

# **Oil and Gas Resources of Siberia and Russian Far East**

Their Role in Forming the System of the Political and  
Economic Cooperation in North East Asia Region

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## **1. Introduction**

Siberia and Far East of Russia have always occupied the special place in the plans, forecasts and activity for the management of development of Russia (i.e. the former Soviet Union and the Russian Federation). For many years, both East Siberia and Far East of Russia have been known as the lands of inexhaustible natural resources. However, V. I. Vernadsky wrote long time ago that "In Russia much attention was paid neither to using it's own nature, nor to searching for energy resources unknown in other countries".<sup>1)</sup> This may be explained by such factors as:

- Low level of industrial development,

- ・ Low mobility of the population (the active industrial development of East Siberia and Russian Far East would require movement of tens of millions of workers),
- ・ Low proficiency of manpower,
- ・ Underdeveloped transport system, and
- ・ Absence of the external market to the east.

The importance of the region was, however, realized many times in history. During the first part of the 20th century in Siberia, several large scientific-economic forums, on which scientists and practitioners discussed the ways of economic development of the region, were held: e.g. The Meeting about Means of Communication in Siberia (Irkutsk, in December 1906), Commission on Learning Natural Productive Forces (KEPS), formed in February 1915, Maiden East – Siberian Research and Development Congress (Irkutsk, in April 1931), Maiden All-Union Conference on Accommodation of Productive Forces of Soviet Union (Moscow, in March 1932), Conference on Learning Productive Forces of Irkutsk Region (Irkutsk, in August 1947), Irkutsk Conference on Progressing Productive Forces of East Siberia (in August 1958), and more recently Baikal Economical Forum (Irkutsk, in September 2000).<sup>2)</sup> However, all of them focused on development of transport system, hydroelectric and thermal power plants, coal and mineral mines, and lumber and heavy industries.

An opportunity of extraction and use of oil and gas was mentioned only casually as distant and hypothetical outlook. And naturally, at that time the possibility of the external market on Far East was not mentioned at all because of both economic and political reasons, and of the fact that the Soviet society was closed from the outside world. The only one example of involvement of foreign country in the development of natural resources of Russian Far East was concessions with Japan on development of oil, coal and some other minerals in the 1920s. But to tell the truth, it was practically impossible to consider such a cooperation during military operations of both countries.

Today the role in economy of natural resources such as oil and gas of Siberia and Russian Far East is, undoubtedly, higher in Russia than was in the former USSR. Although part of the oil and gas mining rights was transmitted from the federal level to the regional levels, in an attempt to promote the development of regional economy, the central government still controls most of such activities.

Russia with approximately 2.8% of population and 12.8% of territory of the world, has 11–13% of the unproved reserves and about 5% of the proved reserves of oil in the world, and about 42% of the former and 34% of the latter of natural gas. Russia also has approxi-

mately 20% of world's coal reserves, out of which about 32% is brown coal. The cumulative production of oil is about 20% of unproved reserves and only about 5% for gas. As of 1999, the probable production-reserve ratio for oil is 22 years, for gas 81 years, and for coal and natural uranium a few hundreds years.<sup>3)</sup>

In this paper, following the review of the current situation of Russian petroleum and gas industry, the relationships with the Asia-Pacific Area (APA) countries, such as China and Japan, are examined from the viewpoint of 1) importance of these countries for the Russian energy policy, and 2) export prospect of the Russian energy resources in the future to the APA, and Russia's cooperation with these countries.

## **2. Current situation of the fuel industries in Russia**

### **(1) Russian petroleum industry**

Currently the petroleum reserve of Russia is one of the largest in the world. The oil and gas reserves of Russia are the second in the world, after Saudi Arabia; most of them are concentrated both in the Western Siberia and Ural-Volga region. The significant oil reserves are also found in Republics of Komi and Arkhangelsk region, with much smaller volumes in Northern Caucasus, East Siberia and the Russian Far East. The oil/gas accumulations are in general favorable for development and production.

The fundamental reason of the decline of oil production and export from Russia in the 1990s is its economic crisis which caused the significant decrease of domestic oil and gas demands. The poor finance for exploration and production, as well as for building oil/gas infrastructures, is also the cause of such a decline.

