

Problems of Public–Private Partnership in Implementation of Strategic Projects of the North

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Abstract—In the phase of its economic growth in 2002–2008, Russia returned to the development and implementation of strategic complex megaprojects aimed at creating a new infrastructural and industrial base in the Russian Federation and the development of natural resources, located in the North, including the Arctic shelf areas, which are currently in demand on world markets. This increases the significance of coordinating the government economic and social policies in the North, making them consistent with the long-term geoeconomic strategy of developing the North as a part of the economic space of Russia and global Arctic. Megaprojects in the North pursue geopolitical, macroeconomic, and socioeconomic goals, but priority is given to market objectives, i.e., high economic efficiency for both state-owned and private companies.

The article describes the characteristics and properties of strategic megaprojects of the Russian North, discusses the state management of their implementation, and the role of the government in the mitigation of geopolitical and management risks for corporations and regions participating in the megaproject. It is shown that public–private partnership (PPP) is a strategic direction for the implementation of complex northern megaprojects. The fundamental problem in choosing the PPP form is the adequacy of the megaproject complexity to the structure of its participants' production and financial assets.

An analysis of organizational and economic risks, which are inherent in northern megaprojects implemented on the basis of PPP principles, such as “Complex Development of Southern Yakutia,” “Complex Development of the Lower Angara Area,” “Complex Development of the Transbaikal Area,” and “Ural Industrial–Ural Polar,” is presented.

It is shown that the government and business faced with the problem of inefficient coordination of management decisions made by businesses and federal subjects by federal executive authorities. This problem can raise doubts about the effectiveness of large businesses' participation in a megaproject and therefore undermine the implementation of that megaproject in general. The authors propose to evaluate the PPP effectiveness by assessing the degree of consistency in the long-term geopolitical, economic, and social interests of participants in the development, i.e., federal and regional executive authorities responsible for addressing specific cross-sectoral and interregional issues and corporations implementing strategic projects in the North. The government's role consists in maintaining a comprehensive interaction between companies ensuring balanced development and in the mitigation of geopolitical, innovation, and production (development) risks in the North.

A methodical approach is proposed to the development of organizational patterns for the interaction between the government and business on the basis of PPP principles; federal-level coordination problems are substantiated, the objects of PPP are identified, and the forms of agreements between investing companies and the government are determined. The necessity is proved to create a federal coordinator at the predesign stage of megaprojects. The federal coordinator communicates with regional corporations regarding issues of strategic project implementation, which will significantly accelerate the managerial decision-making process. By way of example, the case of the megaproject for developing the East-Siberian Oil and Gas Complex (ESOGC) is considered and recommendations are worked out for stating coordination problems for the ESOGC, defining the subject of agreements and contracts between companies and the government for the implementation of projects, taking into account time and the achievement of acceptable efficiency levels of investments in private projects.

Keywords: North, the Arctic Region, megaprojects, regional and state priorities, geopolitical and management risks of projects, public-private partnership

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Researchers studying modern problems of the North and substantiating the necessity of taking a strategic approach to the development of this macroregion emphasize the significance of the coordination between the government economic and social policies

in the North and the long-term geoeconomic strategy of developing the North as a part of the economic space of Russia and global Arctic (see, for instance, the publications [1–3]). In the phase of economic growth in 2002–2008, Russia returned to the para-

digm of state strategic planning of the project economy, including the development and implementation of strategic complex megaprojects aimed at creating a new infrastructural and industrial base in Russia and the development of natural resources, which are currently in demand on world markets, in the North, including the Arctic shelf. With the successful implementation of these megaprojects, they will become powerful factors of innovative growth of the Russian economy and will have a significant impact on the transformation of Russia's world economic relations, promoting the establishment of new centers of global trade.

Today there are over 110 megaprojects that are structured and planned for implementation with an aggregate worth of over 500 billion USD; out of these, 25 projects worth more than 125 billion USD are based on principles of public–private partnership (PPP) and are granted the support of the Investment Fund of Russia. Every ruble invested in the infrastructure by the Investment Fund is matched by 3.5–5 rubles of private investment [4]. The largest infrastructure projects for the development of the North proposed for implementation in strategic documents of Russia's socioeconomic development up to 2030 involve the establishment of an oil and gas pipelines, and transport and energy infrastructure, implemented jointly by the state and major corporations. Among them of special geopolitical importance are the oil pipeline Eastern Siberia–Pacific Ocean (ESPO) and the natural gas pipeline Nord Stream, providing new routes to the Asian and European markets for the oil and gas resources of the North. When these unique pipeline transportation arteries have reached their design capacity, it will doubtlessly enhance the commercial attractiveness of business projects in the primary and industrial sectors of the Asian North and the European Arctic region.

