Russian utility stocks hold potential to fill in foreign investors’ investment portfolios

Simon A. Birg, Chief Investment Strategist of FINAM Investment Company

Given the increasing risks of economic slowdown in leading major industrialized nations and lower expectations from stock market investments in developed nations, EM stock markets, including Russia, have become more attractive in the eyes of portfolio investors.

An analysis of 2007 economic forecasts shows that in the coming year the Russian Federation will experience an extremely positive internal macroeconomic environment, which should be conducive to the expansion of its stock market. Despite the fact that price performance of Russian power companies’ stocks to a greater extent reflects the dynamics of the entire stock market, the power industry has a lot of specific features related to the ongoing reforms which are producing an impact on the investment appeal of Russian power companies.

Recent years the Russian power industry underwent substantial changes, thus laying the groundwork for qualitative changes on the domestic power market. The reform process aims to boost investment appeal of Russian energy assets. In spite of the fact that the power sector is exposed to additional risks associated with ongoing reforms, Russian power companies deserve special attention of investors, as in-depth analysis makes it possible to identify additional factors for growth in power shares and, consequently, profits in energy stocks. In this article we shall review factors that determine investors’ interest in making portfolio investments in Russian power shares. At the initial stage of the establishment of privately-owned utilities companies, demand for shares of these companies was based on strategic investors’ aspiration to gain monopolistic benefits related to management of power assets and to minimize risks associated with uncertainty in the course of reforms. Apart from strategic investors, demand of portfolio investors is largely driven by such factors as market capitalization and liquidity of power concerns’ shares and anticipated return of investments in these stocks.

Of the Western investment funds that invest financial resources in Russian utilities companies, the overwhelming majority are hedge funds and high-risk equity funds. The increasing investment attractiveness of Russia paved the way for Western pension and mutual funds, a new category of investors, to enter the Russian stock market. According to their investment statements, the above funds may channel their funds into countries that hold investment grade ratings from at least two international rating agencies. Since October 2003 – when Moody’s assigned the investment grade credit rating to Russia, national stock index, RTS went up almost 5 times the level of the pre-investment-grade period. Nowadays, as an attractive component of BRIC countries, Russia could theoretically attract sizeable portfolio investments from conservative investment funds. See From quantity, p. 3

Mutual Interests in the Field of Energy

Boris Ayuev: ‘The System Operator first of all applies the market mechanism for the power system control’

The System Operator became the first target structure company created as a result of RAO UESR reform. And it’s five years now since the company began to administer the Russian Unified Power System. Since January 1st, 2008 the company will refer to as the System Operator for the Unified Power System Joint-stock Company (in abbreviated form - УПС). Chairman of Board of the System Operator Mr. Boris Ayuev will tell us about the principles of the company work and prospects of synchronous interconnection of the power systems of Russia, CIS and Europe.

Mr. Ayuev, will you name us the functions the System Operator will carry out after RAO UESR re-structuring is over?
— The basic functions of the System Operator are established by the applicable legislation of the Russian Federation. First of all, I mean power system control and maintenance of its reliable performance and development. Also, such System Operator’s tasks as providing reliable functioning of power systems and their development are no less important for the field.

After RAO UESR restructuring is finished, the System Operator will get a number of key functions including monitoring generation and network facilities and the progress of implementing investment projects in the electric power industry. Fulfilling these functions, we can make the power system more reliable in its current condition and provide the most effective development and proper operation of the Russian power system in all planning horizons. These functions have already been legally assigned to the System Operator. See From quantity, p. 4
NOREM’s First Year in Russia

It has been more than a year since the launch of the new wholesale market of electric power and capacity (NOREM). Fyodor Opadchy, Director of Development and Support of Markets JSC “SO –TDU UES” will tell about the fulfillment of hopes that were based on the main principles of NOREM and how much the new organizational model of the market promoted improved work reliability of the Unified Energy System of Russia.

"It is possible to say, that in September of last year, the energy sector entered a new era of its development. To ensure the successful operation of NOREM, the System Operator has resolved a considerable list of problems. We have also developed and introduced new technologies of planning methods, powerful hardware-software systems, and an information exchange system with Market and Observation Unit (ATS) ‘automatic telephone exchange’ participants. The main result from a technological standpoint was the successful introduction of the new market. With the NOREM launch, investors were able to clearly see the risks and results of their investments in the power sector facilities. This made investments into the sector more attractive, especially in power producing companies. The hope invested in NOREM paid off. According to new rules, the free trade sector was reformed into the “Day-Ahead Market”, which together with already existing market-balancing, allowed more flexibility for electric power sellers and buyers to make changes in supply and demand.