Due to the decreased exploration activity in Russia, the number of new fields discovered declined significantly; 315 petroleum and gas fields were found during 1988–1990 and only 115 fields with medium and small sizes during 1994–1996.

### **(2) The principal areas of exploration and production**

The main areas of exploration and production of the crude oil remain in Western Siberia, Ural-Volga and European North (68%, 27% and 4%, respectively, of the Russia's current crude oil production). The most prospective provinces for new discovery are Timan-Pechora region, East Siberia and Russian Far East. The production activity in Timan-Pechora province could grow to 30–35 million tons per year by 2015 and reach 10% of the entire crude oil production of the country.

Within the regions of East Siberia and Russian Far East, three important areas for oil/gas prospect are known: shelf of Sakhalins, Angara River area in Evenk autonomous area of Krasnoyarsk Region with a center of oil production in the Yurubcheno-Tohomsk

field, and Republic Sakha with a center of production activity in the Talakansk and Verkhnerenchensk fields. By 2015, the level of crude oil production in East Siberia and Far East of Russia, including the shelf of Sakhalins, could exceed 50 million ton per year and reach 13% of crude oil production of the country.

The most difficult ecological and economic problems on the global and subglobal scales are connected with the estimate of opportunities and consequences of development of energy resources of Far East's continental shelves.

The forecasts of oil and gas production of Okhotsks and Bering Seas areas have been known for a long time. For about ten years, the possibility of large-scale crude oil production on the shelf of the island of Sakhalin has been searched. The programs of development of oil and gas fields on the entire shelf of Far East are designed. It is doubtless that this task has global importance. The energy resources of Far Eastern shelf, undoubtedly, matter not only for Russia, but also for the whole world. There may be following questions unanswered:

- Period and volumes of the production from these resources,
- Program to produce the resources,
- To what extent these resources may be allocated to export and also to domestic consumption,
- Methods to take out and refine crude oil, and
- How to coordinate terms and paces of development of oil and gas fields in Russian Far East with development of other fields of the country.

These questions are very closely related with the problems of financing of development. Capital-intensive and technically complex and difficult works of oil and gas mining in the Okhotsk and Bering Seas region is only possible at the expense of the foreign investments. But the situation requires a careful approach in many respects to coordinate with policies of national energy independence.

The problem of revival of the existing oil-fields with significant remaining reserves becomes more and more important. It is especially urgent in old areas of oil production, in particular, near the Ural-Volga and Northern Caucasus regions etc. Many fields are at stages of decreasing production, but the outlooks of these regions are still far from being exhausted.

Sedimentary basins of Russia contain the large hydrocarbon reserves which are neither opened, nor explored. Exploration of potential resources of oil is about 34% and that of condensate is 16%, which allow us to forecast new large discoveries. The specialists know

that, after recovery of exploration works up to the level of 1988–1990, it is possible to expect annual increase of oil and condensate reserves up to 1 billion tons, and natural gas up to 1.5 trillion cu. m. It is expected that some 70–75% of these volumes would be discovered in Western Siberia, 10–12% in European part of Russia and 15–18% in East Siberia, Russian Far East and sea shelves.

It is particularly important to strengthen the works with respect to exploration and development of fields on marine shelves. In the boundary areas of Arctic and Okhotsk shelves, a number of prospective oil and gas producing provinces are found. Within these areas, a number of unique and giant fields (Shtockmansk, Leningrad, Rusanovsk and Prirazlomnoe etc.) have already been known. Also prospective is the under-water resources of the northern and northeastern parts of the Caspian Sea region.

### (3) Russian gas industry

Now Russia has the greatest forecasted resources and proved reserves of gas in the world and is the largest gas producer as well. In 1999, the gas production of Russia has reached about 590 billion cu. m, 86% of which was from the Western Siberia. The potential resources are 216 trillion cu. m. The proved reserves of gas is about 48 trillion cu. m (34% of the world reserves); about 45.1 trillion cu. m of which is from the onshore fields and 3.8 trillion cu. m are from offshore areas.

