ANALYTICAL REPORT
ON THE RESULTS OF THE MIEF-2010

MOSCOW INTERNATIONAL ENERGY FORUM
«Russian Fuel and Energy Complex in the XXI Century»

Russia, Moscow, Central Exhibition Hall “Manage”

CONTENTS

Annotation

The present analytical report has been prepared according to the results of Moscow International Energy Forum “Russian Fuel and Energy Complex in the XXI Century”. The report contains the analysis of statements, presentations, speeches and written proposals of the Forum participants.

The report contains:

- thesis description of main trends in world energy development, key factors determining directions and dynamics of global and regional energetic markets development, as well as separate segments and branches of the world Fuel & Energy Complex;
- analysis of place and role of Russia in world economics and in the world Fuel & Energy Complex, in particular;
- analysis of challenges the Russian economy is up against today and possible strategies meeting these challenges;
- head-notes of forecasts and evaluations made by leading experts and pronounced at the Forum, new ideas and approaches aimed at improvement of the legal base of the international cooperation in the sphere of energy;
- abstractive presentment of reports and speeches made at the plenary discussion at the Forum;
- brief summary of the results of six international conferences held within the frames of the Forum.

The author of the report - Aleksandr P. Epishov, Principal Analyst of working group of the Forum Organizing Committee “Russian Fuel and Energy Complex in the XXI Century”, Doctor of Science.

Relevancy of Subject Matter

The main subject matter of the Moscow International Energy Forum "Russian Fuel and Energy Complex in the XXI Century" (MIEF) was declared by the organizers of the event as renovation of the legal base of the international cooperation in the sphere of energy. The focal event of the Forum was the plenary session "World energy at the post-crisis stage: towards new goals with new regulating system". The name of the session itself has drawn the attention of the discussion participants to the main issues: what will new goals of the main participants of the world energy market consist in, and in what institutional-legal configuration regulating their relations they will be achieving these goals.

Selection of the main topic of the Forum was conditioned by several factors. The key factor was perhaps that of the world crisis. The world crisis slowly steps back but issues and problems it has revealed require answering and decision. The crisis has apparently revealed imperfection of the modern world order featuring lack of fair balance of force centers. The system of modern international institutions intended for control over interaction between states and nongovernmental organizations, as well as for governing the processes at work in the world economy has demonstrated its imperfection and inability to actively counteract dangerous trends and phenomena. The analysis of the current post-crisis situation in the world energy has shown that this sphere needs new level of coordination and change in the existing institutional model of regulation.

As is known, the relations between the states and companies participating in the global economical interaction are regulated, first of all, by the standards of international law: various conventions, contracts, provisions, etc. Disputes which arise are settled within the frames of international arbitration or in other authorized agencies. At the same time these relations are regulated also in other plane – within the frames of rules and regulations set in the Statutes of international organizations established mainly after the World War II.

United Nations is one of the main international organizations of general power, which consider the global problems in power engineering. First of all this organization pays much attention to problems of sustainable development, environment protection and climate change.

The other key organization acting as a global coordinator of the world trade is World Trade Organization (WTO). The normative documents of this organization contain certain provisions connected with assurance of world energy preparedness. It follows from the official statements of the superior civil servants of Russia that our country intends to join WTO in the nearest future.

As a matter of fact, the pure energetic branch-wise interstate organizations of global level are OPEC and IEA. Russia is not a member of these organizations but it maintains active contacts therewith in different lines of cooperation. In 2008, in Moscow was established a new international organization - Gas Exporting Countries Forum (GECF).

A problem of interrelations between producers and consumers of energy resources is in the spotlight of International Energy Forum (IEF), informal

international institute, within the frames of which the meetings of Ministers of Energy are held once in two years. Russia takes an active participation in the activity of IEF.

In the period of its chairmanship in "G8" Russia, being one of the leading players in the world energy market and a country pretending to be the world energy leader, has initiated accepting documents on principles of ensuring the global energy safety. Thanks to efforts of Russia the leaders of G8 have managed to understand that the mankind has common energy future, that all countries – whether exporters, importers or transiters – bear cross liability for international energy markets condition, that stable growth of energy sources deliveries to the world market is impossible without joint subdivision of risks between producers and consumers.

At the summit in Saint-Petersburg the key point on that "safety of supply" can not exist apart from "safety of demand" was placed on record. These are two sides of one coin. Another important statement is the necessity of creation the proper conditions for implementation of large-scale investments to all links of energy chain.

The important part in achievement of these conditions was assigned to the Energy Charter Treaty (ECT) the implementation of which must lay the organizational-legal framework for multilateral energy co-operation in the Euro-Asian area. This international treaty, which in legal contemplation is bounding for governing the investments, trade and transit in the sphere of energy, has come into force in 1998. Russia has signed but not ratified this treaty, thus undertaking liability for execution thereof on a temporary basis. Within several years Russia has been striving after profitable or at least acceptable positions at negotiations on disputable transit protocol, but long-term absence of progress and transit conflict with Ukraine have accelerated this process. Ukraine, as a country – transiter, has undertaken execution of liabilities on the Treaty, but nevertheless has not been subject to tough sanctions for upsetting the deliveries of Russian gas to consumers from EU. On 19th of October, 2009, Russia has relinquished its duties on temporary execution of the Energy Charter Treaty.

However it would be a mistake to state that Russia has unambiguously taken advantages of such a step. Firstly, export of Russian energy sources to European countries makes approx. 90% of the whole deliveries abroad. This very fact shows that possible instability of deliveries due to absence of a legal document satisfying both parties and regulating details of deliveries and transit is a negative factor for Russia. Secondly, our oil-and-gas complex needs huge investments calculated in hundreds of million US dollars, as well as new technologies which are necessary for development of hard-to-reach fields. Large investments, as is known, mainly flow where clear and transparent rules of game exist, where mechanisms of their protection really operate. Thirdly, Russia as the largest resource state can not afford itself to calmly observe as the "legal energy vacuum" is being formed.

Just in the same way, disaffiliation of Russia with ECT is not beneficial and can not suit the European Union. The unified Europe is constantly looking for ways of decreasing its energy dependence on Russia, is creating new pools of

suppliers, and is actively investing in the renewable power engineering. However it is necessary to note that in the nearest 20 years the resource influence of Russia will not weaken; practically all the most influential and authoritative international organizations agree with this fact. That is why the European Union is interested in making investments in Russian Fuel & Energy Complex; however in conditions of final disaffiliation of Russia with ECT the investment risks increase.

Another important factor which significantly changes the institutional-legal landscape of cooperation in the sphere of energy in the European area is acceptance by European Union of the "third package" – directives on further liberalization and protection of the European Union energy market against third countries, including Russia. New rules of European power engineering functioning seriously complicate promotion of Russian companies to EU markets.

Changes in EU energy market operation conditions without taking into consideration the Russian interests prevent from development of energy dialog between Russia and the European Union. At the present time the validity of the base Agreement on partnership and cooperation between Russia and EU has expired and now the parties discuss the necessity of concluding a new agreement which will include energy problems. At the last meeting of Russian and EU executives held in Rostov-on-Don the parties discussed the countermeasures to financial-economical crisis, issues on energy safety, climate politics, strengthening of bilateral dialog, as well as perspectives of Russia joining WTO and conditions of concluding the agreement "Partnership for Modernization". While discussing the existing discrepancies in the sphere of energy, connected with liberalization of internal European energy markets, the parties agree that the work in this direction "require new approaches and new compromises".

Thus, a new situation which does not suit anyone has appeared at the European energy market – absence of strategic compromise between Russia and EU, absence of mutually beneficial legal platform for development of a long-term progressive cooperation in the sphere of energy.

In such a situation, the Russian President Dmitry Medvedev put forward an initiative of working out the international legally binding document governing the global energy cooperation and reflecting the interests of the main players in the energy market. In the frames of this initiative the following was submitted to the interested parties: Conceptual approach to new legal base of international cooperation in the sphere of energy (goals and principles), Details of agreement on energy resources transit, List of energy materials and products, which the future agreement must embrace.

However these proposals of Russia are not yet adequately perceived by the heads of the leading states. Only multiple declarations on "support of important initiatives of Russia" or "on approval of Russian intention to make new contribution to the process of world energy markets stabilization" take place.

The occurred situation assumes increase in demand for dialog and cooperation since no other alternative exists. Notwithstanding the fact that the geopolitical competition between new "candidates for leadership" is objectively growing in the world, the energy leaders will be enforced to strain after creation of

a new frame of energy preparedness. Nobody, even China that is gathering power and trying to go “its own way” of long-term guaranteed deliveries, is able to solve alone the problem of overcoming the imperfection of the legal system governing the world trade of energy resources.

Thus, the present day’s agenda contains an issue of searching for new ideas and models of cooperation as well as holding new negotiations. Uncertainty appeared after disaffiliation of Russia with ECT can not last for a long time; today the leaders must display activity, search for new contacts and ways for consolidation of efforts. Creation of new institutional-legal frame of energy stability and safety, meeting the dictates of the time, becomes the key strategic task for participants of the world energy market and international community on the whole.

World Energy at Modern Stage: Principal Trends

Ensuring the growing global demand for energy resources, providing access to energy resources for needy countries and reduction of adverse environmental impact – this is a brief formulation of the long-term strategic task which requires resolution by the world energy in the nearest decades.

Today the energy factor plays a key part in the world development exerting an influence not only on the economy but also on political processes and international relations. Power supply in many instances determines stable development of our civilization and becomes an integral part of international and economical safety.

In the first decade of XXI century the global energetic landscape has changed significantly. According to the forecasts of the most authoritative international organizations the world moves towards multi-polarity and the center of influence shifts to the East. The layout of the global market main players is changing in principle – within ten years India and China will become the largest consumers, their influence on development of the world energy markets will grow. Such transformation of the global energy market leads to strengthening of the geopolitical opposition and block confrontation in the sphere of power engineering. Today observed is the growth of competition between countries for access to resources, for sales markets, as well as competition between companies.

Understanding of potential threat to stability and energy safety conditioned by this tendency stimulates the leaders of the world energy to search for new forms of global control providing balance of interests of all participants of the international energy exchange. That is why; on the other hand, strengthening of interaction between states and between companies is observed which is aimed at avoiding chaotic and unpredictable competition, shifting this competition to the civilized conflict-free channel.

In the nearest decades the key part will be assigned to development rates of technologies able to replace the fossil fuels on a mass basis with acceptable level of their profitability. However, even in case of technological breakthrough, the transition to new sources of energy and new types of fuel will be carried out slowly. History of fundamental technologies implementation shows that here always exists some delay. It can be supposed that for widespread implementation of new revolutionary technologies in the energy sector not less than twenty five years will be required.

Director of the Energy and Finance Institute L.M. Grigoryev calls to more moderate evaluation of perspective for the renewable energy sources (RES) development. According to his version, "for the last ten years the European Union has increased the share of the renewable energy from approx. 7% to 8.5%. By 2020 it is planned to raise this figure up to 20%. This does not look realistic, especially in conditions of crisis". In L.M. Grigoryev's opinion, achievement of these goals on RES in Europe will take more time than it was planned.

Thus, stable and long-term leading presence of the fossil hydrocarbons in the world energy balance still remains one of the main established tendencies. Due to variety of factors the transition in the sphere of energy from oil to natural gas, coal and, probably, other substitutes will take place in the world.

In the period up to 2030 the share of natural gas will grow in the structure of energy resources consumption. In the nearest decade the global gas market will be finally formed – this is conditioned by rapid development of LNG infrastructure. As pertaining to mining operations, the shale gas and other nontraditional sources as well as new technologies will be developed.