If in previous model of the wholesale market there were two sectors, one which sold electric power according to regulated prices, and the other according to free prices; now, in the new model of wholesale market there is no division of participants into regulated and free trade sectors: all buyers are participants of the unified electric power and capacity wholesale market. Today, access to the wholesale market, planning regulations in production and consumption of electric energy, and financial consequences of each deviation of actual volume from the scheduled ones are clear and understood by all market participants. These dramatic changes associated with the NOREM launch, substantially improved the reliability of Unified Energy System operations which performs one of the major tasks of the System Operator. With the NOREM launch was founded a totally unique monitoring system of the condition of the generating equipment where all levels of dispatching management Regional Dispatching Office, ODE, Central Dispatch Administration are involved.

Today the condition of each generator at each power plant, working in structure of the Integrated Power System, energy that it produces, its participation in primary regulation of frequency and voltage is registered remotely. At obvious increase in new market conditions, the System Operator role and performance has not changed. Each day we provide reliable operations of the Unified Energy System of Russia. However with the introduction of NOREM, the System Operator created conditions for more precise and responsible observance of the market rules by its all participants: from administrative command principles of management in relations with electric power sellers and buyers, we moved to the market methods. Additionally, in order to form the optimum methods for the Day-Ahead it requires precise and trustworthy information that the System Operator has. He makes the long-term forecast of consumption, makes actualization of perspective of the analytic Unified Energy System model for years ahead and defines the demanded technical parameters of generation.

The role of the System operator in further NOREM development is very important because the process of the final target model of country power sector formation is not completed yet. In the near future two more markets - the power market and the system services market will be launched. The capacity market is planned to be launched in the short-term until the end of this year; but, in the long-term in 2008, it will provide an opportunity to meet the demand for the electric power in particular region for the next 30 years.

As soon as it is launched, then investors will receive more signals for investments into power reliability of Unified Energy System sector development, but national economy as well. The System Operator, who is substantially responsible for the complete power supply system development, is the person who is highly interested in launching of the energy market and is completely ready for it. The system services market is necessary for reliable operations of the Unified Energy System in Russia and maintenance of appropriate electric power quality.

All these innovations are designed to physically and economically optimize relationships between various participants of the productions and current consumption of energy. Today the tools are defined for determining actual supply and demand of electricity and power. In terms of strengthening the market stability the development of legal framework will be performed and the System Operator will play an active role in this process. Today, all relations of the System Operator with the market subjects are well-regulated at the level of governmental orders of the Russian Federation that define the rules of operation-dispatching management in power industry.

First of all, we talked about the wholesale market rules approved by Supervisory Council Observation Unit “Automatic Telephone Exchange” (ATS), which are the appendices to the Treaty of Accession related to the wholesale market dispatching system. Certainly, the regulatory framework of the wholesale market demands adjustments. It is the normal working process which is carried out in order to further development and improve overall market performance. It is necessary to understand that when we speak about “entering the energy market” and “entering the market” system, we mean not only innovations in technologies and legislation, but also very significant changes in relations between wholesale market participants.

Without the rulings from the Russian Federation government that actual realization of similar market mechanisms is impossible. The development and acceptance of the appropriate regulatory documentation is also required from the governmental organizations and wholesale market infrastructural organization."

EuroSibEnergo: Strategic Assets in Reliable Hands!

The company is also engaged in the organization of ensuring energy security and the efficiency of energy producing companies. One local area for EuroSibEnergo is conducting detailed analysis of macroeconomic, long-range consequences of energy sector reformation for Russia as a whole and for other regions.

EuroSibEnergo entered the Russian energy industry at the time of structural changes in the sector, its activities are associated with the emergence of energy reforms. Within a very short period, EuroSibEnergo has not only earned the credibility as one of the most efficient and professional teams in the power industry, but has significantly contributed to the successful realization of the changes taking place in Russian energy sector.