In Russia, gas fields are distributed quite unevenly. Almost 78% of proved reserves is concentrated in Western Siberia and about 74% of them are from 23 fields, each of which contains more than 500 billion cu. m of gas. Among them there is the Urengoy field with reserves of about 7.2 trillion cu. m, Yamburg field with 4.1 trillion cu. m, Bovanenkovsk field with 4.4 trillion cu. m and other five fields with more than 1 trillion cu. m each.

Unproved reserves of gas (167.6 trillion cu.m) are basically concentrated in poorly known areas of East and Western Siberia and Caspian area. Since the 1980s extensive research works on geology of the shelf areas was made especially in the Barents and Kara seas. The development of these resources will require significant capital expenditures.

Russia still has the largest potential for development of gas industry in the world. The extent of exploration in the country as a whole is 24.5%, and that of each region is as follows: in Western Siberia –46%, in the Ural region –58%, but in a number of perspective areas it is much less: in Russian Far East –10%, in East Siberia –3%, on shelves of the seas –5%. At the same time, rest of the resources are expected in remote areas and under the more complex geological conditions, and hence are less probable for discovery as well as for industrial development.

There is an optimistic view for development of gas resources in this country. In Russia

as a whole, 58% of its reserves on land and 40% under water, respectively, can be developed profitably under existing economic conditions. The development of the gas resources of other regions and offshore areas requires the increase of oil and gas price.

### 3. The Asia-Pacific Area (APA) for the energy policies of Russia

For the long-term energy policies of Russia, the APA occupies a special place. The significant part of fuel and energy resources of the country exists in East Siberia and Far East of Russia. This region has 43% of explored coal reserves, about 18% of the proved reserve of oil and 29% of gas. East Siberia and Russian Far East produce more than 3/4 of the economically accessible energy of Russia. On the other hand, as it was already mentioned, the neighbours of this region, such as the countries of North East Asia and other countries of the APA have large potentials of dynamic economic development and energy consumption. The energy policies of Russia recognize that rich resources of East Siberia and Far East should become a basis of economic prosperity of these regions. In an attempt to accomplish these objectives, the development of energy policy of Siberia was completed in 1998. Now a new edition of energy policy of Russia for the period up to 2020, in which the APA-oriented energy policies are given special attention, is completed.

Russia is an Eurasian country. Until recently, however, it was more west-oriented. Its relations with the countries of the APA will become more important in the near future. According to some forecast, approximately 60% of world Gross Domestic Product will be produced in the countries of the APA in 2015, and the share of Europe, where an export potential of Russia is traditionally orientated to, will be only 20%. After 2005 the demand for imported gas in the APA countries can reach 180–200 billion cu. m per year. This forecast, in combination with the fact that the significant part of mineral-raw resources of Russia exist in Siberia, allows us to esteem its eastern neighbours as the basic market of energy resources.

#### (1) The potential buyers of the Russian liquid natural fuel in the APA

As the potential buyers of the Russian gas in the APA, three countries - Japan, South Korea and China are considered. The first two are the traditional importers of the liquefied gas distillate (LGD) and are provided with the contracts on expansion of these deliveries in the future. In the opinion of the analysts, the LGD market of Japan comes near to the mature stage, and after 2005 its further expansion will depend greatly on price competitiveness of LGD with other types of energy. Among the potential suppliers of LGD for China and other countries of the APA, it is possible to name a number of countries of Middle East, Southeast Asia, and also Russia (Sakhalin). Concerning deliveries of gas by pipe-

lines, the only competitor of Russia is Turkmenistan. In the long term, China can become the largest consumer of the Russian gas.

In the last 10 years, paces of economic growth in China were at the level of 9% per year, and even now they do not fall below 5%. The consumption of energy in 1997 has reached 905 millions of tons, oil equivalent. In China, oil supplies about 20.5% of primary energy, and hydro- and nuclear energy provide 1.8% and 0.4% of energy, respectively. The dominant role is played by coal (75.4%), on which the majority of power stations work. However, it has a negative effect on ecology, not only within the country, but also in the entire region. Coal energy is used for development of electric power, which is currently 217 GW by the official estimate, but could reach 300 GW in 2000 and 530 GW in 2010. The gas occupies a small place in a energy balance of China - only 1.9%, but it plays the important role to solve the energy problems of the country in the future.