The forecast of development of gas recovery from shale rock is contradictory and ambiguous. In the opinion of the majority of Russian experts, shale gas will not bring any profound changes in the gas market and within 10 years its share in the global market will be not more than 5%. The majority of western experts talks about "quiet shale revolution" and predicts cardinal changes in the whole marketing and gas distribution system in the global market. In particular, these forecasts suppose re-orientation of the significant scopes of LNG delivery from USA market to EU market. At that, a number of experts denounce export of LNG from USA to the European market.

Nevertheless, transition to new power engineering will take place sooner or later. Therefore, the development vector directed to RES receives more recognition in the world. Development of alternative power engineering becomes the important factor of energy strategies in many countries - consumers of the primary energy resources.

Deputy director on scientific work at the Power Engineering and Energy Investigations Institute of the Russian Academy of Science Yu.A. Plakitkin while talking on development of new technologies in the sphere of RES has cited the following data. The leaders in rates of patent application filing for ten previous years are USA, EU and Asia Pacific countries. On the whole, the rate of paten applications filing in the world makes 6% per year, and in the sphere of power engineering – almost 10% per year. So, on his opinion, "the world, the human thought searches for approach to new energy, searches for answer to new question: what kind of energy will be used in XXI century". At that, the author has noted that "within these 10% there is a significant differentiation": the share of alternative power engineering in the package of all patent applications in the sphere of power engineering exceeds the share of traditional power engineering in two times.

The Deputy General Director of "Energy Strategy Institute" P.P. Bezrukikh has given in his speech the bright facts confirming priority development tendency of alternative power engineering. On his opinion, even in condition of crisis in 2006-2008, the wind power engineering was developed with a rate of 20-25% with regard to the preceding year, photo power engineering – 50-55%, solar collectors – 10-15%. While commenting the rates of photo power engineering development in Europe, P.P Bezrukikh has given an example of Spain where in the period from 2004 till 2008 the scope of this sector has grown in 200 times. That is, each year this sector was developing fivefold in relation to the previous year. Production of

bio-ethanol and bio-diesel in the world, according to the data of the reporter, is developing at a rate of 30% a year.

Development of RES is considered today not only as an alternative which allows reserving the fossil resources (from the position of traditional understanding of energy safety), but, in a greater or lesser degree, as a universal instrument for combating climate change. **Climatic factor, energy saving and strategy of stable development now become the most important components of the global economic politics and energy landscape.**

Rapid development of energy-saving technologies in the advanced countries was in many instances conditioned by the intention to reduce their dependence on countries – suppliers of energy sources and volatility of raw material markets. Today, energy saving became a rather significant world trend, one of the main drivers of hi-tech innovations development and an answer to the main energy challenges and threats of the time.

One more important trend in carbonless power engineering development is nuclear power engineering. In the last years a distinctive renaissance of nuclear power engineering, especially in the developing countries, including Russia, takes place. Development of this hi-tech and knowledge-intensive industry is able to give an impulse to development of high technologies in other branches of economy.

Speaking about trends in development of the world energy, it is necessary to note reservation of energy and energy sources. Within recent years this trend began its dynamic development. The largest countries – consumers have overviewed their requirements to volumes of reserves towards increase thereof. One can suppose that these measures will help to decrease volatility of raw material markets and to increase flexibility in regard to demand and supply.

The represented main trends of the world energy development show that its defining role in geopolitics and in economy development will be growing. Complexity of tasks set to the world community in the context of searching for answers to climatic and energy challenges and threats of the time will also grow. In these conditions new initiatives on development of the international cooperation and new proposals on consolidation of efforts of the world energy leaders attain a special relevancy.

Global Energy Safety: New Agenda

The subject of the global energy safety (GES) was in the center of attention of the Forum participants almost in all its sites, including the plenary session. Such attention to this subject was rather natural and regular taking into consideration the main topic expressed by the Forum organizers – renovation of the legal base of the international energy cooperation. It is evident that this legal base itself must be a foundation for the whole synergism of the world community in this direction.

The plenary session of the Forum and discussion at the MGIMO site has shown that today a serious difference exists in approaches to understanding of energy safety among the leading players of the world energy and politics. There are different interpretations of GES on the part of suppliers and consumers of energy resources, as well as in terms of regional aspects and forms of interaction. If we try to formulate some generalized interpretation which, in a varying degree, is considering the interests of all parties, it is possible to give the following definition. By the global energy safety (GES) today is meant the ability of the world community, including individual states, international organizations, proprietary business and nongovernmental public organizations, to withstand in the long run the threats of power supply for the world economy and population. GES, being a qualitative characteristic or criteria of the world economy condition, and, to a wide extent, of the whole human civilization, is a top level index.

The degree of GES in such interpretation represents not only the combination of indexes and characteristics of energy safety at regional, branch-wise, corporate, bilateral (between countries and between corporations) or multilateral level, but also the combination of the legal instruments existing at the same levels and intended for ensuring energy safety. The degree (quality) of GES is determined by the efficiency of relations system intended for its ensuring, in particular, institutional-legal frame of energy cooperation in the international sphere. Speaking about assurance of the global level of energy safety meant can be the whole combination of efforts of all interested parties towards creation of the legal base of international relations in the sphere of energy, meeting the challenges of the time. Such legal base, taking into account the long-term interests of all participants of the global energy exchange and ensuring the harmonization of approaches of the leading countries and non-discriminatory access to the energy resources of all countries, must help minimization of systemic energy risks which hinder the world economical growth.

Almost all participants of discussions, debating the GES subject, have underlined that in modern conditions the issue on working-out such new and unified GES agenda gets a special relevancy.

Professor of Higher School of Economy Yu.A. Ershov considers the Helsinki Initiatives of the President of the Russian Federation D.A. Medvedev in the field of international legal base change in the sphere of power engineering as the first step to creation of "new world energy order providing stable development of power

engineering and guaranteeing reliability of the global energy safety system". Yu.A. Ershov explains the necessity and even inevitability of the GES system renovation by objective and irreversible changes which have taken place and are still taking place in the world markets of energy resources. In particular, the professor has turned attention to the fact of "energy structural crisis generated by large long-lasting and chronic lack of financing the world Fuel and Energy Complex in the period of low prices for energy resources". The second system cause forcing the world community to new word order, in the opinion of the reporter, is that the scientific-technical progress is behind the dally wants of economy – the revolutionary alternative to the popular and traditional types of fuel and energy are not yet found. The third key factor significantly changing the configuration of the world energy market and objectively stimulating modernization of the legal base of the GES system, in the opinion of Yu.A. Ershov, is unprecedented growth in demand for energy resources on the part of the group of developing countries.

Speaking about elaboration of the modern unified and multilateral agenda of energy safety, which would be suitable for all participants of the energy trade, the ambassador of Bolivia in the Russian Federation, Mrs. M. Ursagaste, has suggested considering the following elements and principles of GES:

- adherence to collaboration;

- sovereignty of countries in respect of their own resources;

- environmental liability;

- equilibrium of pricing;

- joint responsibility of participants;

- economical, social and ecological equilibrium;

- conformity of market demands and plans on development of energy resources recovery;

- provision of energy infrastructure work stability and its attractibility for investors;

- diversification of deliveries;

- access to technologies and investments.

In recent years the energy safety became a complex concept including a number of aspects. In order to give classical definition of the energy safety degree, fair for the majority of countries, S.E. Tsygankov, Head of the Department of Foreign Economic Activity of "Gazprom", has highlighted the following main factors:

- diversity and equilibrium of the primary energy sources;

- availability of several geographically different delivery regions;

- availability of energy resources;

- share of import in energy sources consumption;

- safety of transportation corridors;

- physical state of infrastructure;

- political and economical stability;

- market volatility;

- energy intensity of domestic production;

- realistic long-term planning of power engineering development.

Thus, the analysis of speeches, presentations and proposals of the Forum participants shows that the first basic condition for consolidation of efforts of all participants of the global energy interaction towards renovation of GES system is elaboration of a unified understanding of the concept of energy safety itself.

The second stage in the way of GES system renovation in the opinion of the Forum participants is achievement of an informal (and perhaps a formal one, drawn up as a joint statement or declaration) agreement in relation to the principles of the unified and multilateral GES system.

That is actually, the "Conceptual approach to new legal base of international cooperation in the sphere of energy (goals and principles)" suggested in April 2009 by the President of the Russian Federation D.A. Medvedev was met with full support.

The following important stage on the way of GES system renovation could be selection of platform for discussion of this process with participation of all interested parties. To begin with, it would be possible to hold negotiations, international consultations, perform joint "inventory" of the international legal instruments existing in the sphere of energy, exchanges of opinions and ideas on ways and forms of GES system modernization process development on the base of such platform.

The issue of selecting the platform for the GES system modernization and renovation of the legal base of the international energy cooperation on the whole could be one of the agenda items at the meeting of the G20 leaders.

The fact that Russia has relinquished its duties on temporary execution of the Energy Charter Treaty (ECT) complicates to a great extent the selection of annual conference of this treaty as such platform. Nevertheless, ECT remains today one of the key international legally-binding documents regulating the world energy trade and investments to energy infrastructure. Besides, the probability of that the new leaders of demand - China and India – will entertain an invitation to enter the ECT is high. That is why participation of Russia in the work of a new platform on improvement of GES on the basis of ECT can not be excluded. The other possible platform for coordination of a process of renovation of the GES assurance system could be the International Energy Forum where regular meetings of Ministers of Energy of countries – participants of the energy markets are held.

At the final stage, after coordination (at the accepted platform) of all preliminary conditions and principles of operation of a new GES system the parties – participants of the process could accept a new comprehensive agreement (contract or convention) on GES.

Russian Fuel and Energy Complex in Up-to-Date World: Development Scenarios

The subject of place and role of Russia in the world economy was reflected in the majority of reports represented at the Forum. In this context the issues Russia was up against and the answers to these issues, in particular, possible strategies of modernization, were widely discussed.

Russia plays a significant role in the world economy, mainly as one of the leading players in the sphere of world energy production and trade.

In the opinion of Director of Energy and Finance Institute, L.M. Grigoryev, Russia produces more than 11% of the world primary energy and makes "absolutely colossal" contribution to stability of the world energy. In the opinion of Deputy Director on scientific work at the Power Engineering and Energy Investigations Institute of the Russian Academy of Science, Yu.A. Plakitkin, Russia has the greatest in the world specific weight (27%) in distribution of energy resources. This fact, in his opinion, allows stating that the "Russian power engineering represents a peculiar bridge connecting the Russian economy with the world one".

Such position is conditioned by the inherited wealth – huge natural reserves of the primary energy resources and traditional export-primary trend of Russian economy formed after breakup of the socialist camp and the Soviet Union.

The Minister of Energy of RF, S.I. Shmatko, at the plenary meeting of the Forum has stated that "Fuel and energy complex (FEC) plays an exclusive role in the Russian economy providing 29.5% of GDP and 41.5% of tax and customs dues to the budgetary system of the Russian Federation".

However in new conditions when the human civilization has come to post-industrial stage of development, a role of traditional primary power engineering, in the opinion of Deputy General Director of Energy Strategy Institute P.P. Bezrukikh, will be decreasing.

Today Russia has come across the main challenge of the time – export-primary model of its economic development turned out to be inconsistent and unpromising. Global crisis has shown that dependence of the Russian economy on business environment of international primary markets has obtained catastrophic scale. At that, the problems of systemic character, such as corruption, backwardness of the technologic infrastructure, and low level of competitiveness and noninvolvement of business to the innovation process remain unsolved. The leading scientists of RAS suggest replacing the export-primary course of development with the innovation-resource course supposing the priority development of high-tech segments of FEC, in particular, oil-chemistry and gas-chemistry of high-level redistribution.