Over the years all companies operating under the control of EuroSibEnergo have substantially improved their industrial performance, implemented programs to improve production efficiency and management, and implemented large-scale cost-reduction programs. JSC Irkutskenergo, JSC Krasnoyarsk HPP, Group of Volgaenergo companies actively modernize and replace power facilities. The company also takes part in sector reforms, all steps in this direction are performed strictly according to approved energy legislation.

EuroSibEnergo already has established traditions. One of these is the organization of annual International Energy Forums where anyone can participate and get general and distinct answers to the questions related to the course of reforms in the energy sector for Russia and the leading world powers.

EuroSibEnergo continues to develop energy reform and power supply for its activities. EuroSibEnergo-Engineering LLC and “MAREM+”; created for these purposes, are actively conducting fruitful work.

JSC Irkutskenergo

Irkutsk Joint-Stock Company of Energy and Power Industry was established in accordance to the decree of the President of the Russian Federation from July 1st, 1992 No.721 “On measures to ensure the system, not only of the owned enterprises and voluntary associations of the state-owned enterprises into joint-stock companies”, 40 % of the shares of JSC Irkutskenergo belong to the state.

Today, the highly-efficient power generation base of Irkutskenergo includes various hydro-electric and thermal power plants: 3 hydraulic power plants, 9 thermal power plants, electricity transmission networks (including backbone transmission networks with voltage of 500 KV) and heat transmission networks.

JSC Krasnoyarsk GES Hydropower Station

JSC Krasnoyarsk GES Hydropower Station is the largest Siberia power enterprise with average long-term capacity of 18 billion MW per year which satisfies more than 50 % of the electrical energy needs of Krasnoyarsk region. On the established capacity Krasnoyarsk HPP is among the top ten largest hydroelectric power stations of the world and is the second in Russia (600 MW). The number of units at the plant is 12 (008 MW each).

The Irkutskenergo Group

The “Volgaenergo” Companies Group was formed on the basis of Thermal Power Plant LLC "GASP”. The group includes three companies: Autozavodskaya TPP LLC; Zavodskiy Seti LLC, VolgenergoSbyt SRTC. The group’s work is carried out under the management of EuroSibEnergo LLC. Marem+ Joint-Stock Company

Marem+ Joint-Stock Company is one of the largest independent organizations in the power industry in Russia. The company has the status of energy saving organization in the wholesale market of the power energy.

EuroSibEnergo-Engineering LLC

EuroSibEnergo-Engineering LLC was founded in 2002. The spectrum of EuroSibEnergo-Engineering LLC services focuses on reconstruction and modernization of industrial equipment, optimization of manufacture processes, consumption and transmission of energy, optimization of management processes at power companies, and providing other services in the energy sector.
Investments In Energy

Investments Into the Future of the Voronezh Region

By Simon A. Birg, Chief Investment Strategist of FINAM Investment Company

November 11, 2007 – November 15, 2007

The changes taking place in the energy sector in Russia have breathed new life into that industry. It is visible on a national scale and at the regional level. The development plan of the power energy sector is aptly called “Goelro-2” (Russia Electrification Strategy for 2008-2020). Its main objective is the development strategy of the industry for the next three decades. Adopted in 2008, it is an unprecedented investment program, representing the basis of the power industry. In particular, the government is to ensure the efficient management of the power industry. In this respect, it is worth noting that investment policies have been established in the sector to provide high-quality transmission services.

In Voronezh region the distribution network company JSC Voronezhenergo, provides the transmission of electricity to the region. The company structure includes four regional power grids: Voronezh, Kalachayevsk, Liskinsk, and the Northern regional power grids. In each of the 32 regional districts there are also JSC Voronezhenergo regional power grids that provide reliable transmission of electricity in the region and provide for the repair and maintenance of power lines and transmission equipment. All of these branches have regional power grids, and the repair and production depots that form JSC Voronezhenergo. The extent of the Company’s power grids exceeds 50,000 km. Personnel totals approximately 3,500 people.

In particular, new construction is planned in the Khabovsk, Povosinsk, Lisinsk, and the modernization of the power grids will take place both in Voronezh and other parts of the region.

