

Business strategy of "Petromir" on development of gas resources in Eastern Siberia

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Russian Gas Industry is the most important industrial complex of the country's economy and the largest element of the global energy supply system. The effective development of gas industry in many ways defines the parameters of socio-economic development of Russian regions, affects the level and quality of life, ensure the implementation of economic and geopolitical interests of Russia in the world.

One of the main priorities of the gas complex is to create in Eastern Siberia and Far East, new centers of gas production, gas processing, petrochemicals and gas chemicals, helium industry of international significance. The total gas resources in Eastern Siberia and the Far East, including the shelf, are 60 trillion cubic meters, of which 2.3 trillion cubic meters or about 4% are license block Petromir Company. Gas composition in the Lena-Tunguska petroleum province is characterized by a high content of helium and hydrocarbons C₂-C₅. Taking into account the special composition of gases is necessary to develop deep processing of natural gas.

In 2007, approved the "The Development Program for an Integrated Gas Production, Transmission and Supply System in Eastern Siberia and the Far East, Taking Account of Potential Gas Exports to China and Other Asia-Pacific Countries (Decree of the Minister of Industry and Energy of 03.09.2007, № 340)" In accordance with the Eastern gas program is planned to establish centers of gas production in Krasnoyarsk Krai, Irkutsk Region, the Republic of Sakha (Yakutia) and the Far East

Currently, the development of gas industry in the East of Russia by major Russian vertically integrated oil and gas companies - Gazprom, Rosneft, Surgutneftegaz, TNK-BP, foreign investors - Royal Dutch Shell, Mitsui, Mitsubishi, JOGMEC, and as independent companies - Irkutsk Oil Company, Yakutgazprom, Petromir, etc.

Index Terms - Eastern Siberia, Asia-Pacific region, gas, condensate, oil, resources, stocks, production, supply, export,

processing, petrochemicals, gas chemistry, independent company, Petromir.

I. HYDROCARBON RESOURCES OF PETROMIR IN EASTERN SIBERIA

Petromir Company owns three licenses for geological exploration and production of hydrocarbons on the Angara-Lena, Pravoberezhniy and Leviberezhniy sites located in the Irkutsk region in Eastern Siberia. The total area of the license block is 13 328 square kilometers. License block interior is situated in close proximity to the trans-regional transport infrastructure (Trans-Siberian, BAM, ESPO) and the major centers of consumption of energy and petrochemical products (regions of Siberia, Asia-Pacific).

HC reserves and resources of the license block exceed 2.3 trillion cubic meters of natural gas and 62 million tons of gas condensate. At Petromir sites explored two gas condensate fields - the Angara-Lena and Levoberezhnoe. There are good prospects for discovery of new reserves. In the licensed areas identified gas resources on the C₃ in the amount of 1 074 billion cubic meters, oil resources by C₃ are 88 million tons. In accordance with the development program the company planned to transfer part of the hydrocarbon resources into the reserves of category C₂, and C₂ of the stocks into the stocks C₁.

On the basis of reserves and resources and markets the annual gas production in the licensed blocks Petromir Company can be brought up to 18 billion cubic meters, condensate - up to 1 million tons.

The composition of the gas fields of the company Petromir the same as for the majority of gas condensate fields in Eastern Siberia. In the composition of natural gas along with methane (C₁), there are up to 10% of hydrocarbons C₂-C₄ and 60 gr. of condensate / cu meters of gas. The high content in natural

gas and condensate homologues of methane provides good opportunities for the development of petrochemical industry.

II. "PETROMIR" PLANS ON DEVELOPMENT OF GAS RESERVES AND RESOURCES, CONDENSATE AND OIL IN THE IRKUTSK REGION

In accordance with the Petromir Company's business plan project exploration and development of hydrocarbon reserves and resources will be in two phases:

Stage I - 2010-2018;

Stage II - 2018-2035.