In the opinion of Director of Oil and Gas Problems Institute of Russian Academy of Science, A.N. Dmitrievskiy, the period of final surmounting the crisis will last for Russia approximately to 2015. In his opinion we are expecting the "process of very difficult transition to innovation economy". In the opinion of the academician, "while going to the innovation economy we should always think of

our main wealth – natural resources". A.N. Dmitrievskiy believes that the innovation development for Russia is "first of all, the innovation-resource development which is based on the powerful mineral-primary base and on the intellectual resources of our country".

The research manager of the Oil-Gas Geology and Geophysics Institute of Sibirsky Branch of RAS, A.E. Kontorovich, also thinks that "our gas industry is on the verge of a new stage, when fundamental modernization and innovation development of the branch will be required". In the opinion of the academician the development of powerful oil-chemical and gas-chemical clusters at exploration of new fields in Eastern Siberia and Far East can give an impulse to innovation development of the Russian FEC and related branches. Development of high-tech processing of hydrocarbons can become a locomotive which will lead the Russian FEC to a new level of development. This is as the General Director of VNIIPIneft, V.M. Kapustin, considers.

The concern of the Russian scientists on a low level of innovation development in Russia is confirmed by statistical data and indexes of different international ratings which evidence that Russia is more and more behind the advanced countries both in technological aspect and in innovation development. Russia also gives way in the competitive struggle to the main developing economies such as, in particular, China, India and Brazil.

Yu.A. Plakitkin, while speaking at the conference in MGIMO, has produced data on Russia retardation in the rates of patent applications. Patent applications are glowing especially fast in Japan, United States of America, South Korea. The spokesman has called the growth of patent applications on the part of China as "explosive". The rates of BRIC countries have increased significantly: India and Brazil. Russia, in the opinion of Yu.A. Plakitkin, has lost its parity rate in 1990s and we are up against the "difficult task of restoration of our parity rate on the international scene". The spokesman has also paid attention to how the developed countries and the Russian Federation finance one investigator. If a state strives not to allow sharp disparities (difference of expenses for one investigator makes up 2-3 times of those spent by the leading advanced countries), then the Russian business is not actually investigating to innovations – retardation from the developed countries makes up from 12 to 14 times.

While realizing the inconsistency and lack of prospects of the existing development model, as well as its responsibility to the population, the higher Russian management has suggested a new strategic course of modernization to the society and business.

The analysis of multiple informal meetings of the report author with the Forum participants has shown that practically all of them, including the representatives of the expert association and business, support the modernization idea. At that, the respondent experts consider that the question must be not on the pure technological changes, in particular, on stimulation of innovation process and priority development of high-tech sectors of economy. Modernization, in their opinion, supposes cardinal changes of the whole system of social-economic relations. In particular, the question is on change of the political system, complete

reconstruction of economy structure, qualitatively new development of science, education and culture. Majority of the experts-participants of the Forum, which the report author has interrogated, consider that Russia has sufficient economical, financial and human potential for solution of modernization task in such a wide context.

However, in their opinion, realization of such potential for modernization is slowed due to two main reasons. Firstly, the fundamental conditions for actual development of competitiveness and innovations are absent. Secondly, the system contradiction conditioned by unpreparedness and probably inability of a certain part of imperious-oligarchial elites to such cardinal scheme of the established traditions and conditions is taking place.

Director of the Center of Energy Policy of the Institute of Europe of RAS, A.D. Khaytun, has commented this situation as follows: "It turned out that monopolistic structure, even possessing very good potential (since our gas reserves, our pipelines are very good potential) is unable to meet challenge of the current century. It is unable to react to conditions change, can not forecast them, simply can not and does not want. We have an absolute monopoly and it does not want any changes".

Thus, the fate of modernization will be mainly determined by the political will and resoluteness of higher Russian authorities. It is beyond all doubt that the authorities can bank upon support of small and medium business, scientific, technical and creative intelligence. The people at large will support the modernization if they do not take it as a course directed to disruption of the existing relative social-economical and political stability.

Summaries of Participants' Reports and Speeches

PLENARY DISCUSSION
«World Energy, post-crisis phase: new goals with the new regulation system»

Moscow, CEH «Manege», Manezhnaya Square 1, Big Hall
8 April 2010

Presiding person:

Yuriy A. Lipatov – Chairman of the State Duma committee of RF FA on Power Engineering

Spokesmen:

Sergey I. Shmatko – Minister of Energy of RF
Günther Oettinger – EU Energy Commissioner

Participants of discussion:

Mars M. Khasanov – Director on Science of Rosneft
Valeriy A. Golubev – Deputy Chairman of Board of Directors of Gazprom
Leonid M. Grigoryev – President of Fund "Energy and Finance Institute"
Anatoliy N. Dmitrievskiy – Director of Oil and Gas Problems Institute of RAS, RAS Academician
Reiner Hartmann - Managing Director of "E.ON Russia", Chairman of the AEB Executive Board
Leonid R. Sorkin – Director on Strategy and Development of Business in the Russian Federation and CIS at Honewell CJSC
Aleksandr P. Epishov – Principal Analyst of Forum "Russian Fuel and Energy Complex in XXI century"

While opening the Forum, **the Chairman of the State Duma Committee on Energy, Yu. A. Lipatov** has reported that the issues of development strategy of the fuel-and-energy complex of Russia will be in the center of attention of the Forum participants in the context of its integration to the world energy. **Such integration, according to his version, "supposes creation of the renewed legal base of the international energy cooperation,** creation of the perfect international investment modes opening new possibilities for all participants of the world energy markets both in the sphere of international trade and in the sphere of foreign strategic investments attraction and making investments to foreign projects".

The Russian FEC, taking into account the scales of primary energy resources recovery and huge potential of the resource hydrocarbons base plays the important stabilizing role in the world energy first of all as a factor of ensuring the global energy safety.

Yu.A. Lipatov has stated that **Russia can not now be satisfied with just a status of the largest supplier of energy resources. The issue of modernization of the Russian economy on the basis of its structural diversification and priority development of the innovation process is on the agenda.** That is why, as the reported has noted, the subject of leading world experience and perspectives of Russia on its implementation is frequently repeated in the Forum program.

Speaking on the modern situation in the world economy, Yu. A. Lipatov has noted that significant geopolitical changes take place in the modern world, the outlines of a new world political and economic landscapes are formed. **Global challenges of the up-to-date world and aggravation of the geopolitical competition require adequate reaction of the world community and search for new forms of integrating efforts.**

In conclusion, Yu. A. Lipatov has expressed his confidence that the discussions to be held at the Forum will be very fruitful and the project of the final Declaration offered to the participants will be "…unique intellectual bock in the foundation of new architecture of the global energy safety".

The Minister of Energy of RF **S.I. Shmatko** and a member of European Energy Commission **Günther Oettinger** have made the main reports at the plenary discussion.

In his report **the Minister of Energy of RF S.I. Shmatko has read off two key tasks set to the Russian energy sector and having worldwide importance: overcoming negative sequences of the global economical crisis and formation of material base for post-crisis development.** The plans and the main trends of development of the key branches of the Russian FEC in the context of implementation of "Energy strategy of Russia for period up to 2030" approved by the Government of the Russian Federation were represented in the report.

The Minister of Energy has noted that the prevailing sources of investments will be still the own means of joint-stock companies, both domestic and foreign. In a number of cases, for example, during modernization of the existing and construction of new NPPs and HEPPs the state funds will be used.

As the Minister has stated, **the strategic target of the Russian energy politics is the most efficient usage of the Russian energy potential for full integration to the world energy market, consolidation of positions thereon and obtaining the maximum profit for national economics.**

The analysis of experience of the energy dialog between Russia and EU, as well as energy dialogs in other formats was represented in the report. It was noted that this experience gives evidence of necessity in solid legal base for energy cooperation. The Minister has stated that there is no such base at the present time practically. Such situation, as explained by S.I. Shmatko, was one of the reasons by which the President of the Russian Federation has put forward the Conceptual

approach to a new legal base of the international cooperation in the sphere of energy.

The decision of all problems, in the opinion of the Minister of Energy of RF, can be both the universal international multilateral document of mandatory character and a system of bilateral contracts, for example, in relation to transit or protection of investments during implementation of different projects.

As regard to the climate problem, the spokesman has stated that "… the world community is imposed with the opinion that the observed changes in climate are the result of the human intervention exclusively. Though the scientific discussion on this subject is far from completion".

In the opinion of the Minister, **the strategic purpose of the Russian energy sector is the expansion of the Russian companies on the world energy market with the governmental support.**

In the opinion of S.I. Shmatko, **the only reliable foundation of the energy cooperation and safety is still the long-term governmental agreements and contracts.**

Deputy Chairman of Board of Directors of Gazprom, V.A. Golubev, has informed in his speech on approaches and key principles which Gazprom relies upon in its long-term strategy, including the international projects. He has stated that **Gazprom today is a classic mega-corporation,** since besides the traditional gas business the company takes active part in electrical power engineering and in oil segment. Noting the fact that for more than forty years Gazprom, as a company authorized by the Russian government, performs deliveries to the world market, V.A. Golubev has declared that for last two years a procedure of concluding a new cycle of long-term contracts has been passed, for example these contracts have been prolonged with the German companies for 25 years. **In the opinion of V.A. Golubev, the long-term contracts in particular give a basis for implementation of the largest investment projects.** Speaking about implementation of joint projects in the sphere of recovery on the basis of Yuzhnorusskoye minefield with the German partners, the reporter has underlined that they have managed to realize to the full extent **three main principles,** which Gazprom sets at establishing the relations with the partners during creation of investments projects.

This is, first of all, **the priority of national interests.** This is the main task at implementation of new projects of Gazprom. The second principle - **economical return on investments.** The third principle – **reciprocity and parity.**

Speaking about feasibility and marketability of any investment projects the spokesman has noted that it is important to see two aspects: is there a demand, is there a contract for realization of this product as a result of this project and is there a resource base. From the Russian part the resource base for gas delivery is, properly speaking, the whole gas fields which are located on the territory of the Russian Federation and some CIS countries. That is **the whole potential of the unified gas transportation system is a resource base for any investment project.**

Recently the Ministry of Energy has approved the program for development of the branches of gas recovery, transport and processing in Eastern Siberia and Far East with possibility of export flow entrance to Chinese and Asian-Pacific markets. Today Gazprom is at a stage of active implementation of this document. In particular, to the end of July 2010 the partners together with the Chinese national oil-gas corporation must determine the main markets consuming gas and oil-chemistry and gas-chemistry products. Nowadays, according to the spokesman, **the Chinese partners have joined the struggle for total volumes which can be recovered in the years coming in Eastern Siberia on the Pacific shelf, properly speaking, for all volumes of gas-chemical products.** They offer to Gazprom the financial resources, deliveries of materials and equipment, as well as direct participation in creation of these production operations.

To the end of 2010 the locations must be determined, the investment decisions on gas-chemistry and gas-processing objects construction sites must be made. Naturally, these points predetermine the scopes of natural gas and gas-chemistry components delivery as well as trends in realization of these products.

The programs are very big. The question concerns the tens of billions of cubic meters of gas, millions tons of products of the very wide range. At that, as the spokesman has underlined, at realization of these large international projects, the priority yet is assigned, first of all, to gasification of the Eastern Siberia and Far East regions.

Director on Science of Rosneft, M.M. Khasanov, has started its speech with statement of the fact that "crises come and go" and it is necessary to discuss the issues of systematic order and speak about the system not depending on crises.