Investment programs for the entire period of The Agreement total more than 7.5 billion rubles. In addition to the renovation and construction of new facilities, among obligations of JSC Voronezhenergo there is a design for the perspective development of power grids in the Voronezh region 35 kV substations and more until 2015. And Voronezh Regional Administration, as one of the subscribed parties, undertakes to assist in the realization of the energy investment programs throughout the region. In particular, they are to provide district land for the construction of engineering within the scope of infrastructure installation, stipulated in the investment programs, and to include budgetary funds through regionally addressed program developments in the volume necessary for the realization of technological connection to networks of JSC Voronezhenergo.

Other key work of JSC Voronezhenergo is client satisfaction. Currently, the client is the main focus of any business and he has the right to demand high-quality service. Sales avoid possible issues arising during the signing the contracts, the accuracy of reading electricity usage meters, sudden cut-off of power lines, and other problems related to transmission, people should know where to direct their questions and where to receive accurate answers. Therefore, JSC Voronezhenergo has created four customer service centers in Voronezh, Kalach, Liski, and Borisogleb.

The customer service center is an unified office where everyone can resolve issues related to new service connection contract agreements with JSC Voronezhenergo grids, installation, sealing, repair and check of the electric usage meter, agreement of the contract for power service, to receive representative assistance. It is possible submit information on electricity on an automated Russian number: 8-800-50-50-115.

We would like to note that since the beginning of 2007 up to the present time this article was written, the RTS index, the benchmark of the Russian stock market, posted quite modest results, adding on a mere 10.5%, one of the lowest figures among emerging markets. At the same time, it is important to point out that healthy gains of 23%. Meanwhile the results achieved are in line with the changes in other emerging markets. For instance, MSCI Emerging Markets Asia index has increased by 36% on the emerging markets Latin America – by 47%. The biggest gainer in 2007 was China its stock index Shanghai Composite.

In recent months, the main changes in the Russian utility sector that are capable of having a substantial impact on the performance of domestic energy entities’ shares are associated with the restructuring of power companies. The strong reforms in the power sector heighten investors’ risks and, coupled with high country risks, cap long-term returns. For this reason, many foreign portfolio investments are of shorter-term and speculative nature.

The interest of foreign portfolio investors is limited by the reform process, currently under way in the Russian power sector, not only due to rising uncertainty and associated risks, but also owing to equity funds’ investment policies set out in their investment statements and legislative barriers related to the nature of investments, such as the number of shares in free float, market capitalization of a company, etc. These limitations have taken a heavy toll on the investment appeal of restructured companies. Since the beginning of the reorganization process, almost all of 72 regional energies, which are owned by UES, were restructured. Such breakup depressed stock liquidity of the newly established regional energies, which in turn led to a critical change in the fact that shares of smaller companies, created on the basis of regional energies, failed to become part of major indices, while they are the ones that have the right to demand high-quality service.

Restructuring of the Russian utility industry has led to a critical change in the sector’s structure. For example, three years ago the main segment in terms of market capitalization was that representing unbundled regional energies, while now they account for only 3% of the aggregate market capitalization of Russian energy concerns. All in all, in date 65 regional energy systems have been restructured and more than 260 new companies have been established, almost all WGCs and TGCs have been established and measures are in progress to form the final structure of the remaining segments of the energy industry.

UES is currently still a shareholder of all these businesses and the company consists of concerns involved in electric power generation, transmission, distribution and sales. After reform all these areas of businesses will be carried out by new companies which are spun off from the energy holding:

- electricity generation – by wholesale generating companies (WGCs) and territorial generating companies (TGCs);
- electric power will be transmitted by Federal Grid Company (FGC);
- electric power will be sold by sales companies that are spun off from regional areas of the course of restructuring regional energy systems.

All goals are achieved, the utilities sector is expected to turn from a brake of economic growth into an industry providing fundamental for sustainable growth. We are of the opinion that the Russian utility sector holds strong growth potential in terms of capitalization, while current restructuring will result in the revaluation of energy assets that make up UES. As present, UES’ ownership structure consists of the following businesses:

1. 8 regional energies, 2. 24 hydropower generating concerns, 3. 3.8 million generating businesses within 6 WGCs,
4. 70 heat generating businesses within 14 TGCs, 5. 69 distribution grids, 6. 54 sales companies,
7. 70 transmission grid companies, 8. 77 other concerns spun off from regional energies (repair, service units, etc.).