Stage I - prospecting (2D and 3D seismic surveys, exploratory drilling, scientific research and experimental-methodical work (2010-2018); trial production of gas and the beginning of commercial production of gas condensate (2012-2014); commencement of production gas in 2014 from the perspectives of supply to the gas processing plant in the Irkutsk region.

Stage 2 - further drilling of wells and increase gas production, gas supply to gas processing plants, participation in the gasification project in Eastern Siberia and gas exports, participation in the petrochemical and energy projects.

Under the license agreement, commercial operation of the Angara-Lena area should start to 2018, and two other sites - in 2016, which makes it possible to vary the timing of the development of deposits and the variations of supply and processing.

III. OPTIONS FOR THE SUPPLY AND PROCESSING OF GAS IN A BUSINESS STRATEGY "PETROMIR" TAKING INTO ACCOUNT EXTERNAL FACTORS

Petromir Company exploring various possibilities of gas and condensate supply in the Irkutsk Region market and other regions of Russia, as well as on the markets of China and Asia Pacific. Significant role in the development of gas demand will play a realization of the Eastern Gas Program, which provides a unified system of production,

transportation and processing of natural gas in Eastern Siberia and the Far East. Together with the creation of gas production centers and unified system of gas transportation will develop gas processing and petrochemical production, including production of helium and liquefied natural gas (LNG). Under the target scenario of Eastern Gas Program consumption of gas in Eastern Siberia will grow to 4.5 billion cubic meters by 2015 and to 9.1 billion cubic meters by 2020.

The optimistic scenario envisages an increase in demand for gas in Eastern Siberia to 15.4 billion cubic meters by 2020. In addition, significant amounts of methane, ethane, propane, butanes will be supplied to prospective gas processing and gas-chemical facilities in the Irkutsk region, other regions Eastern Siberia and the Far East. In the Irkutsk region will be the transformation of a number of CHP from coal to gas and the planned construction of new power stations operating on gas (Irkutskenergo). It is expected that by 2015 the share of gas in the power consumption of the Irkutsk region is 14% (versus ~ 2% of current level). In addition, energy companies (in particular, EuroSibEnergo) plan to export large amounts of electricity from Eastern Siberia to China.

In these circumstances, Petromir Company considering several options for gas supply to the domestic market:

- Delivery of gas to the gas processing plant (up to 9 billion cubic meters by 2015) in accordance with the memorandum signed with a major Russian petrochemical company;
- Deliveries of gas to other gas processing and petrochemical enterprises, planned for construction in the Irkutsk region;
- Delivery of gas to the CHP Irkutsk region, using gas (including by the redeployment of existing plants from coal to gas);
- Construction of new power plants for electricity exports to China.

Under the Eastern gas program exports Russian gas in Asia Pacific by 2020 will amount to 25 billion cubic meters in the conservative variant, and 50 billion cubic meters in the optimistic

version. For gas export to Asia Pacific planned to connect the Petromir Company's fields to the system of trunk pipelines. It is also possible SWAP delivery to other international markets.

In addition to export gas by pipeline, Company is considering construction of gas chemical plant in the Irkutsk region. The company plans to develop capacities GTL and LNG.

Negotiations with Chinese partners to establish a joint company for construction and operation in China gas processing plant. The Company is interested in organizing supplies of pipeline gas and petrochemical products to consumers in China.

Delivery of condensate can be carried out in the domestic market Irkutsk region, and in the Asia-Pacific markets using the existing railway infrastructure.

IV. THE OBJECTIVES OF THE GOVERNMENT IN THE FORMATION OF OIL AND GAS INDUSTRY IN EASTERN SIBERIA AND THE PETROMIR COMPANY BUSINESS STRATEGY

Business Development Company Petromir entirely consistent with government objectives in the formation of Eastern Siberia and Far East major new centers of gas production, gas processing and petrochemical and gas products. To provide of technological and economic efficiency in the company's business strategy provides the following main tasks.