To such issues he has assigned the issue on development of the control system of the Russian FEC with the aim at obtaining the most long-term economical effects for the country. In the opinion of the spokesman, **it is very important to use the computational method to obtain the answers to the following questions: how much oil we must recover in Russia, what level of recovery is economically optimal, how much oil we must sell and how much oil we must process within our country?**

These questions, in the opinion of M.M. Khasanov, are very important since unfortunately neither oil company, including Rosneft, can answer any of these questions alone. As regard to the accepted tax incentives for exploration of new regions, the spokesman has mentioned that there simultaneously **exists a tremendous hazard of that in the regions of traditional recovery, for example in Western Siberia, the recovery will start falling.** That is why he has suggested thinking on how to maintain the recovery at these developed and prepared reserves. **"We can not allow repeating the second "New Land". You know as once upon a time they have abandoned the excellent lands of Black Earth region and started developing virgin land".** The spokesman has asked a question: whether the Russian companies have resources for simultaneous solution of a variety of tasks? For maintaining the recovery in traditional regions, exploration of new regions and reconstruction of a huge number of plants?

In the opinion of M.M. Khasanov, **especially acute is the problem on creation of the powerful centralized analytical center at the Ministry of Energy, which could answer all the raised questions systematically, numerically, by means of calculations, taking into account the interests of both the society and the oil and gas companies.**

Creation of such center, as the spokesman believes, is of a great importance since the **"invisible market hand is not always operating". And with those infrastructural and investment limitations which are presently imposed on the oil companies the strategic solutions of system issues are required.**

Having in mind that the Forum is held in the international format, the spokesman has informed that, in his opinion, such super-analytical center, or better to say institute, must be created on the international level with a conditional name "World Oil Institute" or, at least, "European Oil and Gas Institute".

President of Fund "Energy and Finance Institute", L.M. Grigoryev, in his speech has focused, first of all, the crisis and post-crisis development. According to his version, for last six years of revival before crisis the world economy was growing very fast, especially in the countries which had a rather traditional old orientation and created the huge industrial capabilities. And the world energy has come to a level of increase in consumption of the primary energy resources approx. by 3% per year. However in the previous period the sufficient investments to oil recovery and processing have not been obtained. So it is small wonder that such huge jump in prices has taken place. And in conditions of crisis it was difficult to stabilize them. **World energy requires mush more investments.** In the opinion of L.M. Grigoryev, the forecast of the International Energy Agency (which traditionally makes approx. 1% of the world GDP per year for the energy investments) is underestimated.

Speaking about the role of Russia in the international energy exchange, L.M. Grigoryev has operated with the following figures. **Russia exports one third of its gas, one third of coal and two thirds of oil and oil products.** But if we measure this in the terms of general primary energy, including everything that is produced, then **Russia produces more then 11% of the world primary energy.** This is 5 times more than the Russian share in the world GDP and in the world population. This is, by comparison, four times of consumption in Germany.

In the opinion of the spokesman, **the contribution of Russia to stability of the world energy is absolutely colossal**. It is hardly compared with anything else. In this respect L.M. Grigoryev believes that we are interested in stability of process and clarity of perspectives. Speaking about the possible savings of the significant part of the energy sources in Russia he has underlined that "this requires a long-term serious energy saving politics and gradual change in the character of investments". At that, the spokesman has noted that **"Russia can save up to 45% of energy sources and energy consumption and this costs 350 bln. dollars.** But we must decide whether we want to save this energy or increase export".

Analyzing the processes of price formation for oil prior and after crisis, L.M. Grigoryev has noted that, no matter how paradoxical it may seem, **the oil cartel having once decreased the recovery by 4 mln. barrels a day has saved the oil**

market, stabilized situation and saved the incomes of the Near East countries. Otherwise, there could be political complexities and social-political troubles. Thus, **it turned out that seventy or eighty dollars for barrel is not an equilibrium price at the current market, but it is in some way a political consensus in the world.** This is a price at which some equilibrium is achieved from the point of view of investments for the subsequent periods.

Speaking about dynamics of the world economy recovery the spokesman underlined that the period of decrease in the world GDP is practically over in the beginning of 2009, **but the whole world is far from surmounting the crisis if measure by coming to pre-crisis indexes of the industrial production of GDP and trade.** L.M. Grigoryev considers that the world, probably, will come to pre-crisis indexes not earlier than 2011. And by a number of other indexes – even in 2012.

This is specifically a crisis situation. And as soon as the rise starts the situation will change. Several years will pass and the situation will gradually recover since the rise will start. In the opinion of the spokesman, in the recent years we had to do with a great politicization of gas and pipeline business. Now it is quickly dispersing and all oil-and-gas conferences in Europe and in the world discuss that **the gas politicization period is over, - it becomes the normal commercial goods.**

In the opinion of L.M. Grigoryev, in a whole range of forecasts, including the European ones, **the possibility of fast growth in the nearest decade of the coal share in the nuclear power engineering and renewable resources is exaggerated.** Speaking about the EU plans on development of renewable sources (20-20-20 plan) the author brought into challenge the feasibility of the accepted plans implementation.

That is why, in the opinion of L.M. Grigoryev, after the crisis the world economy will return for certain period to rather traditional power engineering: “We certainly are in sympathy with programs for expansion of the renewable energy. But we must be realistic. The world must make a serious forecast as regard to its needs in energy in conditions of economical growth after the crisis. And in these conditions **the investments must be made in modernization of the Russian power engineering and in the Russian export possibilities, since the demand will return in several years”.**

Director of Oil and Gas Problems Institute of RAS, A.N. Dmitrievskiy, in his speech has noted that the post-crisis period is of a great importance for Russia. In his opinion the Russian economy will be sensible of this crisis up to 2015. At that, the advanced countries will come out of the crisis more confidently. This misbalance is explained by the very difficult transition of Russia to innovation economy. But proceeding to the innovation economy, in the opinion of A.N. Dmitrievskiy, we must not forget about our main wealth - natural resources. And **the innovation development for Russia is first of all, the innovation-resource development which is based on the powerful mineral-primary base and on the intellectual resources of our country**. In the opinion of the spokesman, precisely such variant of development worked out by the RAS scientists is the most

optimum and shortest for Russia from the point of view of successful solution of the GDP duplication task.

The innovation-resource development, by the version of A.N. Dmitrievskiy, is, first of all the development of high-tech processing of primary hydrocarbons. This is construction of new gas-chemistry and new oil-chemistry on the base of new fields in the Eastern Siberia. The first reconstruction is increase in processing depth. For example, a cost of products in the gas industry is increased in dozens of times and further in hundreds of times.

In the opinion of the author, **while developing this trend Russia can accumulate the powerful investment resources which will then work in favor of the high-end technologies in other branches.** This includes the development of civil aviation, power engineering industry, nanotechnologies, biotechnologies.

Speaking about the process of energy markets control legal system renovation the spokesman has underlined the importance of keeping the system and principles of long-term contacts. In the opinion of A.N. Dmitrievskiy, **the long-term contracts only can guarantee to the investors the return of large-scale investments in gas-transportation mainlines and development of new fields.** Since these forms of trade suppose the guaranteed demand and subdivision of risks between the consumers and suppliers of power resources: "… you must be sure that your gas will be purchased not at the spot market, depending on the situation, but will be purchased for at least ten, fifteen if not for twenty or twenty five years. Since it is not tangible for the manufacturer to invest his assets in search or survey, and to build, just in case, the gas-lines to all countries and then sit and wait whether such huge resources spent to deliver gas to consumers are paid off or not.

The spokesman has underlined that the long-term contracts are first of all the energy safety. And the long-term contracts are necessary for both manufacturers and consumers since they provide for stable and reliable delivery of gas.

While commenting acceptance of the third energy directive in EU the author has paid attention to specificity of these legal documents which, in point of fact, allow any EU country at any moment to terminate the long-term contracts for the reason that the third country "does not observe the market development principles accepted by EU". In this connection the spokesman has noted that **intention to decrease the energy dependence of Europe on Russia must not be an end in itself.** On the contrary, Europe must use to the full extent its possibilities conditioned by the proximity of such a country as Russia, a country with huge energy resources. In the opinion of the author, **EU and Russia must not argue on who is the principal – supplier or manufacturer. The long-term contracts themselves show that we need each other. And we must work in close cooperation, not infringing the interests of each other, but on the contrary helping to develop these trends.**

A good example of the right understanding of such strategy is, in the opinion of A.N. Dmitrievskiy, the work in the Russian company E-ON which is always open for cooperation. The spokesman has noted that **Russia needs new technologies: "… we are not going somehow to hide these resources, fence**

them off, use them by ourselves only. Russia is open for cooperation. And we need an agreement between Russia and European Union in the sphere of energy".

While answering a question on perspectives of shale gas development, the spokesman has expressed his opinion that **the shale gas phenomenon turned out to be unexpected for the whole world and now obtained a high elaboration in USA.**

This powerful trend has led to that USA has stopped construction of new regasification terminals and, may be, will put some of them in dead storage. Sharply defined is decrease in liquefied gas importation by USA to 2030 practically in two times.

This trend, in the opinion of the author, has seriously influenced the development of the liquefied gas industry in Australia and other countries.

On the other side, the author has declared that **the analysis of technological properties and specific conditions of the shale gas recovery process gives grounds to state that the shale gas is a rather short period in the gas energy development, in gas industry development of countries.** That is why the author considers that it is not reasonable to take into account in the long run the powerful and long-term yields of gas wells. That is why it is necessary to develop the liquefied gas industry, including in Russia. One should select the regions for LNG delivery, see and thoroughly study the trends in gas markets development "so that this situation could not surprise us".

Managing Director of "E.ON Russia", Chairman of the AEB Executive Board, **Reiner Hartmann**, has cautioned the participants of discussion against disregarding the phenomenon of shale gas or nontraditional gas – since the USA are sharply decreasing the liquefied natural gas delivery as well as pipeline gas from Canada. R. Hartmann did not rule out that within several years the USA will become self-sufficient in the sphere of gas supply and, probably, they will deliver gas to the market where the Russian suppliers have dominated.

Now and then, in the opinion of R. Hartmann, **the USA will deliver gas to the European terminals. And this is what must become the subject of the joint discussion of suppliers and such manufacturers as Gazprom and other independent manufacturers.**

As the author believes, the purchasers and "marketing force of the Russian gas", i.e. the main European purchasers whether it be French, Austrian, Italian or German companies, must take part in the discussion. "We must consider this issue, come together as early as possible in order to manage these changes in market conditions".

In the opinion of R. Hartmann, the crisis has significantly decreased consumption of natural gas in Europe. This means that at the present time there is a surplus of gas in the European market. In the opinion of the spokesman, such situation is a result of that the "long-term contracts in the "take and pay" form now play not in favor of both importers and purchasers". K Hartmann has stated that the situation when a spot price for pipeline gas comes in contradiction with high prices laid in the basis of long-term "take and pay" contracts is successfully solved and

the agreement on negotiation of the situation with the partners from Gazprom has been achieved nowadays. This was painful for both parties but "the failsafe solution was found".

While commenting the realities and perspectives of investments from "E-ON" in the Russian gas branch the spokesman has noted that they have "extremely positive and real picture of the Russian investment climate for investment in energy sector" and successful experience and confidence in reliability of the Russian partners.

While **commenting** the change in situation on the European market due to **liberalization concept**, the author has noted that "this concept is good for the European consumers, but it gives us, as a main purchaser and importer, many problems, it gives our partner Gazprom many problems as well". **This concept of the European Union, in the opinion of the author, has extremely changed the old-established, very stable, very reliable gas deliveries and gas contracts.** And, in the opinion of the spokesman, the situation can be negotiated only by means of the dialog with participation of importers and exporters as well as transit countries jointly and, if possible, with a minimum share of politics.