Another class of megaprojects based on PPP principles is complex territorial multisectoral industrial megaprojects, such as the “Complex Development of Southern Yakutia,” “Complex Development of the Lower Angara Area,” “Complex Development of the Transbaikalian Area,” and “Development of the Transbaikalian Area.” They are intended to create a new North Siberian latitudinal industrial belt [5].

The implementation time, pace, and scope of megaprojects aimed at the exploration and development of the North are directly connected with the forthcoming development of natural resources and the promotion of Russia's geopolitical interests in the Arctic region. Currently, under the auspices of the Ministry of Regional Development, the “Strategy of the Development of the Arctic Zone of the Russian Federation and Ensuring National Security for the Period up to 2020” [6] was developed, which is also based on the implementation of large-scale megaprojects. The most important of these is the reconstruction of the Northern Sea Route as a national

thoroughfare that integrates the creation and development of economic complexes in the Far North with the forthcoming development of oil and gas resources of the Russian Arctic region. The priority industrial megaprojects include the development of hydrocarbon resources of the Yamal Peninsula and coastal waters, oil and gas fields of the Arctic and subarctic regions of the Yamalo–Nenets Autonomous Okrug and Krasnoyarsk krai, the Timan–Pechora oil and gas province, hydrocarbon deposits in the Barents and Pechora Seas, and a new oil province in Eastern Siberia and Yakutia.

Currently, a new oil and gas base of the country is being established in East Siberia and Yakutia, i.e., the East Siberian Oil and Gas Complex (ESOGC). This is a strategic interregional and multisectoral megaproject, providing, along with the development of the mining, the creation of oil and gas chemical complexes in these territories and promoting oil and gas exports to the markets of Asia–Pacific Region.

The overall picture of the future of the Russian territories in the North and Arctic includes a new generation of industrial complexes—metallurgical, oil, and gas, the exploration of oil and gas on the shelves of the Russian Arctic, preserved natural and economic potential of traditional land use of northern indigenous peoples, modernized energy systems, transport, and communications systems meeting the requirements of the postindustrial society; it also involves a well-developed transport infrastructure on a new technological basis, Arctic aviation, a system of settlements with high-quality and reliable life support systems combining the base city and mobile shift camps [7].

Megaprojects aimed at the exploration and development of the North pursue geopolitical, macroeconomic, social, and economic goals; however, market objectives remain a priority as these projects must maintain a high level of economic efficiency both for the state and private companies. The large scale and high capital intensity of megaprojects and the long-term nature of their implementation determine the active cooperation between the government and business in their implementation. In today's market conditions, unlike federal investment programs, megaprojects are rather a set of long-term investment intentions of companies to create industrial complexes with the elaboration of organizational schemes of interaction between the government and business based on PPP principles. The unifying framework is infrastructure projects. Large natural monopolies possessing own financial resources and capable of attracting external investment resources determine the contours of megaprojects, forming their own investment intentions embodied in the groups of projects with forecasts of economic and commercial efficiency. The role of the state is the systemic organization of the interaction process between companies providing the balanced development and mitigation of geopolitical, innova-

tion, and development risks of doing business in the northern territories.

ORGANIZATIONAL RISKS OF PPP IN NORTHERN MEGAPROJECTS

PPP is a strategic direction in the implementation of complex northern megaprojects. The fundamental problem of choosing a PPP form is to provide a adequacy of the production and financial assets of participants to the complexity of a megaproject. Thus, in megaprojects involving natural monopolies, which in their financial assets accumulate rent from mined northern resources, the government and federal subjects seek to attract investment from these monopolies for interregional transport and energy infrastructure projects and for the development of an innovative social infrastructure. Accordingly, a significant part of development and geological risks are shifted by the state to companies belonging to natural monopolies. In turn, business can expect clear rules of disposition and possession of newly created assets funded at its expense.

PPP in Russia is a relatively new instrument of economic development; it is primarily used in projects with high capital risks and costs associated with innovation and development. This is especially true of northern regions where extreme climatic conditions are an objective reason for the increased cost of projects or require innovative solutions to technical problems, etc. In these circumstances, by participating in the financing of large infrastructure projects and by creating a favorable environment for business activity, the state reduces business risks. Business is in turn involved in solving important problems of territories and in creating the material basis of an innovative social infrastructure of the North and Arctic.

For managing megaprojects based on PPP principles, special federal development institutions were set up in 2006–2010 (Investment Fund, Russian Venture Company) and the regional development corporations. Federal development institutions determine the PPP mechanisms, work out methodologies for comprehensive project selection, draw up plans for the provision of state support, appoint supervisors (facilitators) of projects from public authorities, as well as establish the type of responsibility of federal authorities. Regional development corporations represent the interests of regions and major businesses in the federal government and are the only party to investment agreements with the government.