In the 21st century, the Asia is expected to become the largest consuming region of primary energy resources. Here there will be new "poles" or "centers" of economic growth (China, countries of Southeast and Northeast Asia etc.), drawing energy resources both from neighboring and distant regions.

The technologically reliable, economically stable and ecologically secure delivery of energy in the entire Eurasian continent is not possible without development of suitable power and energy transport infrastructure. The development of such infrastructure requires joint effort among the respective countries, with effective cooperation on a mutually advantageous ground, joint realization of the most effective technological plan and cost minimizing decisions and development of a new partnership relations between governments, industries and consumers of services of energy transport systems.

In the long-term plan, the creation of the infrastructure is connected with the cooperation between energy consuming and producing countries concerned. The success of such cooperation will depend also on, as long as it adequately mirror objective historical and economic processes, development of the world. The development of an energy transport infrastructure and large-scale economic cooperation is the basis of forming the regional system of energy safety in Eurasia.

Even in the regions of the continent where such infrastructures exist (for example, in Europe), the role of the state and governments in securing regional energy supply is rather low now. Here functions of the state as a guarantor of regional energy supply step-by-step pass to national and transnational energy companies and international energy consortia.

In other regions, where international energy transport infrastructure is just completed or is being planned (for example, in Northeast Asia), the strong involvement of the state such

as the government-to-government agreements, guaranteeing the realization of energy transport projects, reliable transport of fuel and development of international energy transport systems are necessary.

The realization of the above mentioned points will provide steady, technologically reliable, and ecologically secured delivery of energy to hundreds of millions of inhabitants of the Eurasian continent, and will become an example of the way to solve the global energy problems and provide stability to all system of the international relations.

Among energy resources, gas distillate, which is cleanest, occupies the special place, determining the basic variations in pattern of the world energy balance in the past decades. In the countries of Northeast Asia (especially in Japan, Korea and China) ecological factors are very important.

Russia can become one of new sources of gas for these countries. Some projects envision delivery of gas from Russia, based on the following conditions:

- Creation of large gas center in the Irkutsk region supplied from the Kovyktinsk gas condensate field;
- Transportation of gas distillate from northern areas of the Tyumen region;
- Development of gas fields of the south of the Krasnoyarsk region;
- Formation of the gas center of Russia in the eastern-most part: on Sakhalin shelf where in about 2020 it is planned to extract 15–20 billion cu.m of gas per year, from which one half will be exported. The various alternatives of transportation of gas from the Sakhalin shelf to the Russian consumers and its export are now studied.

In more distant outlook, after 2020, the gas from the western region (north of Irkutsk region, southwest of Republic Sakha (Yakutia)) and from the eastern region (shelf of Sakhalin) can become the basis of uniform gas transport system of East of Russia, not only supplying a huge territory from Irkutsk up to Vladivostok, but also exporting to the countries of the APA up to 50 billion cu.m of gas per year. The outlook for development of a petroleum industry in East Siberia and in Russian Far East is good. To the present time, the giant oil fields have been discovered, and their commercial production can begin by 2015–2020.

The cumulative production of oil in East Siberia will probably reach from 7 to 12 million tons in 2010, and can reach from 25 up to 30 million tons in 2020. In Far East of Russia, the crude oil production, including a gas condensate, will reach 20–24 million tons in 2010, and in 2020 up to 25–30 million tons. In more distant outlook, the cumulative recovery of oil in the region of East Siberia and Russian Far East can reach 70–75

million tons per year, from which it is possible to export about 40 million tons per year.