Director on Business Strategy and Development of Honewell CJSC, L.R. Sorkin, has concentrated the attention of the listeners on the vision of Honewell corporation – the world multi-industry high-tech corporation – as regard to the FEC role in the innovation process and international cooperation in innovations.

From the point of view of L.R. Sorkin, **the main driving forces of the onrush innovation development of the world** from the middle of XX century till the present time **are three important factors. This is defense requirements, development of fuel-and-energy complex, including that connected with environment and energy saving. And, finally, globalization,** including globalization of business of energy, service, technological and engineering corporations.

In the opinion of the spokesman, a role of FEC corporations in the world innovation processes consists not only in that they carry out research and development works themselves, but, in a greater or lesser degree, in that their demands influence the innovative development of the specialized technical and service companies and industry as a whole. The demand in oil and gas recovery on the sea shelves has forced to innovations of many branches of industry: machine building, shipbuilding, instrument engineering and others. The necessity for production of pollution-safe fuels, requirements to utilization of oil field associated gasses, practicability of development of small natural gas fields has led to creation of new high-end technologies of oil processing and oil-chemistry.

L.R. Sorkin has underlined one aspect. Nonprofessional, from his point of view, and misleading is the scornful expression spoken from tribunes and used in mass media: "hydrocarbon economy". Oil and gas recovery in the close conditions, including on shelf, deep processing of oil and modern oil-chemistry are the high-tech productions requiring constant development.

Modernization taking place in FEC has a great influence on the innovation processes in the related service branches of industry. From this point of view the tax incentives and other forms of stimulation of fuel-energy complex to modernization can be of a huge multiplicative innovational effect.

The spokesman has stated that the large-scale modernizations in the branches of the Russian FEC will contribute to animation of the innovation process in the country. As a confirmation of this thesis, L.R. Sorkin has given an example of the advanced countries experience, when the world high-tech corporations directly or indirectly connected with modernization of fuel-and-energy complex create and develop the scientific and engineering centers in the country. These centers cooperate with the national universities, create the science-intensive work places and are the points of the actual innovational growth. In the opinion of the author, **the most important condition for development of the innovation space in Russia is financial support of the higher school** from budgetary and extra-budgetary sources and creation of favorable conditions for development of research centers of high-tech corporations in the regions of the country.

The author has noted that **the national engineering contractors are slowly developing in Russia.** They, in the opinion of the spokesman, are called to play the leading role in implementation of prime contracts for the largest modernization projects in the fuel-and-energy complex. The spokesman has noted the negative tendency connected with participation in the projects of national fuel-and-energy complex of international engineering contractors. This leads to that "these innovation belts rotate the wheels of the research and technology development abroad mot actively than in Russia". **Support of development of the Russian engineering companies from the state and business will, in the opinion of the author, help to innovation growth in the country.**

Principal Analyst of working group of the Forum Organizing Committee, A.P. Epishov has dedicated his speech to necessity in changing the legal base of the international cooperation in the sphere of power engineering. According to the spokesman, the world changes very quickly and these changes alter our image; alter the global landscape and not only the energy one. The author has noted that according to the forecasts of the most authoritative international organizations the world **moves towards multi-polarity and the center of influence shifts to the East.**

Speaking about change in the global energy landscape the spokesman has noted three factors. Firstly, the layout and level of influence of the players is changing in principle – India and China become the largest consumers, their influence on development of the world energy markets grows. Secondly, the consumption pattern is quickly changing itself. Within recent years LNG and shale gas have been largely developed and the renewable energy more and more becomes the appreciable reality.

The spokesman has also noted that the attitude of Russia, as one of the key participants of the world energy exchange, towards its role and place in the world energy process is changing. **Russia strives to integrate with the world energy, expecting to obtain the access to new technologies in the process of**

international cooperation on the one hand, and expecting to take strong positions in the consumer countries, including the distribution infrastructure on the other hand.

In the opinion of the author, the events of the last years show that interdependence of three links of the energy interrelation – suppliers, transiters and consumers – becomes more and more evident. That is why, in the opinion of the author, achievement of new strategic compromise allowing ensuring the condition for equal and mutually beneficial co-operation must become new joint strategic target for all participants of the energy trade.

Coming back to the subject of acceptance by EU of "the third energy package" A.P. Epishov has noted that these directives infringe the interests of the third parties, and especially of Russia. This, in the opinion of the spokesman, means that in negotiations on energy issues it will be very difficult for Russia and EU to achieve positive results. But nevertheless, the spokesman considers that **the parties must search for possibilities and conditions for compromise. And one of the key trends here, in the opinion of the author, can be use of the reciprocity principle, in particular, agreement and exchange of assets.** And such good example, in the opinion of the spokesman, is the cooperation of E.ON Company with the Russian FEC.

A.P. Epishov has also touched upon such characteristic of change in the world energy landscape as the climatic factor. As one of the examples of this subject significance the author has mentioned the introduction of European Commissioner Institute on climatic politics to EU. Besides, the fact of constant presence of climatic subject in the agenda for discussion of the G20 leaders is indicative of that the climatic factor becomes the important component part of the global energy safety.

While commenting the Russian initiatives on modernization of the legal base of the energy cooperation the author has noted that they are aimed, in particular, at making the energy sphere more pragmatic and less political. I.e., **the optimum legal base, in the opinion of the spokesman, will help transforming the sharp geopolitical opposition to the plane of rational economical interaction.** Thus, not political motives but economical benefit and return on investments must be key criteria at selection of this or that joint project.

In conclusion the author has made a short presentation of the draft Final Declaration of the Forum. In the opinion of the developer, it is drawn up in a constructive spirit and calls the energy leaders to search of strategic compromises and development of new joint strategy of renovation of the legal base of the international energy cooperation.

Member of European Energy Commission, Günther Oettinger, has noted that Russia became the first of three countries which he visits in the status of EU Energy Commissioner. The spokesman has exposed his vision on how important the further development and extension of bilateral relations with Russia in the sphere of energy appear to European Union.

In the opinion of G. Oettinger, Russia and European Union are not separable in the sphere of power engineering. Russia is the most important

supplier to EU countries of not only gas and oil, but coal and uranium as well. On the other hand, EU is the most important trade partner and investor for Russia. Having grasped the importance of the partner relations development in the sphere of energy, EU and Russia has started the energy dialog 10 years ago.

Many changes have taken place ever since. Due to continuing economical and financial crisis a situation on the market has changed. Prices for oil and gas are unstable. Everyone thinks on safety of deliveries. Climatic changes have affected the role which citizens assign to energy in the everyday life. **The key aspect in development of the balanced energy politics is promotion of ideas of energy efficiency and application of the renewable sources of energy.**

In the opinion of EU Commissioner, **the energy efficiency, renewable energy and new low-carbon technologies can become a strong mover for transformation of economy and modernization of our societies.**

G. Oettinger has mentioned several initiatives taken by EU in response to the recent challenges of the time: “We have set the ambitious goals in the sphere of energy efficiency. The fossil fuel, especially gas, in this process will also play the important role since its usage makes 80% in the present general structure of energy consumption, and we realize that we have to face this yet for some decades. We have created the unified market of electricity and gas and we want to consolidate it with the recently accepted internal legislation on energy market”.

The EU Commissioner has stated that he positively intends to support and improve strong relations between EU and Russia in the sphere of energy. As regard to concomitant variations in the climatic politics, it is absolutely clear for EU and Russia that further interaction and active expression of view points to the bilateral development of our economic relations are necessary. In the opinion of the spokesman, Russia and EU are able together to get through the coming changes and to develop a bilateral scheme in the future.

In the opinion of G. Oettinger, such important compromise can be a strong, extensional and significant bilateral legal scheme which at the present time is discussed within the frames of new agreement between Russia and EU. While commenting the Forum name the spokesman has noted that he hopes very much that the present fruitful and constructive relations between Russia and EU in the sphere of energy will become an important component of the Russian FEC in XXI century.

Final Resume of International Conferences

INTERNATIONAL CONFERENCE
«STRATEGIC INVESTMENTS IN THE RUSSIAN POWER INDUSTRY»

Moscow, CEH «Manege», Manezhnaya Square 1, Big Hall
8 April 2010

Presiding person:
Valentin E. Mezhevich - First Deputy Chairman of the Committee for Natural Monopolies of the Federation Council of the RF FA

Spokesmen:
Boris I. Ayuyev – Chairman of Board of Directors of SO UPS JSC
Nikolai Yu. Brusnikin – First Deputy General Director of JSC RAO East Energy Systems
Vitaliy V. Bushuyev – General Director of CA "Energy Strategy Institute"
Alexandr V. Grigoryev – Head of Coal Branch Research Department of FEC Institute of Natural Monopolies Problems
Vladimir V. Dorofeyev – General Director of "STC of Electrical Power Engineering" JSC
Tatyana L. Yelfimova – Deputy General Director - Secretary of State Corporation on Nuclear Energy Rosatom
Zenoviy P. Lutsik – Head of Administration of Complex Facilities Development Forecast of Strategic Development Department of Gazprom
Sergey Millian – President of Russian-American Chamber in USA (Atlanta)
Evgeniy M. Tyumentsev – Acting Deputy General Director of JSC IDGC of Siberia
Mikhail Yu. Slobodin – President of KES-Holding
Yuriy Z. Saakyan - General Director of Natural Monopolies Problems Institute
Marina A. Fairushina – Chairman of Tariff Committee of the Republic of Tatarstan
Natalya D. Chichirova – Professor, Head of Department at Kazan State Energy University
Andrey N. Shishkin – Deputy Minister of Energy of the Russian Federation
Valeriy V. Shlychkov – Professor, Head of Department at Kazan State Energy University

Participants of the discussion have considered a wide range of issues connected with the analysis of the investment environment in electrical power engineering and normative-legal documents governing the investment process. The strategies of development of individual energy segments, in particular, nuclear energy were also considered. While analyzing the conditions of investments

attraction and progress of investment programs implementation in the branch the experts have noted that for most complete and adequate analysis and forecasting it is important to take into account several key factors. It was noted that, speaking on investments in FEC, it is necessary to take into account the long-term character of projects and extended payoff period of such investments. Consequently, in order to attract strategic investments to power engineering the constant, stable, transparent and attractive conditions must exist for investors, including tax, customs and other privileges and preferences established in the legislative order. The important factor for stimulation of investment process is cultivation of technological and transport infrastructure, availability of base primary energy resources affordable in price, stable internal demand and acceptable prices for goods and services both in the internal and in the global markets.

While considering the situation with the normative base affecting the investment process in electric power engineering, the participants of the conference have noted that issue of resolution of the RF Government on long-term energy market gives start to contracts on energy delivery within the frames of which the investors have put money to power engineering as far back as three years when they purchased the power engineering companies. On the whole this resolution, in the opinion of the Ministry of Energy of RF, will help to large-scale modernization of all Russian power engineering.

The participants of discussion, while commenting implementation of the investment program in electric power engineering, have noted that, beginning from 2007, for three years, the rates of generation objects commissioning were much the same. But in 2010 the process gains momentum and at the present time no obstacles exist for its movement on the intended trajectory. It was noted that the total volume of 2010-2011 years makes more than eleven gigawatts.

Discussion of network power development has shown that the investment program of FSC, IDGC-Holding, RAO East Energy Systems on commissioning of network power envisages putting into operation of approx. fourteen thousand kilometers of electric networks and more than 15 thousand of transformer power to the end of 2010.