In our opinion, the PPP effectiveness can be assessed by the degree of consistency and coordination of long-term geopolitical, economic, and social interests of participants in strategic northern projects, i.e., federal and regional executive authorities responsible for addressing specific cross-sectoral and interregional problems and companies implementing these

projects, such as Rosneft, Transneft, Gazprom, Russian Railways, etc.

During the implementation of megaprojects, the government and business faced the problem of inefficient coordination of management decisions by federal executive bodies, creating serious legal, organizational, administrative, and managerial risks for business. If these risks were ranked by the degree of their negative impact on megaprojects, the first place would be occupied by the instability of the regulatory environment and, as a consequence, the constant change in the “rules of the game.” Thus, for instance, an analysis of the reasons for postponing project “Complex Development of Southern Yakutia” in 2007–2008 revealed that a system of megaproject management institutions was established against the background of constant changes introduced in the regulatory base of the Investment Fund, in the Concession Law, the Law on Special Economic Zones, and the functions and powers of state-owned companies and corporations [4].

The second most significant risk is numerous responsible government officers appointed by federal authorities. Thus, in the project “Complex Development of Southern Yakutia,” the government party is represented by responsible sectoral officials and two important supervisors (facilitators), represented by the Ministry of Regional Development and the Ministry of Economic Development, and the coordinator of the project is a federation member, i.e., the Republic of Sakha (Yakutia). As a result, the interaction between regional development corporations and federal executive bodies is multi-iterative and, hence, time-consuming. Moreover, the time spent on different coordination efforts with each federal agency increases manifold with the periodic restructuring of the state apparatus and the transfer of investment authority from one ministry to another. All this threatens to violate the balance of timing of interrelated projects relying on state support of development institutions.

Another organizational issue closely related to development risks is the inefficient organization of competitive procedures for the selection of qualified contractors on the market of engineering and construction services. These procedures do not secure the selection of the best qualified contractors at competitions. The large number of intermediaries between a general contractor and construction companies is a major risk factor for the excess of the estimated cost of projects and noncompliance with project deadlines. Despite the emergence of several large international engineering and construction companies in the Russian market, the quality of engineering and construction services in the country leaves much to be desired. Thus, for the above-mentioned reasons, the actual cost of the ESPO pipeline was three times higher than the estimated one.

Currently, the legal and institutional issues related to companies' participation in the formation of modern innovation support systems based on PPP principles are insufficiently elaborated. First of all, we need transparent instruments for attracting private investment in the provision of social, housing, and public infrastructure. As estimated by G.D. Oleinik, chairman of the Federal Council Committee on Northern Territories and Indigenous Minorities, the most pressing problem is the development of a system ensuring the rights and mutual responsibilities of PPP participants in the implementation of joint projects of social infrastructure in new areas where new industrial complexes are being established [8].

In the current institutional environment, where only the federal government has direct and effective leverages of state regulation and can have an impact on the corporate decision-making process, it seems necessary to set up a federal administrative body for the development and implementation of megaprojects, at least a government commission for the coordination of activities of companies, federal ministries, and regional authorities with a power level of the prime minister of the Russian Federation. Direct participation in this commission must be mandatory for companies, federal subjects, and federal districts in order to find solutions aimed at a reduction in the risks of a megaproject. Balance of interests of the federal government, federal subjects, and oil and gas companies is a key condition both for effective environmental management and for the mitigation of the organizational and management risks of northern megaprojects¹. For regional development corporations, the government commission will act as a "one-stop shop" in the interaction with federal authorities and the responsible executive in charge of the implementation of government commitments within the framework of a particular megaproject.

At present, there are two government coordination commissions in the federal government with fairly similar tasks and functions, i.e., the Government Commission on the Fuel and Energy Complex, Reproduction of Mineral Resources, and Improvement of the Economy's Energy Efficiency and the Government Commission on Investment Projects of National, Regional, and Interregional Significance, which determines the priority directions of state support and generates a list of investment projects eligible for support in the form of budgetary allocations from the Investment Fund of Russia. However, the activity of these commissions does not cover complex interdisciplinary and multiregional megaprojects. In this

¹ Today, regional authorities mostly act as an intermediary between companies and the federation and their functions mainly consist of the formulation of problems related to the coordination of interests of the federation, region, and a company; development of proactive decisions and recommendations; and current agreements with companies on the implementation of social and environmental projects.

regard, it appears necessary to set up relevant special government commissions on the implementation of major megaprojects, the functions of which will consist in the coordination of the strategic intentions of the state and major corporations both at the stages of megaproject feasibility and predesign studies, and in the course of its implementation.

