as BP, CNPC and Petronas a chance to become its minority shareholders. Rosneft is the key player in determining the future shape of the Russian oil industry. TNK-BP, which is owned 50% by BP, a UK-based

major, has been successfully increasing its production until recently. From now on, TNK-BP will merit particular attention in such points as a possible change in its ownership (participation by state-run firms) after its Russian partners' mandatory stakes-holding period expires, and the question of the future development of the Kovykta gas field. Surgutneftegaz is Russia's fourth-largest oil company and pumps some 600,000 b/d of crude oil in West Siberia. The company's President Bogdanov is one of the oligarchs (one of the emerging financial combines) but enjoys a good relationship with the Russian government, which enables the company to conduct development and production according to its own wishes.

In this way, the ability of the Russian oil companies to build up and maintain a good relationship with the Russian federal government is one of the most vital elements to ensuring the success of their business operations.

Transneft is a state-run monopoly whose activity consists exclusively in operating main crude oil pipelines in Russia. Its earnings are chiefly generated in the form of fees paid by oil companies for using the pipelines. Transneft appears likely to continue to act as the principal player in the execution of planned crude oil pipeline construction projects.

Gazprom, which has a workforce of 330,000 and a turnover of $45 billion (2005 records), is the world's third largest gas company in terms of listed-stocks market values. The current president Miller, the third in the company's history and a confidant of President Putin, was inaugurated in May 2001. Gazprom took over gas enterprises in more than 15 countries around the world. Gazprom also acquired stakes in the Sakhalin 2 project in December 2006., thus taking the first step on the road to achieving its long-cherished ambition of full-scale participation in the LNG business. Because increasing the capacity of the EU-bound gas export pipelines is a matter of great importance for Gazprom, the company currently has two new pipeline projects under way. One is construction of the "Yamal Gas Pipeline" and the other is the "Nord Stream Gas Pipeline."

Rosneft, TNK-BP, Surgutneftegaz and Gazprom are all involved in the new oil and gas development projects in East Siberia, the Russian Far East and Sakhalin. These projects are expected to provide additional sources of energy for the Northeast Asian market, in which Japan is included.

<Present Situation of Northeast Asia-bound Oil and Gas Export Projects and Related Challenges>

Efforts to develop oil and gas resources in East Siberia and Sakhalin, delayed since the disintegration of the Soviet Union, are finally set to start. Namely, development projects such as Sakhalin 1 and Sakhalin 2 as well as exploration of the giant Kovykta gas field have started to show signs of life under a scheme for introduction of foreign capital. This can be explained by the fact that Northeast Asia's mounting energy demand was geared to Russia's needs for developing East Siberia and Sakhalin.

Highlighted below are the present situations and challenges of Northeast Asia-bound oil and gas export projects:

- **Sakhalin 1: Crude oil (Sokol crude) exports started from the end of 2006. A challenge is how to secure gas export outlets.**
- **Sakhalin 2: Crude oil (Vitias crude) exports started in 1999. LNG exports are scheduled to start around the summer of 2008.**
- **East Siberia-Pacific Oil pipeline:**
  The first phase is scheduled for completion in 2008 (Taishet~Skovorodino, with throughputs of 30 million tons/year). The second phase will depend on reserves (Skovorodino~Perevoznaya)
- **Kovykta gas:**
  F/S conducted in 2003 (China-bound natural gas export: 20 bcm/year, South Korea-bound: 10 bcm/year). With Russo-China price negotiations ground to a halt, the focal point is what role Gazprom would play by in the future.

<Russian Oil and Gas Development and Impacts on International Markets>

Russia is a key energy supplier competing with Saudi Arabia for the position of the world's largest oil producer. It also claims top international clientele for its overwhelming gas output. As demonstrated in the past few years, incremental output from non-OPEC producers as a whole depends on Russia's producing conditions. Oil and gas production trends in Russia therefore constitute a crucial factor for supply and demand in the world energy markets.

Being a country with abundant resources, Russia has a huge potential as an oil and gas supplier and is likely to play an unrivalled role in various regards, such as how to respond to the world's oil and gas demand, particularly for increasingly energy-thirsty Asia, and how to handle the problems of demand and supply balances and stabilization of the international energy markets. In other words, the question of whether oil and gas development is promoted in Russia, and if so, to what extent, is likely to have serious impacts on the world's

energy supply and demand, acting as a key factor in determining tightening or softening of supply and demand in the market as a whole.

In addition, Russian oil and gas development trends are of great importance not only from the aspect of supply and demand issues but also from the aspect of energy policy and international relations. With regard to "resource nationalism," which in the international energy market is now being seen as a formidable threat, it is no exaggeration to say that any Russian move can set an underlying trend worldwide. Depending on which course it decides to take, Russia will be tested regarding its contribution to the stabilization of the global energy market and its confidence in the international community. The courses open to it are: ① to promote closer ties with consuming countries while introducing foreign capital into upstream oil and gas development or ② to restrict foreign capital while giving priority to implementation of a national-interests-based energy diplomacy.

The Russian government's increasing control and involvement in the energy sector today, combined with its energy policy and diplomacy in national-interests-first style, have become a matter of grave concern for the major consuming countries in the EU, the U.S. and Asia, as a result of which these countries are becoming increasingly energy-security-conscious worldwide. However, overreaction on the consumer side can work against their interests by making the world energy market an arena of "politics," giving rise to a vicious circle that impedes the smooth functioning of the market. In this context, future efforts on the part of the major supplying countries, notably Russia, will be essential to the stabilization of the international energy market. In other words, building up reliable relationships with the major consuming countries will be a matter of the greatest significance.