It was mentioned at the conference that by the contracts of energy delivery, concluded by the companies two or three years ago, the total volume made 25 thousand megawatts. Today, by the application of the Ministry of Energy of RF, the control is established over execution of these programs on the part of the government, all indexes, by which the contracts on energy delivery are controlled, are determined and now the investors have no obstacles to refer to as regard to non-fulfillment of these programs. As per the data of the Ministry of Energy of RF, commissioned out of 107 planned units were only 9 ones, construction and erection works are in process at 38 units, preparatory works are in process at 17 units and 43 units did not work. It was declared that the majority of 43 units have a tendency to beginning of construction and this is a key task on start-up of the declared 25 thousand megawatts.

While considering the applicable normative documents which are the key ones in energy development and in construction of new facilities, the participants

of discussion have heard that the Ministry of Energy is working-up the general scheme of the power engineering objects development and this scheme is corrected once in three years at least and is submitted by the Ministry of Energy to the Government of the Russian Federation for approval. The General scheme, according to the version of the representative of RF Ministry of Energy, is a "live document" which is variable depending on the situation with the energy consumption dynamics.

The schemes and programs of the unified energy system in Russia and perspective development of the power engineering of the constituents of the Russian Federation were also considered. The main trends in electric power engineering modernization were studied at the conference. This is modernization of HEPP, NPP, modernization of thermal power and electric networks, as well as the district heat supply system.

Considered at the conference were the perspectives of nuclear branch development. Specified was the importance of nuclear power engineering development synchronization with the rest branches of the national economy with development of its base infrastructural positions. First of all, the case in hand was development of the nuclear power industrial complex, construction-and-erection complex and electric network facilities of the country.

Special attention of the representative of Rosatom concern was drawn to the issue of personnel potential formation. The participants of discussion were informed that according to the Decree of the President of the Russian Federation last year was created a National Nuclear University comprising MIFI – the basic institute of Rosatom - plus 8 colleges located throughout the country. The main goal of this system work is the revival of the Russian engineering school.

The issues of NIOKR development and investment to innovational products were also discussed at the conference. It was noted that the electric power engineering turned out to be conservative and hardly varying branch. The NIOKR budgets of practically all generating companies are extremely low. Many companies have no expense for NIOKR in their budgets though there are a lot of interesting new solutions in the heat supply system, which require practical implementation.

In the course of discussion it was noted that the investment process must not be considered without the analysis of such an important factor (which also determines not only the demand for electric power itself, but also the future structure and ways of development of both national economy and industry in particular) as a price. It was noted that insufficient attention is paid to price as an instrument of state politics both on the part of the government and on the part of the power engineers themselves, including the expert community. Meanwhile it was mentioned that by the results of 2009 a serious retardation takes place in price increase of the industrial products manufacturers as compared to the similar index characterizing the electric power. If one takes a deeper look at this issue, from the point of view of economy, then he will see that a growth of tariffs for the main energy sources, in particular, gas and electric power, was added to the problems of financing attraction even for the current activity. On the whole, this has led to

significant growth of share of expenses for them in the cost of the Russian industrial products.

It was shown that, unfortunately, this tendency will remain in future. According to the forecast of the social-economic development for 2010 and for the planned period of 2010-2012, as well as to the Concept of long-term social-economical development of Russia to 2020, the advance rise of prices and tariffs for electric power and gas will be maintained as compared to the rise of prices in the processing industry. The adherents of tariffs growth consider that the rise of prices will make to more economically behave toward electric power and gas and will make the manufacturers to quickly rearm thus equipping the production with the energy-saving technologies. This exactly takes place in the world with the only difference that this process in the advanced countries is significantly stretched in time and is under the control of the state, including that the government sponsors the enterprises carrying out measures on energy saving.

Expressed was the anxiety that the sharp increase in price to the world level will not solve the existing problems of energy saving, but at that, there is a danger of notable weakening the economic power of a very ample quantity of industrial enterprises. The possibility of closing a great number of enterprises in this connection was not excluded. Participants of the conference were informed that the advance rise of prices in electrical power engineering has led to growth of profitability in the sectors of transmission and production of electric power and had an absolutely adverse effect on profitability of the processing branches. In this connection it was noted that the rise of prices for energy resources must be feasible for industry and economy since, having taken the industry incomes on account of the forced growth of prices for gas and electric power, we can leave them without any means for transition to new energy-efficient technologies.

Discussing the possibilities of the government to sustain the rise of prices for energy resources the participants of the conference have noted that, firstly, it is necessary to increase normative periods of the projects pay-off and, secondly, to decrease credit load for those who constructs new facilities. Power engineering can not develop without “long-term” money, i.e. the attraction of the long-term credit resources is one of the key problems for both power engineering and Russian economy and Russian real sector on the whole.

Three variants of the world energy development in the context of working-out the post-crisis development strategy were represented to participants of the conference. The first way of the hydrocarbon power engineering domination can lead the world energy to a dead end. Stabilization-stagnation way of development supposes a partial solution of energy saving and climate issues. The innovation-revolution way of the power engineering development, which is of higher quality, supposes that not less than 10% of the expected demand for energy resources must be covered by means of the newest innovational energy branches. This is not even the nuclear power engineering based on fast neutrons, and not the renewable sources - it must be the absolutely new sources we do not know about today.

In the comments to the first version of development it was declared that volatility of the primary markets and actual disintegration of the world energy

space will lead to decline of the hydrocarbon business. The stabilization scenario of development, which is characterized by the slow demand for fuel and power resources and a partial decision of the climate politics, will also fail to withstand the social demand with time.

The third, innovation-revolution way, supposes a principal moment altering the structure of fuel-and-energy complex in the world – a mass transition to battery-driven vehicles. At that, China, as a main and growing consumer of the motor fuel, can really change over to liquid fuel made of coal. And then the demand for oil stock will fall sharply which will lead to decline in the oil business and to growth of demand for electric power which must be performed not only by means of fuel combustion, but also by means of direct production of electric power. And this, in its turn, will stimulate the way to future new technologies of electric power production, in particular, by direct methods of electric power production. In the final part of discussion of these possible strategies of development it was noted that it is not possible today, while considering the investment problems being the “long-playing record”, to orientate oneself only to the current issues – the world must look far ahead.

INTERNATIONAL CONFERENCE

«INNOVATIONS IN NATURAL GAS PROCESSING TECHNOLOGIES: PROSPECTS OF STRATEGIC INVESTMENTS IN RUSSIA»

Moscow, CEH «Manege», Manezhnaya Square 1, Conference-Hall
8 April 2010

Presiding person:

Batozhargal T. Zhambalnimbuyev - Member of Federation Council of RF FA

Spokesmen:

Igor P. Afanasyev – Chief Engineer, First Deputy of General Director of Gazprom pererabotka LLC
Vyacheslav P. Zaitsev – Leading Designer of FGUP CAGI
Vladimir M. Kapustin – General Director of VNIPIneft JSC
Aleksey E. Kontorovich - Research Manager of Oil-Gas Geology and Geophysics Institute of Sibirsky Branch of RAS named for A.A. Trofimuk
Anatoliy G. Laptev – Professor, Head of Department at Kazan State Energy University
Vasiliy I. Rybkin – Regional Director of UOP Company (Group of Companies Honeywell, USA).
Nikolay M. Storonsky – Deputy General Director of Gazprom promgas JSC

Participants of the conference have concentrated their attention to the issues of efficient use of associated petroleum gas and development of hi-tech processing of hydrocarbons in Russia. Central place in the represented reports was taken by the thesis on necessity in more intense development of oil-chemistry, gas-chemistry, and helium industry on the basis of modern technologies.

In particular, it was suggested to minimize and, beginning from 2015, to stop using in power engineering the associated gas not separated to components and to assign for this purposes methane only. It was accepted as important and necessary to develop the scheme of collection of high-molecular components of the associated petroleum gas and to use it in oil-chemistry. In this connection the necessity in development of technical requirements to associated petroleum gas processing technologies which must be included into the license agreements was also mentioned.

While considering the liquefied gas (free rich gas) problems the discussion participants have noticed that the recovery at such fields, when correctly performed, must be determined not by the production possibilities of the field, but by the processing and oil-chemical facilities which will be then using these products. In this connection the anxiety was expressed in regard to that the facilities for ethane, propane and butane processing at such fields are not

practically created. It was suggested at the conference to provide development of oil-chemistry on this primary base not only in Western Siberia, but in the European part of the country, in particular, in the North-West Federal District.

The discussion participants have stated that at the present moment no program of systematic and professional use of gas in the Eastern Siberia exits. It was stated that possibilities of the main fields in the Eastern Siberia allow bringing the gas recovery to 2030 up to 120-130 bln. cubic meters. However, neither in the Gazprom programs, nor in the Russian energy strategy the development of gas-processing plants and oil-chemistry is clearly described.

While discussing the perspectives of the oil-gas fields exploration in the Eastern Siberia, the Forum participants have noted that in the Eastern Siberia no pure oil fields practically exist but there are oil-gas fields. This means that a huge amount of gas will be recovered there. But "oil has already come into the pipe", and issues of complex use of gas are still unsolved. In the opinion of the conference participants in this connection, a systematically organized, balanced state program of gas complex development in Siberia and Far East is required. Generation of such complex will give powerful impulse to economic recovery in Siberia and Far East, will increase life level and life quality of population in these regions, will transform Russia to one of the largest supplier to the world market of oil-chemistry products and helium with high added value.

In this connection the necessity of resolution of the following high-priority tasks was expressed:

- determination of sequence of bringing into development of gas-condensate fields – one must not develop more than he can process;
- selection of trends, volumes and methods of exploration works for expansion of mineral-and-raw-material base;
- selection of participants in location of large centers of gas-processing, oil-chemistry, centers of helium industry, helium concentrate storehouses;
- selection of systems for horizontal exploration of individual oil-chemical clusters with account of condition and forecasting the development of internal and external market;
- selection of location and trends on enterprises activity on production of catalysts;
- development of systems of pipeline, railway, road, air, sea transportation of the deep gas processing products;
- solution of problem of personnel preparation for enterprises of gas, gas-processing, oil-chemical and helium industry;
- determination of locations and trends of activity of the gas complex scientific maintenance centers;
- determination of a role and place of the government, private, domestic and foreign business in implementation of the program and forms of their interaction and partnership.

Expressed at the conference were the proposals for creation of special-purpose high-tech oil-chemical and gas-chemical companies beyond the structure of registered capitals of the existing vertically-integrated oil and gas companies. Such new companies, in the opinion of the conference participants, could form

new clusters of development in the oil-and-gas sector relatively fast, provided the direct foreign investments are attracted.