We believe a differentiated approach is necessary to the creation of a favorable environment for the implementation of every northern megaproject taking into account the specifics of natural and ecological conditions and peculiarities of companies' assets, as well as their strategic interests in world markets. The strategic role of megaprojects aimed at the exploration and development of the North makes it especially important to work out technologies providing a favorable business climate for companies in connection with the substantiation of the PPP mechanisms and conditions.

Our proposed scheme for the government coordination of megaprojects is based on a set of issues related to the state management of megaprojects, the addressing of which will secure the following:

- intersectoral balance in the implementation of related companies' projects;
- conditions for attaining acceptable parameters of cost effectiveness for corporate projects;
- favorable climate for the realization of the multiplicative effect in the area of its development.

Accordingly, the basic functions of the governmental commission are as follows:

- to draw up a coordinated plan for the development of a megaproject and its management at the level of the federal government with a clear system of measures, sharing of powers, delimitation of authority, and split of responsibility of the megaproject participants for its implementation in the forecast period;
- setting the formats of interaction between the megaproject participants related to systemic problems and the implementation of a set of individual investment projects based on PPP mechanisms;
- promoting strategic initiatives for the federal and regional governments to create a favorable legal and regulatory environment for the state support of business, reduction in its economic risks, and realization of multiplicative effects;
- coordination of managerial decisions made by ministries and agencies in the development of state obligations related to the megaproject.

In the general form, it is feasible to break down a megaproject into a sequence of solutions for organizational and management problems:

- (1) generation of a list of systemic problems related to the implementation of a megaproject and guidelines for their solution;
- (2) creating a group of participants, including business, federal, and regional executive government bod-

ies responsible for the solution of a specific intersectoral or interregional problem;

(3) development of mechanisms for the coordination and harmonization of managerial decisions made by megaproject participants by public authorities. Those are implemented in three stages.

The first stage involves search for solutions in today's regulatory and legal environment. For each problem, it is necessary to determine (a) the management level for decision making (and estimate the time required for the iterative coordination of managerial decisions at various hierarchical levels of authority under the existing procedure of interaction); (b) areas of interaction between participants in solving intersectoral problems, sufficiently well regulated in the existing regulatory and legal framework; (c) a system of necessary measures and monitoring their implementation; (d) the direction of changes in the regulatory and legal framework aimed at the creation of a favorable investment climate for the implementation of a megaproject.

The second stage involves the definition of the scope and subject of agreements between public authorities and companies aimed at the solution of an intersectoral problem based on the identification of the interaction areas inadequately regulated by statutory legislation.

The third stage involves the creation of conditions and the determination of the duration and timing of agreements between the government and companies, establishment of mutual responsibility in cooperation on the implementation of technologically interconnected investment projects in different sectors and determination of mechanisms for the sharing of complex investment and regional risks between the state and business and, accordingly, the direction of changes in the institutional conditions of implementation of a project.

As a result, for each intersectoral problem, a list of members is generated for a task force responsible for the development and decision making in the federal and regional governments and companies, as well as directions and mechanisms for the coordination of these decisions by the government commission for managing megaprojects.

SPECIFICS OF THE COMPLEX MEGAPROJECT OF THE ESTABLISHMENT AND DEVELOPMENT OF ESOGC

The proposed scheme has been used to define the state tasks in relation to the implementation of a megaproject for the creation and development of the East-Siberian Oil and Gas Complex (hereinafter, referred to as the ESOGC megaproject). Its specific lies in putting into economic circulation oil and gas resources of the Siberian platform which are expected to be highly competitive in the domestic and interna-

tional markets over the period 2005–2030, characterized by a wide range of uncertainty and risks² associated with changes in the paradigm of the global energy market, the increasing role of the countries of Asia–Pacific region, and changes in the regional and national energy strategies of sovereign partners in megaprojects.

The ESOGC megaproject is a time- and resource-balanced set of key prospective projects of oil companies and JSC Gazprom for the development of hydrocarbon resources, construction of pipelines, building of oil and gas chemical production facilities providing large-scale output of products with high value added, as well as for creating a transport, energy, and social infrastructure in Eastern Siberia and the Republic of Sakha (Yakutia) [11]. These key projects are included in major strategic policy documents of the government of the Russian Federation, Gazprom, the federal target program “Social and Economic Development of the Far East and Transbaikal Area up to 2013,” and the development strategy of the Siberian Federal District [12].