The idea of export of the Russian gas to the APA has been the ambitions of the interested circles for 25 years. In December, 1974, in Paris the General Agreement on Cooperation in conducting exploration works on the Yakut gas fields between the Ministry of Foreign Trade USSR, American companies - Occidental LNG Corp. and American Siberian Natural Gas ("El Paso") and Japanese company, Siberian Natural Gas, was contracted for the purpose of supplying 20 billion cu.m LGD per year to Japan and USA within 25 years. The project did not progress and was frozen, as in 1974 the Congress of USA accepted the so-called Jackson - Wenick's correction to the law on trade which included discriminating reservations towards USSR, which complicated its realization, specially in the part of financing. The concept of development of the Yakut and Sakhalin gas and mineral-raw resources of East Siberia for the purpose of gas provision to Russian Far East regions and export to the Asian countries was reborn in the second half of 1980s. Within the framework of the large-scale project "East", it was supposed to build more than 6000 km. of gas mains on the USSR territory, and also 1200 km. of a gas pipeline and underwater pipeline through the Korean strait for supplying gas to South Korea and Japan. However when we consider the problems of financing, low level of exploration of Yakutia and disintegration of USSR, this project seems difficult to materialise.

#### **4. Projects to export the Russian gas to the APA countries**

Now at the development stage, there are some projects to export the Russian gas to the APA countries. Controlled by various groups of the companies, they are based on gas resources of East Siberia (giant Kovyktinsk gas condensate field in Irkutsk region), the Republics Sakha (Lena – Vilyui gascarrier province contain 959 billion cu.m reconnoitered and 13 trillion cu.m of forecast stocks) and Sakhalin Island. Schema of deliveries of gas distillate in the APA countries is characterized by the formula "resources in exchange for the investments", and the deputy minister of Fuel and Energy of Russian Federation Sergey Chijov marks "Irkutsk Region and Sakhalin are the closest and the most favorable for the potential importers. And in these regions we can expect the greatest activity of foreign oil-gas companies in the near future".

##### **(1) The Kovykta gas condensate field in Irkutsk region**

Originally Russian and the Chinese parties have made the greatest progress on negotiations about Kovyktinsk gas condensate field in Irkutsk region. According to this so-called "Irkutsk project", the agreement on the technique-economical ground of development of the field and building of the gas pipeline in China is signed. It is possible that in the struc-

ture of the shareholders of the company “RUSIA Petroleum”, the owner of the license on Kovykta development, the Chinese national oil-gas corporation, will appear. The Yakut company “Sakhaneftegaz” is ready to participate in Kovyktinsk project in Southern Yakutia. Recently “Gasprom” has declared the decision to join the project of gas transportation from Kovyktinsk field. The field was opened in 1987, 350 km from Irkutsk, between two basic mainlines of east regions of the country, Transsiberian and Baikal-Amur. The license for exploration, prospecting and production activity of hydrocarbons was owned by joint-stock company “RUSIA PETROLEUM”, 60.5% of the shares of which belongs to “SIDANKO” and 10% of the “SIDANKO” shares, in turn, belongs to the British company British Petroleum (currently BP-Amoco). On January 1 1998, the stocks of gas of various categories was 869.8 billion cu. m. Forecast resources of a field, according to the latest prospecting, are 15 trillion cu. m. Now the work (drilling of three exploratory wells is conducted and the platforms under four wells are prepared) at “pioneer” stage of development of a field with the volume of 1.5 billion cu. m per year since 1999 has begun. It will need drilling of 15 development wells, building of 400 km of gas pipeline and other objects of the infrastructure. The gas will move to the Angarsk petrochemical combine and Irkutsk thermal power station. At the second stage in 2000 the magnification of production activity up to 5 billion cu. m and at the third stage in 2001 an achievement of volume up to 9.2 billion cu. m per year for the purpose of gasification in the Irkutsk Region were envisioned. At the fullscale development stage, the communal gas recovery will reach up to 35–40 billion cu.m per year, from which 20 billion of cu.m, after building the gas pipeline, is supposed to be exported to China. It is estimated that it will bring to “SIDANKO” region and Russia as a whole 1.5 billion dollars per year.

The question of export of energy resources to China, including gas, carries not only economic, but also geopolitical nature. Particularly in the case of the Irkutsk project, when the construction of pipeline is planned, two alternatives are discussed: through Mongolia or going around it. The first one is preferable from the economic point of view: firstly, it is shorter, secondly, the landscape is more favourable for construction work. However China declares that all transport projects should go around Mongolia. In September, 2001, in Irkutsk public listenings about a track of the gas pipeline on the territory of the Irkutsk Region took place. It is possible that the project will require variations in accordance with the expressed public opinion of the area (in the Soviet era nobody has taken it into account).