INTERNATIONAL CONFERENCE
«ENERGY SECURITY IN THE XXI CENTURY GLOBAL ECONOMY: NEW APPROACHES»

Moscow, MGIMO-University, 84 Vernadskogo Av.
9 April 2010

Presiding person:

Konstantin I. Kosachev – Chairman of the RF FA State Duma Committee on International Affairs

Spokesmen:

Bengt Lee Hansen – President of Statoil Russia
Yuriy A. Ershov – Deputy Director of NIIVS SU-HSE
Maria Luisa Ramos Ursagaste – Ambassador of the Plurinational State of Bolivia in the Russian Federation
Stanislav Ye. Tsygankov – Head of the International Business Department of Gazprom
Ruben Figuera – Vice President of Venezuela's State Oil Company PDV SA
Stanislav Z. Zhiznin – Principal Counsellor of the Department of Economic Cooperation of the Ministry of Foreign Affairs of the Russian Federation
Yuriy A. Plakitkin – Deputy Director of the Department of International Cooperation of the Ministry of Energy of the Russian Federation
Leonid M. Grigoriev – President of the Fund "Institute for Energy and Finance"
Torgul A. Bagirov – Executive Vice President of the Moscow International Oil Club
Kurt Veldon – Former US congressman
Gustav Nobel – Head of the Nobel Charitable Trust Foundation
Rouben O. Indjikian – Chief, Minerals, Metals and Energy, Special Unit on Commodities, UNCTAD
Vyacheslav A. Kulagin – Deputy Director of the Centre for International Energy Market Studies of the Energy Research Institute of the RAS
Aleksey D. Khitun – Director of the Centre for Energy Policy of the Institute of Europe of the RAS

The participants of the conference agreed that the energy factor plays a crucial role in today's world development with a certain influence on both economy, political processes and international relations. Energy security is one of the characteristic features of the globalizing world where none of the states can solve its own problems alone any more, nor develop its fuel and energy complex in an isolated manner within its national borders. Today energy priorities underline a

lot of political decisions while the energy security (ES) is not the least element of global international cooperation.

The disputants stated that in modern conditions energy is no longer a member of the category of trade but is getting closer according to the traditional scheme "money in exchange for goods" to highly integrated and hi-tech projects where politics and diplomacy cannot be neglected. In the above conditions successful global competing in the energy sphere can be achieved only through a full set of tools to implement national interests of one's state.

Most speakers think that in the nearest two decades the interest in traditional energy sources like oil, gas and coal will not be lost. However significant changes are expected to happen in the gas market. Gas marketing and distribution system established in recent years will transform with the liquefied natural gas (LNG) sector growing faster and especially shale gas production.

The world economy is expected to require more energy for steady development of our societies. Therefore as the disputants think, the energy producers shall develop energy resources on a steady basis and in environmentally friendly conditions. Another crucial element is the liability of authorities for economic and legal frameworks of the above operations.

Meanwhile, the energy producers are believed to be more flexible to be able to accommodate not only to new markets but also to new challenges and new engineering capabilities to meet the demand on energy sources.

The participant of the conference agreed that the concept of energy security is evolving considerably in the global context. Therefore, the reports presented made a point in formulating a new international agenda of the global energy security on the basis of partnership commitments, sovereign right of countries for their own resources, mutual liabilities of members, balanced pricing, diversification in supplies, access to technologies and investments.

The conference heard Gazprom voice its position pertaining to pricing. According to this position, long-term take and pay contracts are assumed to constitute the basis of market relations. As the Gazprom representatives say, gas pricing mechanism accepted in long-term contracts is absolutely clear and positively excludes any manipulation with prices. Gas price is set through the petroleum products price basket which cannot be influenced by any domineering supplier.

Discussion of the issues of global raw material markets saw that the participants tended to consider unstable pricing, volatility, lack of demand and supply flexibility as serious restrictions for large-scale investments in the world fuel and energy complex. However, the world fuel and energy complex is believed to require colossal investments amounting to tens of trillions of US dollars to secure a steady energy supply of the world economy.

The conference showed that in order to meet major challenges of the world fuel and energy complex, the participants of the global energy cooperation will have to increase their efforts in improving the institutional and legal framework of energy security.

INTERNATIONAL CONFERENCE
«EASTERN VECTOR OF RUSSIAN ENERGY STRATEGY»

Moscow, CEH «Manege», Manezhnaya Square 1, Big Hall
9 April 2010

Co-chairpersons:

Gennadiy F. Alekseev– First Deputy Chairman of the Government of the Republic of Sakha (Yakutia)
Madina M. Suyunova – Strategy Director of JSC RAO East Energy Systems

Spokesmen:

Madina M. Suyunova – Strategy Director of JSC RAO East Energy Systems
Aleksey M. Mastepanov– Councellor of the Deputy Chairman of Gazprom Board Mr. A.G. Ananenkov
Gennadiy F. Alekseev– First Deputy Chairman of the Government of the Republic of Sakha (Yakutia)
Dmitriy D. Kuznetsov - Member of Committee for Valuation Methodology and Standards of the National Council of Valuation Activities
Gilbert Kris – Director on Russian Affairs of the Russo-British Chamber of Commerce
Cao Wei – Chinese National Petroleum Corporation
Gleb A. Ivashentsov – Extraodinary and Plenipotentiary Ambassador of the Russian Federation
Kseniya S. Kushkina – Research Fellow of the Institute for Energy Studies of the RAS
Larisa S. Ruban – Expert of the CIS Oil & Gas Intergovernmental Council
Vladimir A. Matveev – Leading Research Fellow of the Centre for Strategic Problems of the North-East Asia and SCO of the Institute of the Far East of the RAS

The participants of the conference reported that prospects for the development of the Russian economy and its energy sector are determined now by two basic documents. These include the Concept of Long-Term Social and Economic Development of Russia for the Period of up to 2020, approved by the Government of the country in November 2008, and the Energy Strategy of Russia for the Period of up to 2030, approved in November 2009. These documents are aimed at using energy sources and potential of the energy sector with maximum efficiency for steady growth of economy, increase in the living standards of the population of Russia and for promotion of foreign economic positions of Russia. To this purpose the development of the Far East is considered as a state priority in the above program documents. Today the direction of state priorities in the

development of the Far East is determined by the Strategy of Social and Economic Development of the Far East for the period of up to 2025 which was approved by the Government in late December 2009. The Strategy was designed for the true integration of the Far East in the economic area of the whole country.

The disputants reported that this strategic purpose needs a comprehensive approach and problem solving in a wide range of fuel and energy branches which specialize in the Far East.

The participants of the conference discussed the development strategies and dynamics of specific fuel and energy branches of the Far East as well as largest energy projects like the ESTO pipeline, integrated development of the South Yakutia, Sakhalin-1 and Sakhalin-2 projects, etc.

Speaking about the electric power sector, this branch fails to ensure the development claimed in the Strategy 2025. Such a failure is caused by objective and subjective reasons. Electric power networks of the region are reported to have a limited transmission capacity and a high risk of power supply in its largest cities due to a severe wear of process infrastructure. Therefore, today's poor development of energy is one of the major obstacles for social and economic development of the Far East. Power supply for the social and economic development of the Far East is considered as a basic vector in development of the region.

Accordingly, the participants of the conference suggested that the Government consider a newly prepared "Strategy of Electric Power Industry Development of the Far East for a Period of up to 2020" which determines basic trends in development of effective electric power industry and social and economic growth of the region.

Speaking about the so-called "Eastern Gas Program" ("The Program of establishing in Eastern Siberia and in the Far East an integrated gas production, transportation and supply system including potential gas export to the Asian-Pacific markets"), the participants of the program stated that the east of the country concentrates more than 25% of all the ultimate potential gas resources of Russia. This amounts to more than 66 trillion cubic meters, about 51 trillion cubic meters of which are located onshore and about 15 trillion cubic meters offshore – in the sea shelves adjacent to Eastern Siberia and the Far East.

The implementation of the program is said to require more than 2 trillion 400 billion rubles of investments while the total macroeconomic effect of the program is estimated at the rate of 27.8 trillion of rubles. Total tax return to the federal and regional budgets of the Russian Federation throughout the whole process of the implementation of the program will amount to about 3.8 trillion of rubles. Total export of natural gas via pipelines may amount to 50 billion of cubic meters, while the liquefied gas supply volume in terms of natural gas will be not less than 28 billion of cubic meters.

According to the program, four large gas production centers are to be established in the east of Russia: Sakhalin, Yakutsk, Irkutsk and Krasnoyarsk. These centers are planned to provide gas production by 2030 amounting to 220 billion of cubic meters a year. Later on these centers will be connected by an

integrated gas pipeline system which in turn will become an integral part of the gas supply system of the Russian Federation.

The Gazprom representative stated the company has started to prepare for procedures specified in the Eastern Program. In particular, a number of affiliates have been established in the east and a number of operations carried out to form the resource base. Meanwhile Gazprom started gas pipeline systems and works for gasification and gas supply of territorial subjects of the Siberia and Far East federal districts. The economic crisis was reported no have no negative effect on Gazprom eastern projects. Moreover, the company increased the financing of eastern projects twice last year from 35 to 67 billion of rubles due to decreasing in financing of other projects. The Gazprom 2010 investment program allocates about 120 billion of rubles for projects in the east of the Russian Federation.

In 2009 the second stage of the Sakhalin-2 project was finished where Gazprom acts as a leading shareholder. As a result the first liquefied natural gas plant started working in Russia. This was the Gazprom's pilot project in Sakhalin.

Now Gazprom started works on the Sakhalin-3 project. The gas produced from this project will be supplied to the consumers of the Far East of Russia from 2014-2015.

Speaking about one of the largest and difficult integrated gas projects in the east of Russia that is the establishment of the Yakutsk Gas Production Center, the participants of the conference took notice of the statement that Gazprom is starting gas processing and gas chemical operations. The need for these operations is caused by a complex composition of gas resources in the east of Russia, high helium content and other precious components. This individual feature of eastern gas fields requires the most advanced technologies and full usage of all the components contained in the gas produced.

In conclusion of the discussion the participants of the conference reported that the main goal of the development strategy of the Far East is permanent residence of population in the Far East due to a well-developed economy and comfortable living conditions. This is the quintessence of that task which has to be addressed by all the regions, authorities, science and business communities working together. Accordingly, the complex plan of procedures needed to implement the strategy was claimed vital for its soonest approval by the Government of the RF.

INTERNATIONAL CONFERENCE

«THE CONCEPT OF SUSTAINABLE DEVELOPMENT AND RENEWABLE ENERGY SOURCES: THE HORIZONS OF INTERACTION BETWEEN EUROPEAN UNION AND RUSSIA»

Moscow, CEH «Manege», Manezhnaya Square 1, Conference-Hall
9 April 2010

Presiding person:

Aleksandr P. Epishov – Principal Analyst of the Forum "Russian Fuel and Energy Complex in the XXI Century"

Spokesmen:

Pavel P. Bezrukikh – Deputy General Director of the SU "Institute of Energy Strategy"
Sergey V. Korobovtsev – Director of the Institute of Hydrogen Energy and Plasma Technologies of the RSC Kurchatov Institute
Igor Ye. Matveev – Senior Fellow of the All-Russia Market Research Institute (VNIKI)
Yevgeny A. Sokolov – General Director of Carbon Trade&Finance
Sergey A. Roginko – Chairman of the Committee for Joint Projects
Boris P. Ivchenko – Director of the Research Center for Steady Development of Regional Systems of the North-West Academy of State Service

The development of renewable energy was claimed by the participants of the conference as one of the most noticeable and long-term tendencies in the world economy and an important factor of energy strategies of many countries. The development of renewable energy alongside with the increase in efficient use of energy resources were reported to be the main universal tools of the world community against global warming. The reports commented on the great potential and necessity of introducing the EU best practices into the Russian sphere of renewable energy. The disputants were constantly recurring to one of the key messages that is the Energy Strategy of the RF underestimates the point of renewable energy which is so much focused by the rest of the world. The development of renewable energy round the world shows that even in the crisis conditions this advanced branch has retained its rate of development. Today the renewable energy equipment not only absorbs all the latest achievements of many branches of science but also stimulates hi-tech innovations and increases the number of working places.

The participants of the conference paid great attention to global warming and controversial results of the Copenhagen conference. The leading world powers were claimed to take more responsibility to be able to propose acceptable terms to

poor and developing countries to approve a new international agreement on climate.