The participants in the megaproject are federal, regional, and local governments, regions, which are federal subjects (Irkutsk oblast, Krasnoyarsk krai, the Republic of Sakha (Yakutia), Amur oblast, and Khabarovsk and Primorskiy kraies), large oil and gas companies (Surgutneftegaz, Rosneft, Gazprom, TNK-BP, GazpromNeft, Transneft, etc.), construction, energy, transportation, and other companies.

What makes it difficult to manage the ESOGC megaproject is the large number of responsible executives from state institutions and governments of different levels. These are six of the key ministries of the federal government (Ministry of Natural Resources and Environment, Ministry of Industry and Energy, Ministry of Economic Development, Ministry of Regional Development, Ministry of Transport, and Ministry of Finance), federal agencies and development institutions, administrations and the governments of six federal subjects, and the offices of plenipotentiary representatives of the president of Russia in the Siberian and Far Eastern federal districts. In addition, participants in the megaproject are 11 basic companies in the real sector of the oil and gas complex and transport and energy infrastructure.

The governmental commission organizes the development of a comprehensive plan for the ESOGC megaproject, which should lay the basis for the coordination of the strategic intentions of oil and gas com-

² Uncertainty implies the presence of factors of incomplete or inaccurate information regarding the conditions of project implementation and the fact that the degree of the possible impact of these factors on the results is unknown [9]. The notion of risk characterizes the uncertainty connected with the possibility of unfavorable situations and adverse consequences arising in the course of the project's implementation. A project's risk is the degree of danger to the successful implementation of the project, which is a numerically measurable potential loss [10].

panies, federal subjects, and the strategic decisions of the federal ministries. An intersectoral balance is achieved by means of the coordination plan of the government commission, which provides organizational and management decisions of the federal and regional governments with regard to the following cross-sectoral and interregional problems:

(1) improving the efficiency of regional geological prospecting works and licensing of subsoil use in Eastern Siberia and the Republic of Sakha (Yakutia);

(2) coordination of the timing and development scope of oil and gas resources of East Siberia and Yakutia with the designed throughput of the pipeline system Eastern Siberia–Pacific Ocean (ESPO);

(3) reconciling the implementation time of projects aimed at the creation of a major pipeline network and an oil and gas supply infrastructure;

(4) coordination of the strategic intentions of JSC Gazprom and JSC OC Rosneft in the mining sector with the development of the petrochemical and helium industry in the scope of ESOGC;

(5) coordinating the commissioning time of complex oil and gas facilities and transport and energy infrastructure in East Siberia and Yakutia which are created within the frame of interregional projects;

(6) creating conditions for the maximization of multiplicative effects produced by the ESOGC megaproject in the socioeconomic development of regions in Eastern Siberia and Yakutia.

Analyses of the competences and authority of relevant ministries and departments of various levels of the hierarchy reveal that each intersectoral problem includes at least three complex problems, the solution of which involves the government bodies, which are not in the direct subordination (see table). In this regard, there is a high proportion of procedures coordinating the decisions made by various power structures, and complex managerial decision-making processes are multi-iterative.

Our proposed mechanisms for the reconciliation of managerial decisions made by the government commission for the implementation of the ESOGC megaproject are tentative, but at the same time they give an idea of the coordination functions of the commission, documents that may be required, and the responsibility assumed by participants in the megaproject and administrative structures. The set of complex management solutions includes four qualitatively different blocks:

- state regulators in the existing legal framework;
- strategic initiatives for changes in the legal and regulatory framework aimed at the creation of a favorable climate for investment projects;
- agreements between the federal and regional authorities and business (intersectoral multilateral and bilateral) determining state obligations with regard to their implementation;

- system of monitoring the megaproject implementation process and controlling the compliance with managerial decisions.

Central for the entire set of documents prescribing the mechanisms for reconciling the activities of various participants are agreements—both medium and long-term ones—on the implementation of strategic intentions of business and the government within the framework of the megaproject, including explicit agreements between federal government bodies and companies.

Fundamentally new structure-forming elements, providing the time and resource balance of government decisions, are as follows:

- interdepartmental agreements of executive bodies of the federal government, i.e., Ministry of Natural Resources and Environment, Ministry of Regional Development, Ministry of Finance, and the governments of federal subjects, on R&D funding and implementation of the program of geological exploration and granting a permission for the use of prospective hydrocarbon areas of Eastern Siberia and the Republic of Sakha (Yakutia);

- trilateral strategic agreements of the federal government, regions, and companies regarding the terms and conditions of entrance to the Russian and world gas markets, the general agreements of JSC Russian Railways and the Ministry of Industry and Energy, and with vertically complex oil companies and regional governments on the sources and terms of financing infrastructure projects.