By tentative estimate, for the full-scale development of the field and the building of all export system, taking the cost of works on gasification of Irkutsk region into considera-

tion, \$7 billion is required.

The attractiveness for the investors of the development of Kovykta without the proof of actual presence of reserves, indispensable for long-term deliveries of gas to China, is unreal. According to the information of a western official, the conclusion of the project agreement was considerably delayed because of financial difficulties of South Korea, which on an original plan should provide the most part of financing of building of the pipeline. The portion of the partners' involvement will be determined after the feasibility study of the project under the condition that the Russian party should keep not less than 51%. The financial hopes seems to be linked only to BP-Amoco. But according to Mintopenergo, an opportunity should not be excluded in the development of the field for the Chinese national oil-gas corporation to participate. Besides financial difficulties, there are also other complications: the necessity of the prompt development of Kovykta which was included in the list of prospective fields, development of which is possible in the form of joint company, and also the fact that as for "SIDANKO", which is a "daughter" of "RUSIA Petroleum", the holder of the license, now there is a question on bankruptcy. In general, the situation of Kovyktinsk field remains unclear in many respects. It is enough to examine the events of last years to notice what kind of economic and political factors, both domestic and external, influenced it.

In November, 1997, the English company "British Petroleum" has concluded a strategic alliance with "SIDANKO". According to the contract, "BP" has got 10% of shares for 571 million dollars. "SIDANKO" has gone on the bargain on the basis of the applications of a maximum management of "BP". For its president, Sir John Brown, the Kovyktinsk project is the objective of prime attention for the English company in Russia. This attention, as was soon found out, was grounded on the special approach to the development of Kovyktinsk field. "BP" has offered the schema of autonomous Kovykta development, according to which the extracted gas is routed to Mongolia, China, North and South Korea and probably to Japan through the specially laid pipeline; the countries, which for a long time actively declared their readiness to buy Kovykta gas and to invest in the development of the Russian field. In that way the establishment of actual monopoly on Kovykta management began.

In 1998, there was a confluence of "BP" with the American company "AMOCO". Before confluence "RUSIA Petroleum" shares was transmitted from "SIDANKO" to a certain Cyprian company "Burovik" (Burovik East Gas Company), created firstly on parity conditions between "BP" and "SIDANKO", and then actually occluded by English party. Then "BP" actively began to redeem large packages of the foreign investors, who invested

in “RUSIA Petroleum”. Not being satisfied by it, the Englishmen originated discharge of three additional issues of the shares, which predominantly have been redeemed. All these steps have allowed “BP” to become actually complete owner of the field by the end of 1998. It began to effect the internal policies of the company. In the spring of 1998, the tandem “BP” – “SIDANKO” has received the majority of posts in the board of directors of the “RUSIA Petroleum”. It has determined the destiny of the general director of the company, Lev Platonov. He was known as the protege of regional authorities and opposed to export attitude of the project. On caucus of the board of directors he was replaced by Vladimir Kazakov by majority of votes. Recently “BP”, however, appreciably has reduced the pace of Kovykta development. “RUSIA Petroleum” is drilling now only two wells. This congealing of works is dictated by tactical reasons: “BP-AMOCO” waited for the outcome of “SIDANKO” bankruptcy procedure and outcome of presidential election of 2000. However it would not be so simple. Most likely, “BP” expects stabilization of the situation after the Asian crisis.<sup>4)</sup>

In the North, there is not only Kovykta. Chiefs of Krasnoyarsk Region and Yakutia tendered to develop and coordinate Verhnechonsk and Chayadinsk fields. December 17, 1998, the president of Republic Sakha (Yakutia), Michael Nikolaev and Governor of Irkutsk Region, Boris Govorin, have signed the special agreement and appealed to the federal government.

At last, January 22, 2001, Chinese “Jenjminj Jibao” has notified that the reserves of the gas field in the Chinese province Inner Mongolia is 700 billion cu.m. Thus the management of China has declared that henceforth national economy will not depend on import of energy.<sup>5)</sup> If it will be affirmed, Kovykta project can be frozen for some years.