- Increased exploration and increase their level of scientific support, management of proven hydrocarbon reserves;
- Comprehensive extraction of all valuable components of natural gas; together with other companies developing gas processing, petrochemical, gas chemistry, energy;
- Resource and energy saving, reduction of losses and reduction of costs at all stages of the process in exploration, production, deep processing and transport of gas, condensate, petrochemical and gas products;
- Maintaining a high level of scientific support for projects to develop and

implement innovative programs involving science;

- Ensuring environmental safety of production plants, transport and processing of gas and condensate, including petrochemicals and gas chemicals.

The need for integrated development of hydrocarbon reserves and resources within the licensing unit of the Company Petromir due to: (1) the special composition of stocks, including the presence of ethane, propane, butane, condensate and helium; (2) the placement of existing and emerging centers of production and processing, its proximity to the railway infrastructure (Trans-Siberian, BAM) for the supply of petrochemical products to domestic and foreign markets; (3) proximity to rapidly developing markets of energy and petrochemical products of Asia Pacific; (4) the significance of the project for the socio-economic development of the Irkutsk region, (5) of the geopolitical significance of the project as element in building of international importance oil and gas complex of Eastern Siberia.

V. THE MECHANISMS OF STATE SUPPORT IMPLEMENTATION OF PRIORITY INVESTMENT PROJECTS IN EASTERN SIBERIA

Given the national importance of the project Petromir Company to build the Eastern Siberia industrial and technological center for the integrated development of gas condensate fields and the development of gas processing, petrochemical and gas chemical production, it is necessary implement a system of state support measures with the use of public-private partnership (PPP).

Institutional mechanisms for PPP include the provision of subsidies, grants, loans for exploration, construction, pipeline, road and rail transport, processing and energy infrastructure.

It is necessary tax and customs privileges in all stages of the project: exploration, gas and condensate production; petrochemicals and gas chemicals; electric power generation. For high-tech equipment appropriate to the establishment of accelerated depreciation. It is necessary to

install special railway fares for supplies of LNG and petrochemical products and gas products.

The new Energy Strategy of Russia up to 2030 noted the need for special measures to support investment in the development of gas processing, petrochemical and gas chemical production. Development of fields in Eastern Siberia will require the development of helium industry and the construction of the federal underground storage of helium concentrate at the expense of the federal budget. It is require the organization of public procurement helium concentrate.

Thus, in the first place should be provided the following measures of state support: (1) tax, depreciation and customs exemptions (in particular, the introduction of tax holidays at the stage of exploration for subsurface users, which carries out geological exploration at their own expense, necessary to introduce tax holidays on mineral extraction tax for gas producers in Eastern Siberia), (2) The special railway fares, (3) direct government involvement in the creation of transportation, processing, energy and social infrastructure.

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VII. BIOGRAPHIES



Peter N. Fonin - General Director of Petromir Co Ltd. Born in 1946.

He graduated from the Kuibyshev Polytechnic Institute (1971). Qualification - mining engineer. Specializes in the oil and gas fields development. Dealing with the economy and

enterprise management, oil and gas industry, explores the problems of investment climate in the extractive industries.

He has extensive experience (since 1962) works in the oil and gas industry. He has held the post of Chief Oil and Gas Management Tagrinskneft, chief of production department of Varyeganneftegaz Corp., Deputy Chief Engineer of Varyeganneftegaz Corp., director of the department to implement a World Bank loan of Varyeganneftegaz Corp.

Since 2003, engaged in implementation of investment projects, participates in the formation of oil and gas industry in Eastern Siberia.

For a great contribution to the development of the Russian oil industry, Peter N. Fonin awarded the title of "Honorary Oilman of Fuel and Energy Ministry of the Russian Federation"



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He is one of the authors of "The Strategy of Economic Development of Siberia" (2001), "Energy Strategy of Russia until 2020" (2003), "Energy Strategy of Russia until 2030" (2009). Laureate of the Russian Federation in the field of science and technology (2003) and laureate of Kosygin Prize in science, technology and organization of production (2003). For a great contribution to the development of the extractive industry of Russia was awarded interdisciplinary sign "Miner's glory" (2008).