In interdepartmental agreements of federal executive bodies on the development of the legal and regulatory framework of megaprojects, it is proposed to formalize the priorities and responsibilities assumed by ministries and departments for the implementation of decisions and the administrative liability and penalties for a revision of agreement conditions. This will allow the government commission to ensure (to some extent) the relative stability of the legal and regulatory environment of a megaproject.

Strategic initiatives of the government commission are focused on the substantiation of preferences for oil and gas companies that implement the modernization of the existing and construction of new oil- and gas-processing, as well as oil and gas chemical, facilities in the ESOGC development regions and in the creation of new organizational structures—federal agencies for monitoring geopolitical interests in world markets in the Asia–Pacific region and Russian regional markets of hydrocarbons and oil and gas chemical products, regional organizations for effective public environmental control, and resolution of environmental disputes. The participation of the government commission will also be required for the development of provisions for regulations and rules concerning environmental safety in petrochemical complexes.

The proactive collaboration of the government commission with oil and gas companies and depart-

Tasks and activities of the Government Commission for the Implementation of the ESOGC Megaproject

Activities	Management level for the preparation of decisions and decision-making	Mechanisms for the coordination of management decisions
<i>Improving the efficiency of regional geological prospecting works and licensing of subsoil use in Eastern Siberia and the Republic of Sakha (Yakutia)</i>		
Coordination of the priorities of the federal budgetary policy with the priorities of the Program of Geological Exploration and Granting for Use of Prospective Hydrocarbon Areas of Eastern Siberia and the Republic of Sakha (Yakutia)	Ministry of Finance, Ministry of Natural Resources and Environment, and Ministry of Regional Development	Interdepartmental medium-term strategic agreement of the Ministry of Natural Resources and Environment, Ministry of Regional Development, and the Ministry of Finance on the implementation of the Program of Geological Exploration and Granting for Use of Prospective Hydrocarbon Areas of Eastern Siberia and the Republic of Sakha (Yakutia)
Scientific support of regional geological prospecting and exploration works	Ministry of Natural Resources and Environment, Ministry of Finance, and subfederal departments of subsoil use and fiscal policy	Interdepartmental medium-term agreements between the Ministry of Finance and regional governments on the state funding of R&D
Incorporation of environmental and regional environmental constraints in licenses	Ministry of Natural Resources and Environment, subfederal departments of subsoil use, the federal expert council on provision for subsoil use	Regulatory legal acts of the federal government in respect of the subsoil law regulating the procedure of regions' direct participation in the development of license agreements
<i>Coordination of the timing and the development scope of oil and gas resources of Eastern Siberia and Yakutia with the designed throughput of the pipeline system Eastern Siberia–Pacific Ocean (ESPO)</i>		
Development of a comprehensive plan for the implementation of the ESOGC megaproject with the determination of the key projects of oil and gas companies in the mining and processing sectors and the pipeline system in the east of the country	Oil, gas, and petrochemical companies, Transneft, Gazprom, Ministry of Natural Resources and Environment, Ministry of Industry and Energy, Ministry of Economic Development, Ministry of Finance, and subfederal departments of subsoil use	Plan for the state coordination of the implementation of key investment projects with regard to the timing of the commissioning of industrial capacities for the estimation of the time reserves for the probable adjustment of companies' investment plans and the state financial resources
Working out a system of incentives stimulating subsoil users (mineral developers) to accelerate geological exploration works using eco-saving and innovative technologies	Ministry of Finance, Ministry of Natural Resources and Environment, Ministry of Industry and Energy, oil and gas companies, subfederal departments of subsoil use, and RAS institutes	Regulatory legal acts of federal and regional levels on tax preferences and tax credits for the application of innovative technologies in geological prospecting works
Scientific support for the preparation of reserves	RAS institutes, oil and gas companies	Agreements on R&D between RAS institutes and oil and gas companies
Stimulating the implementation of projects aimed at the comprehensive development of oil and gas resources	Ministry of Industry and Energy, oil and gas companies, RAS institutes, financial and investment institutions of the Russian Federation, and subfederal departments	Working out federal government regulations for the tax and investment regimes (treatment) for the complex development of oil and gas resources; proposals of legislative and regulatory initiatives aimed at the stimulation of industrial activity in ESOGC; agreements between oil and gas companies on the timing of investment project implementation; state contracts on the scientific support of projects
Development of a preliminary land allocation scheme for ESOGC facilities	Subfederal departments, Ministry of Economic Development, Ministry of Regional Development, Ministry of Natural Resources and Environment, and Ministry of Industry and Energy	Protocol on the coordination of socio-economic interests of regions and companies in the territorial organization of the ESOGC
Scientific substantiation of regulations for the preparation of areas (territories)	Ministry of Natural Resources and Environment, Ministry of Industry and Energy, Ministry of Regional Development, Rostekhnadzor (Federal Service of Environmental, Technological, and Nuclear Supervision), and subfederal departments	Preparation of provisions of the Ministry of Regional Development for the allowance for regional conditions in standards and regulations for the design, construction, and exploitation of oil and gas facilities

Table. (Contd.)