Gas transportation system “Russia-China” can be a basis of future Asian gas-line system, which in due course will connect fields of Western and East Siberia, Republic Sakha and island of Sakhalin. The deputy minister of Russian Federation, Elena Telegina, said: “The Project of Kovykta field development and building of the pipeline in China is quite independent. The Project of export of gas from Western Siberia, which “Gasprom” is going to carry out, is more expensive because the field is located far from the consumers.

## (2) Prospects of the fuel export from Russia to Japan

In the Russian projects to export oil and gas, Japan is mentioned much less often than China. Probably, the reason is the absence of experience of realization of the large joint projects, significant remoteness from the Siberian fields and the complication of building the pipelines. Also restraint of the Japanese party’s participation is aroused by political disagreements between two countries.

In this connection, the projects to export the Russian gas from an island of Sakhalin seem more real. It is necessary to notice that in the Russian paper there are frequent reproaches of the Russian economists and geologists to the Japanese party concerning sluggishnesses and inert approach to opportunities of development of energy resources of Siberia and Russian Far East. The deputy director of Institute of Systems of Power Engineering named Melentjev of the Siberian Department of the Russian Academy of Sciences, Boris Saneev, in particular, has declared at the Moscow seminar "Economical problems of a power complex" that from 1994 to 1996 his institute together with the Japanese specialists has elaborated the concept of creation of so-called "power corridor" which could connect regions of West and East Siberia and Yakutia with Pacific coast with a view to export energy resources to the Japanese market. However any concrete offers to progress the given concept has not come from the Japanese party, though in Russia we were quite ready for this, he has told, having added "the Japanese for not-so-clear-reason have kept a wait and see attitude, only collecting geophysical information about fields". In Saneev's opinion, the Japanese could even achieve some changes in orientation of gas export from Kovykta field in Irkutsk region to the party of Japan instead of China "if they have thought in time about purchase of shares in this project". In Saneev's opinion, the inertness of the Japanese already has led to the fact that in the policy of progressing fuel and energy complex of East region of Russia up to 2020 alternatives of energy export to Japan are not esteemed at all.<sup>6)</sup> In this government document the basic support is made to the markets of China and Korea.

Among all East Siberia and Russia's Far East projects of gas reservoir exploitations, the Sakhalin projects are marked by the highest degree of readiness. According to the projects "Sakhalin-1" and "Sakhalin-2" (first projects in Russia that realise the agreement of production division (APD)), the beginning of gas output is going to take place in 2004–2005. In contrast to "Irkutsk version", their export orientation is connected firstly with liquefied gas delivery to the countries of the APA. Extracted gas resources on land and water near Sakhalin island contain 3.3 billion cu.m, out of which 3 billions cu.m are situated in shoal region. Initially extracted gas resources of the island contain 120 billion cu. m and are concentrated in the largest gas reservoir in the district called Lunskoje.<sup>7)</sup> Its exploitation on APD terms together with Pil'tun-Astokhskii gas reservoir will be realised as "Sakhalin-2" project. The agreement of this project has already been signed. The operator of the project that costs more than \$10 billion is Sakhalin Energy Company that includes Marathon oil (37.5%), Mitsui (25%), Royal Dutch Shell (25%) and Mitsubishi (12.5%). According to the project "Sakhalin-2", liquefied gas export to Japan, Korea, Taiwan and China is

planned by 2005. For this purpose a dispatch terminal and liquefying gas factory with 8.9 tones a year – one of the biggest in the world – should be built in the South end of the island; Pogranichnoje village.

Exxon and its Japanese partner Sodeco made an alternative suggestion about “Sakhalin-1” project to lay gas-main to Japan or China. A joint company was established by Exxon (30%), Sodeco (30%), “Rosneft-Sakhalin” (17%) and “Sakhalinmorneftegas-shelf” (23%) to exploit Chaivo, Odoptu and Arkutun-Dagi layers.