Russia is a significant source of extra supplies for the international energy market overall. In addition, in view of the strong probability of growing reliance on the Middle East and OPEC in the future, Russia is expected to become one of the sources crucial to supply diversification. Particularly from the standpoint of Northeast Asia (a major center of energy demand growth), Russia is one of the most promising alternative sources to the Middle East since as a leading non-OPEC supplier it can help maximize diversity of energy sources. On the other hand, however, any Russian-led move such as fortifying alliances among gas suppliers in the hope of strengthening their market power in the seller's market, which reflects supply and demand strains, will be reason for worries about future developments.

<Implications for Japan>

Given that oil accounts for about 50% of Japan's total primary energy supply and that virtually all her oil needs are met with imports from the international oil market, stabilization of the international oil market is a matter of crucial importance for the country. From now on, steadily increasing energy flows from Russia, even if not bound for Japan directly, can contribute to stabilization of the market through such effects as curbing intensifying market destabilization and improving supply and demand balances on the market, the latter thanks to greater oil flows into the market. Thus, all in all, boosting supplies from Russia can be regarded as helping to build up Japan's energy security.

In this context, all of the crude oil export pipeline projects, natural gas export pipeline projects and LNG projects planned by Russia in East Siberia and the Russian Far East can play an important role as a new energy source or as a means of helping diversify Japan's energy import sources.

These projects are all located close to the Northeast Asian market. For this reason, in addition to the advantages resulting from the geographical proximity of Sakhalin and Japan, numerous other potential merits can be found in the long run. For example, it is possible that these Russian projects could serve as a starting point for installing and evolving energy infrastructural networks in Northeast Asia region-wide.

However, these new energy projects that are mainly designed to serve the Northeast Asian market could be constrained by such factors as ① anxiety regarding economics and profitability of the projects which need huge initial investments on account of their location in "frontier" lands, ② uncertainty regarding the security of constant demand due in part to the liberalization of the energy market that is under way in Northeast Asia too, and ③ political tensions, potential conflicts and distrust persisting among the concerned countries and economies such as Japan, China, Russia, South Korea, Taiwan and North Korea.

With regard to recent developments in Russia, the upsurge of "resource nationalism" and growing state control and involvement in the oil and gas sector are seen as matters requiring close attention. Japan also takes them seriously because of her high expectations for oil and gas development projects in Sakhalin and East Siberia. In this context, the recent troubles over the Sakhalin 2 project between the Russians and foreign investors, including Japanese firms, have given rise to increasing concern. Against this background, on December 21, 2006, all the parties reached an agreement that Gazprom would participate in Sakhalin 2 by acquiring the project's stakes of 50% + one share (by paying $7.45 billion to the foreign

investors).

In the course of the rough dealings that led up to the settlement, the Sakhalin 2 muddle has given great cause for worry among not only the Japanese and European investors in the project but also for those concerned with energy in all parts of the world. Now that an accord has been reached as outlined above and Sakhalin 2 is ready to move on toward its original goals, all partners are expected to develop more cooperative relations than hitherto. Of course, given the nature of the Sakhalin 2 trouble before it was settled, and in preparation for various future developments geared to eliciting optimal responses, it will be essential to improve information gathering and analysis capabilities that can keep Japan properly informed of what is going on in Russia, including Russian oil and gas policy trends and state-run oil and gas concerns, typically Gazprom.

Realizing the latent potential of oil and gas development in Sakhalin and East Siberia and benefiting from the merits thereof is very significant not only for Japan but also for Northeast Asia region-wide. Such realization essentially requires the following points. First, the parties and countries participating in each project must step up their efforts and activities to increase the economic viability of their projects. Second, while respecting project economics, each project needs to be reviewed from a strategic dimension by taking into account such hard-to-quantify elements as strengthening of bargaining power vis-à-vis the Middle East and the security of constant supplies, both by means of supply source diversification. Third, from the viewpoint of pursuing benefits for Northeast Asia overall, Japan will have to take the initiative in securing high-level commitments from the political leaders of the related countries in order to share the "will" to realize and expand energy cooperation in North East Asia.

The Japanese and the Russians are required to commit themselves to wide-ranging cooperation in order to establish conditions such as those mentioned above. From now on, Japan for her part may need to consider cooperation with Russia in a wider framework than ever by focusing on ① cooperation in the energy field where Japan's outstanding technological capabilities can be utilized in points such as energy conservation, environmental technologies and LNG technologies, ② cooperation in manufacturing fields such as the automobile industry, and ③ steady efforts to promote grass-root cooperation. Russian Prime Minister Fratokov's visit to Japan in late February 2007 which was accompanied by a big delegation of some 90 prominent political and industrial figures including Industry and Energy Minister Khristenko, achieved specific results in various proposed projects such as

communications, TV-set manufacturing and airport financing. In the days ahead the diplomatic schedule, including summit talks during the German-hosted G8 Summit in June 2007, has a wide-ranging agenda for discussion at the table. While firmly retaining her basic stance on sovereignty-related issues, Japan is expected to participate in constructive, future-oriented discussions related to any fields in which cooperation is possible.

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