Activities	Management level for the preparation of decisions and decision-making	Mechanisms for the coordination of management decisions
Organization of monitoring of the market conditions in countries of the Asia–Pacific region and the dynamics in the geopolitical interests of consumers of ESOGC hydrocarbons	Ministry of Economic Development, Ministry of Industry and Energy, and regional market institutions in the federal districts	Regulation of the powers and functions of the Federal Agency for Monitoring the Situation on Global Markets and the Geopolitical Interests of the Countries of Asia–Pacific Region
<i>Coordination of the development of the main pipeline transport and the oil and gas supply infrastructure</i>		
Providing conditions for the effectiveness of the project “Second Stage of ESPO”	Ministry of Industry and Energy, Transneft, oil and gas companies, and subfederal departments	Strategic agreements between the federal government and oil and gas companies on compliance with international state obligations and on the terms and conditions of companies' entrance to world oil markets
Providing conditions for the effective performance of the ESPO export gas pipeline with a connection to the Unified System of Gas Supply (USGS)	Ministry of Industry and Energy, Gazprom, oil and gas companies, and subfederal departments	Interdepartmental trilateral agreements between the federal government, regions, and oil and gas companies on entrance to world gas markets, timing of the commissioning of major ESOGC gas deposits, and the development of the internal gas market
Development of an oil and gas supply infrastructure connected with trunk pipelines	Ministry of Industry and Energy, Gazprom, oil and gas companies, Transneft, subfederal departments, Federal Service for Supervision of Natural Resource (Rosprirodnadzor)	Investment agreements between oil companies, Transneft and Gazprom on the construction of pipelines; agreements between oil and gas and transportation companies on the quality of hydrocarbons and conditions of connection to pipelines; protocol of the coordination of pipeline routes with subfederal departments of natural resources and land use
<i>Coordination of the strategic intentions of Gazprom and Rosneft in the mining sector with the development of the oil and gas chemical and helium industry</i>		
Stimulation of vertically integrated oil companies to develop and implement projects for the modernization of the existing oil- and gas-processing and oil and gas chemical productions	Ministry of Industry, Ministry of Finance, Gazprom, Rosneft, oil and gas companies, and subfederal departments	Federal system of preferences for projects aimed at the processing of raw hydrocarbons in the country's eastern regions
Coordination of the development program of oil and gas chemical industry with the priorities of the mining sector and potential consumers	Ministry of Industry and Energy, Gazprom, Rosneft, oil and gas companies, and subfederal departments	Interdepartmental government agreements with oil and gas companies on the placement and implementation time of interrelated objects of extraction, oil and gas chemical full-cycle production
Coordination of the key projects of the development program for oil and gas chemical industry with projects aimed at the development of the transport and energy infrastructure in regions	Ministry of Industry and Energy, Gazprom, Rosneft, oil and gas companies, subfederal departments, Russian Railways, and Energy Commission	Investment agreements with companies regarding the time (duration) and source of financing of infrastructure projects
Organizing the monitoring of the capacities of regional markets of oil and gas chemical products	Ministry of Industry and Energy, Ministry of Economic Development, and regional market institutions in federal districts	Establishment of a federal agency for the monitoring of regional markets of oil and gas chemical products
Development of an interregional program for the stimulation of import substitution of oil and gas chemical products on regional markets of eastern regions	Government Commission for Managing the ESOGC Megaproject, Ministry of Industry and Energy, Ministry of Regional Development, Ministry of Economic Development, subfederal departments, and the offices of plenipotentiary representatives of the president of Russia in federal districts	Interregional coordination plan of federal districts for the interaction of federal subjects in relation of issues related to the state support of the internal market and promotion of import substitution of oil and gas chemical products

Table. (Contd.)