## **5. Investment climate in Siberia and Far East of Russia**

Russian government declared the support and encouragement for any forms of foreign capital participation in Russia Oil Energetic Complex, under the condition that they could receive the economic benefit and there would be no discrimination against Russian producers. It calls for an open and fair competition in Russian markets and demands the same approach to Russian companies as in other countries’ markets. Political and other pressure on the partners is negated. However the reality in that investment climate in Siberia and Far East of Russia is not as good as they want to show. The followings are some of the causes of this situation .

- Unstable economic conditions for projects’ realisation, including unpredictability of price change for transportation and electricity,
- Taxation system that is aimed at maximizing tax receipt,
- The absence of any guarantees to secure projects realization, which makes projects subject to the change of policies of the governmental bodies,
- Difficulties to obtain projects’ insurance, and
- Insufficient geologic-geophysical investigation.

## **6. Conclusion**

The Russian side is highly interested in gas export to the APA countries, including Japan. In addition, the APA is called a new strategic direction of Russian energy and fuel complex. It was mentioned at the meeting of the APA countries’ leaders in Kuala-Lumpur, Malaysia, in 1998. “We are a little bit tired of fighting in the European market and now we are discussing the possibility to widen our participation in the APA” said Rem Vjakhirev there. A few years later, the case began to revive. In September 2001, the governor of Sakhalin district I. Farkhutdinov made some important remarks after his visit to Japan. They are concerned with further exploitation of oil and gas reservoirs near the island and building of energy bridge “Sakhalin-Hokkaido”. According to Farkhutdinov

words, liquefied gas export to Japan from the water depth near Sakhalin will be started in 4 years. An agreement between the operators of “Sakhalinenergo” project and one of the biggest Japanese corporations whose name is kept in secret will be signed soon. The main problem of Russian companies is to get the gas market in the APA that works now without our participation.

According to “Sakhalin-2” project in which Japanese capital share is 40%, about 800 thousand tons of gas was extracted since the beginning of 2001. By January 2002 this figure will double. Mentioning the realization of the energy project “Sakhalin-Hokkaido”, Sakhalin region governor remarked that it can be started not sooner than in 2008 because of some serious political and economic problems. In the summer of 2001, oil from Sakhalin was delivered to Japan. Representatives of Japanese oil industry said that the prospects of oil delivery from the Russian islands is good because transportation cost is not high. Japan that depends considerably on oil import from the countries of the Middle East is looking for some regions for new delivery. First 650 thousand barrels of Sakhalin oil were delivered by sea to the processing factory “Fujisekiyu” that is situated in Sodegaura. “SakhalinEnergy” maintains the delivery. Its shareholders are English-Holland giant “Royal Dutch Shell” and Japanese trading companies “Mitsui” and “Mitsubishi”. These examples give some hope. Sakhalin, with offshore oil and natural-gas reserves thought to rival those of Europe’s North Sea, is poised to muscle in the market as a major petroleum supplier to Japan, China and South Korea.

Sakhalin’s offshore crude reserves, estimated at 28 billion barrels, make it one of the most promising fields in the world, foreign petroleum officials say. The natural gas from Sakhalin’s Lunskeye field alone would be sufficient to generate electricity for six modern cities of 1 million people each for 20 years.

Given the island’s proximity to Asia’s developed economies, one foreign oil executive in Sakhalin said that energy companies hope to build natural gas pipelines to Japan, China and South Korea, and they already export oil by tanker to those countries.

However, there are many obstacles as mentioned in Part 5. In addition, many businessmen in Japan consider that the process of adaptation to market economy has just started in Russia and it goes on very slowly. Russian low developed state structures don’t render effective aid to Russian companies in broadening economic ties with foreign countries. The improvement and solution of these issues is absolutely necessary.

Russian President Vladimir Putin underlined the need for foreign investment to develop oil and gas resources of Russian Far East, particularly, Sakhalin Island. The development of energy is widely seen as being the key to improving the economy of the entire Russian

Far East, and thus the Russian government has been introducing a range of measures to help Japanese firms explore local business opportunities. If the cooperation among Russia, Japan and other APA countries for the Russian energy development goes successfully, the economic and political relations among those countries will improve greatly.

## Notes

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