INTERNATIONAL CONFERENCE
**«ENERGY SAVING IN THE GLOBAL ECONOMY:
WORLD EXPERIENCE AND PROSPECTS OF RUSSIA AND CIS»**

Moscow, CEH «Manege», Manezhnaya Square 1, Big Hall
9 April 2010

Presiding person:

Valentin E. Mezhevich – First Deputy Chairman of the Committee for Natural Monopolies of the Federation Council of the RF FA

Spokesmen:
Stanislav I. Dorzhinkevich – Deputy Director of the Department for State Policy and Energy Efficiency of the Ministry of Energy of the Russian Federation
Makhsud K. Ordabaev – Director of the Department for Energy Saving of the Ministry of Industry and New Technologies of the Republic of Kazakhstan
Aleksandr G. Ishkov – Deputy Chief of Gazprom Department for Gas Underground Storage, Transportation and Use
Viktor P. Shakhin – Deputy General Director of the Russian-German Energy Agency (RUDEA)
Viktor G. Semenov – General Director of the JSC VNIIPIenergoprom
Andrey V. Korneev – Head of the Center of Energy Security of the USA and Canada Institute of the RAS
Leonid R. Sorkin – Director on Business Strategy and Development in Russia and the CIS "Honeywell" (USA)
Hans Forstner – Sales Director of Klinger Dichtungstechnik (Austria)
Vitaliy V. Ivanov – Deputy General Director – Chief Engineer of JSC IDGC of Siberia
Aleksandr S. Pavlov – Head of Department for Technical Development of JSC IDGC of Ural
Andrey M. Korotkevich – Acting General Director of the Republican Unitary Enterprise of Electric Engineering "Branch Dispatching Control" (RUP ODU), (Belarus)
Vladimir K. Kozlov - Professor, Head of Department of Kazan State University of Power Engineering
Nurali Adil oglu Yusifbayli – Director of LLC Azerbaijan Scientific-Research & Design-Prospecting Power Engineering Institute
Aleksandr A. Skorokhodov – General Director of BPC Power Systems

The necessity for energy saving and efficiency were reported as beyond doubt but many years of wasteful use of natural resources is a serious obstacle. Therefore the implementation of the energy saving strategy was regarded to take

much time and effort to popularize the idea and tradition of being careful about natural resources among the population. Without drastically changing people's minds and attitude to this problem it will be next to impossible to achieve positive results.

The disputants voiced the position of the Ministry of Energy of the RF on the issues of state policy for energy saving. It is based on the use of the best foreign practices within the framework of a comprehensive and integrated approach developed in the following ways:

- regulatory and legal framework and standards including federal laws, regulatory legal acts of the government, technical procedures and national standards, official acts of the federal authorities, acts of the territorial subjects of the Russian Federation and municipal institutions;
- state support and promotion of energy efficiency due to subsidies, co-financing, tax remissions, accelerated depreciations;
- energy saving and efficiency programs;
- administrative measures including sanctions; tariff regulation and information support.

Speaking about the federal law "On Energy Saving and Efficiency" and the plan of energy saving and efficiency procedures approved by the Government of the RF, the participants of the conference reported the necessity of developing tens of bylaws which will constitute the medium for implementation of strategic tasks on energy saving. The participants of the conference were informed about the works being performed by the Ministry of Energy of the RF pertaining to this. In particular, the issue of changing the scope of liabilities of the federal authorities according to which the Ministry of Energy of the RF should be liable for energy inspections. Accordingly, the Ministry of Energy of the RF was delegated with supervising functions to control self-regulating organisations in the sphere of energy inspections.

The participants of the conference were informed about other ways of regulatory and legal support of energy saving processes as well as state support measures of this process. In particular, the following state support measures were proposed:

- partial refunding of interest and loan expenses for credits received in credit institutions for investment into energy saving and efficiency projects;
- allotting of investment tax credits to increase the energy efficiency of production, works and services;
- provision of state guarantees for credits allotted for energy saving and efficiency procedures;
- giving the right of using multiplying ratios to business entities.

The representative of the Ministry of Energy of the RF gave performance data in figures. In particular, the estimated cost of the program up to 2020 is 10.7 trillion of rubles in terms of prices of corresponding years. The federal budget component of the program amounts to about 1 trillion. This sum includes about 600 billion of rubles for implementing a renewable energy project.

The implementation of all these procedures is considered by the Ministry of Energy of the RF to reduce the energy intensity of gross domestic product of the Russian economy for 40%.

The participants of the conference were informed about the results of the analysis performed by the nonprofit partnership "Russian Heat Supply" of numerous energy saving pilot projects. The analysis showed that a great number of projects were carried out but most of them with negative results. The basic cause of negative results is low requirements in technical design assignments for project like "Energy Effective City" and "Energy Effective District". These technical assignments became obsolete and need to be revised. Another cause is a misunderstanding of the nature of the task especially in the budget sphere. The task according to nonprofit partnership "Russian Heat Supply" is to consolidate at the country and regional levels and the level of each municipal institution a number of processes which run at a time: planning of reliability, planning of energy development and energy saving program – all these processes shall be performed together. And finally the third cause id a low quality of engineering solutions including materials and equipment. Accordingly, tender documents for procurement of energy saving equipment shall meet the quality requirements for the products supplies.

Speaking about Kazakhstan experience in energy saving, the participants of the conference discussed the issues of unification and adjustment of the whole system of legal and regulatory acts in energy saving existing in each country of the Customs Union.

The participants of the conference were informed about the activities of the working group on energy saving and efficiency which was formed in the Public Chamber of the RF. The activities involved public evaluation of the draft federal law and public control of the implementation of this law. In particular, the situation in many regions was proven dramatic. The programs being prepared in these regions are rather superficial. Many programs specify neither people in charge, nor implementation mechanisms nor financing sources. Actually, these programs are declarative only.

Accordingly, the general public and the federal authorities were reported necessary to combine their efforts for the idea of energy saving to spread not only as a directive of the government but to gain support of the society.

The participants of the conference were informed about some practical aspects of energy saving programs implemented by Gazprom. The main principle, the basis of all energy saving programs by Gazprom is the reduction of gas consumption for own process needs. The main potential of energy saving is related to natural gas transportation.

The main profitable technologies are the following:

- hot tapping technology which excludes gas bleeding while replacing certain assembly units of the gas pipeline;
- efficiency increase and reduction of losses of gas compressor units;
- introduction of turboexpanders, dry sealing of gas compressor units.

As for the mechanism of including the expenses for these procedures in prices, tariffs and investment tax credit, the Gazprom representative called it unacceptable for the company since the regulated tariffs are lower now than production cost of the gas supplied to the domestic market. Therefore, adding any expenses to the prices and tariffs will not change anything for getting additional investment resources.

The participants of the conference studied a model of relation of energy security, energy costs and stability of economic systems in the conditions of steady development. The basic triad of social, economic and ecological conditions was considered to be overlapped by the system of state regulation of the fuel and energy complex. Stability of this system can be secured only in the state of equilibrium with a certain safety factor. Three stages of energy saving development were proposed. Energy saving potential amounting to 40-45% as established in the Federal Law "On Energy Saving" is the first stage of modernization, managerial solutions and correct pricing policy.

The second stage is the introduction of brand new energy technologies supported by a well-studied technological basis. The third stage is the usage of brand new technological solutions which have not yet been put into practice.

Basic tasks for crossing the energy barriers in the process of economical growth of Russia are as follows:

- technical infrastructure modernization;
- reduction of oil & gas in the commodity composition of trade;
- replacement of unprocessed energy sources with high technology products;
- optimization of domestic energy balance;
- development of diversified markets and increasing the role of state regulation.

The participants of the conference were also informed about the quality and energy saving policy and practices of specific companies and organizations.

Final Declaration
MOSCOW INTERNATIONAL ENERGY FORUM
"RUSSIAN FUEL AND ENERGY COMPLEX IN XXI CENTURY"
7-10 APRIL 2010, MOSCOW

We, as the participants of the Moscow International Energy Forum "Russian Fuel and Energy Complex in the XXI Century" taking into account the increasing role of the civil society in the solution of the global challenges facing the world community and striving to contribute to the development of international energy cooperation, accept this Mutual Declaration.

We held our Forum under the motto "energy dialogue and collaboration for stability and development" and discussed possible ways of forming new co-operative strategy of modernization of institutional and legal base of global energy security.

We are sure that the main systematic reason of the global financial crisis was the imperfection of the world order. The existing system of international legal mechanisms and institutes designed to regulate the cooperation between states, private businesses and nongovernmental organizations and positively influence on the processes in global economy, was proved to be imperfect and unable to counteract to dangerous political, financial and economic trends and events.

We are deeply concerned that the global energy market of today is not protected from the speculativeness, instability and system risks that could seriously damage global economic development. The development of global energy is still suppressed by geopolitical competitiveness and political conflicts worldwide. These conflicts can be removed neither by an individual country nor through bilateral relations.

As we see, these conflicts are caused by importing and exporting countries cooperating in the global market according to a bipolar model and targeting at different strategic objects being unable to strike a compromise in strategy and achieve a balance of interests. They need a balance to provide each other with a stable and long-term demand as well as the access to distribution infrastructure on the one hand, and with diversified supplies on the other.

We believe that transiting of energy sources is the risk zone in terms of supply stability and safety the role of which is definitely high today. Besides, existing international agreements and standards do not provide clear mechanisms to avoid transit emergencies and settle transit disputes.

We also think that the pricing system on primary energy sources shall be based on the fundamental development parameters of the global market of energy sources, and not on the speculative tendencies. That would encourage an adequate perception of the market by real investors. The long-term price stability and predictability are the key factors of the investment attractiveness of the energy projects all over the world.

We are unanimous in our opinion that the crucial condition of energy development is striking a fair and long-term balance of interests of all the participants of global energy cooperation on the basis of energy security and the Plan of Actions adopted by the G8 Saint Petersburg Summit in July 2006.

We call for the global energy leaders to be responsible, active and initiative in finding strategic compromises and providing conditions to work out a mutually approved program of actions to renew the legal base of global energy cooperation as a key factor of the new architecture of global energy security.

In this context we welcome the initiative of the President of the Russian Federation Dmitriy Medvedev who proposed to develop an international legal document which will regulate the global energy cooperation and reflect the interests of the leading players of the energy market.

The "Conceptual Approach to a New Legal Base of the International Cooperation in the Energy Sphere" opens new ways for development of international energy cooperation.

We believe that the top-priority task to achieve the goals voiced by the Russian Government can be the selection of an optimal international platform to consider the proposals of Russia and other participants of the global energy market regarding new international legal tools and coordination of the process of modernization of institutional and legal systems of the global energy.

We welcome the efforts of the states, business and international institutions in the struggle against climate global changing. Climate turns to be a key subject in the international agenda.

We hope that in spite of controversial results of the Copenhagen climate change conference new summits will work out a platform for achieving a strategic compromise between developed and developing countries which will serve as a basis for the future international agreement on the actions against the global warming. Development of energy saving technologies and alternative renewable energy sources will help to resolve this problem.

We are sure that the Moscow International Energy Forum “Russian Fuel and Energy Complex in the XXI century” has become a productive platform to generate new ideas and approaches, to develop contacts between experts, representatives of business and energy community all over the world. The Forum gave us a setting for open discussion and wide exchange of advanced experience, contributed to the reinforcement of mutual understanding and confidence and yielded positive results.

We are sure that this Forum will positively influence the future development of international energy cooperation and will contribute to uniting the efforts of different countries to counteract to global energy challenges.

ORGANIZING COMMITTEE

Russia, 119019, Moscow, PO Box 76
tel./fax: +7 (495) 664-24-18
tek@iprr.ru
www.iprr.ru