Activities	Management level for the preparation of decisions and decision-making	Mechanisms for the coordination of management decisions
Preparation of proposals for improving the legal regulatory framework in the field of environmental safety (in accordance with the resolutions of the Security Council meeting as of January 30, 2008)	Ministry of Natural Resources and Environment, Rostekhnadzor (Federal Service of Environmental, Technological, and Nuclear Supervision), Rosprirodnadzor (Federal Service for Supervision of Natural Resources), subfederal departments of natural resources, and companies	Provisions for regulations and rules of environmental safety in oil and gas chemical industrial complexes in regions
<i>Complex interregional projects for the development of the transport and energy infrastructure in Eastern Siberia and Yakutia</i>		
<i>Railways</i> Coordination of the timing and scope (terms) of financing for investment programs of RJSC Russian Railways with the development of the ESOGC by the following projects; (1) strengthening and technical development of the existing major rail lines (Baikal/Amur and Trans-Siberian railways); (2) construction of new roads, i.e., Ust-Kut–Nepa–Vitim–Lensk, Tommot–Kerem–Yakutsk	RJSC Russian Railways, Ministry of Industry and Energy, Ministry of Regional Development, oil and gas companies and Gazprom, and subfederal investment departments	Interdepartmental general (master) agreements of RJSC Russian Railways and the Ministry of Industry and Energy with vertically integrated oil companies on the sources and terms (timing) of financing for infrastructure projects
<i>Motor roads (highways)</i> Coordination of the timing and scope (terms) of financing for investment programs of motor road construction with the development of the ESOGC by the following projects; (1) reconstruction and modernization (technical development) of the existing motor roads; (2) construction of the federal Viluy highway (Ust-Kut–Mirny–Vilyuisk); (3) motor road construction carried out by the Krasnoyarsk Regional Corporation in the Lower Angara Area	Ministry of Transport, Ministry of Industry and Energy, Ministry of Finance, subfederal departments of road construction, and companies	Interdepartmental agreements on the sources and terms (timing) of financing for the investment program of motor road construction; regional agreements with companies regarding cofinancing the construction of motorways; investment government contracts with companies
<i>Interregional energy infrastructure projects</i> Reconciliation of the timing and scope of financing of the joint projects of the Irkutsk, Amur, and Yakutsk power systems and the power systems of Khabarovsk and Primorskiy krais	Ministry of Industry and Energy, Federal Advisory Service of the Russian Federation, Gazprom, Rosneft, and Transneft	Investment agreements between the Federal Energy Commission and oil and gas companies on the order and timing of the implementation of energy infrastructure projects
<i>Creating conditions for the implementation of multiplicative effects of the ESOGC megaproject aimed at the socioeconomic development of the regions in Eastern Siberia and Yakutia</i>		
Development of intersectoral regional clusters at the growth points of the oil and gas sector	Regional governments, oil and gas companies, Russian Venture Company, and the Investment Fund of Russia	Agreement on cooperation between the Russian Venture Company, regions and oil and gas companies; regional investment contracts with innovative small and medium-sized businesses
Business participation in the creation of a social infrastructure and innovative projects promoting education and health services in the ESOGC regions	Ministry of Economic Development Ministry of Regional Development, Ministry of Healthcare and Social Development, subfederal departments, and oil and gas companies	Strategic long-term and trilateral agreements between the federation and federal subjects on the subject and scope of companies' participation in investment projects promoting the development of the social area

Table. (Contd.)

Activities	Management level for the preparation of decisions and decision-making	Mechanisms for the coordination of management decisions
Encouraging business to implement agreements on social partnership with regions and the federation	Companies, subfederal and municipal administrations, Ministry of Finance, Ministry of Natural Resources and Environment, and Ministry of Economic Development	Special modes of preferential taxation for companies acting as sponsors of social projects
Organization of effective public environmental control at the regional level	Companies, subfederal and municipal administrations, Ministry of Natural Resources and Environment, Ministry of Economic Development, and offices of plenipotentiary representatives of the president of Russia in federal districts	Agreement between the region and the companies on the settlement of environmental disputes involving the office of the plenipotentiary representative of the president in the federal district

ments of federal subjects in the development of a coordination plan with estimates of the time and cost effectiveness of the implementation of investment projects for mining companies will undoubtedly increase the validity of the commission's strategic initiatives for creating favorable economic and institutional conditions for the application of innovative technologies to subsoil management and integrated development of oil and gas resources. On the one hand, this can reveal fundamental technical, organizational, and economic problems, for which appropriate scientific support will be feasible with the participation of RAS institutes and federal universities. On the other hand, such coordinated strategic initiatives of the commission and companies will ensure a higher efficiency in the proposed regulatory legal acts at the federal and regional levels on tax preferences, investment tax credits, and investment regimes for the integrated development of oil and gas resources and the application of innovative technologies in geological prospecting works.

The effectiveness of the coordination plan of the government commission as an instrument of strategic public governance directly depends on the success in the correct allowance for the factor of time required for the development and assessment of the efficiency of alternative organizational and economic decisions of megaproject participants. It is at this stage that a need arises for the organization of information and analytical subsystems preparing decisions and for the use of econometric models, in particular, network models for managing a complex megaproject.

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