We believe that the rise is market cap of Russian power stocks is underpinned by fundamentals. We recommend buying 53% of all the 275 utilities stocks in the Russian utilities universe. Our recommendations we present in the picture below.

In the long term, this rise will be determined largely by the interest of international portfolio and strategic investors. In our opinion, the major factors behind investment appeal of Russian power companies are systematic implementation of all steps of the restructuring process, adherence to corporate governance practices in the industry and increasing efficiency of power company operations.

Undoubtedly, macroeconomic and political considerations and the situation in Russia will also go a long way towards determining the investment appeal of domestic utility companies. We maintain that high volatility of power stocks will persist due to increased interest of arbitrage players in utilities assets. Before the decision is adopted on the precise procedure for distributing stakes in new industry entities, spun off from UES, and the mechanisms for increasing holdings of minority shareholders in the power industry assets, we do not expect to see a qualitative increase foreign investors’ demand for power stocks.
Mutual Interests in the Field of Energy

(Continued from Page 1)

- How does the market influence the controllability of the power industry supply system functioning reliability?

The main task of the independent System Operator is one of the key steps to improve reliability. Today the Russian power industry features an effective system of dispatch management, precise distribution of functions and spheres of responsibility. The operative interaction between all actors of the power industry is adjusted: among them are power plants, networks, market organizations, as well as large consumers.

Thus the System Operator uses mostly market mechanisms to control the power supply system work. Today it is the only effective way as in liberal economy command methods are least effective. Certainly, the System Operator has the right to apply administrative levers in the certain situations, but in very complicated ones, such as system malfunctioning. There are strict regulations concerning methods. In daily work the methods of financial stimulation are more acceptable. And the fact that such methods had been used at all is a logical step, but the approach more effectively used is one of the important results of the System Operator’s activity.

Another point is that the reliability of the power grid does not lie in the least depend on the investments. Investments are the construction of new facilities, upgrading of existing ones. There are no investments without free market, there is no market without competition, and there is no competition without separation of activities. The separation of the business types is a platform for the development of the industry. Thanks to that fact, it is now possible in the power system to compete and earn money – to generate profit.

If we want to make this new market grow, become stronger, we need time, certain conditions and serious work. The System Operator provides those conditions with its work: equal competitive opportunities, transparency, objectivity, precise adherence to the established procedures. Indeed, these procedures enshrined in great detail a collaboration in the electricity market covers about 700 pages. We restructured all business processes of the traditional dispatching control. Our aim was to maintain a reliable power system work within the liberal conditions.

- Why does the System Operator remain the state-owned company? Maybe it would be better to allocate some of its functions to the private companies?

The System Operator fulfills the function of the power management for the stability and development of the country’s economy and its security, which would be a wrong way. The main task is to ensure reliable performance of Russian UPS. Any commercial structure works for profit, not any social goal. But for an organization that conducts technological supervision over the power grid states, ensures its reliability and systemic development, a profit can not be an end in itself.

The state wants to be sure that those global goals are accelerated, that the short-term profit of the individual companies will always come first. The System Operator is not subject to the economic interests of the competition and, legally, is restricted from power trading. This helps effectively work on the necessary steps aimed at ensuring the power system reliability as well as the balance of interests of all industry participants. Due to the fact that the System Operator is independent from private capital, the company makes and brings in to the governmental institutions reasonable suggestions concerning country’s power system prospective planning. A capacity market is one of the effective mechanisms ensuring the balanced development of RAO UESR. We plan to introduce it quite soon. Since its launch it will be possible to stimulate economic development and operation of power generation capacity. The specialties of the RAO UESR Industrial Control have always been in public service. Today, we are working in favor of a new, economically driven state, and now we know how to meet challenges we face in market environment.

It’s worth pointing out that the highest governmental officials were well aware of the role and importance of the System Operator. Recently, it was decided that until the termination of the re-structuring process of RAO UESR the State’s share in the charter capital of the S.O. should be increased to 100 per cent. I recall that earlier it was 75 per cent plus one share.

- At what stage is the stock transfer now?

Today, 70 per cent of the System Operator shares are owned by RAO UESR, 30 per cent belong to the State through the Rosimushchestvo organization. Incidentally, in the process, we were given the shares of one business community as well as politicians. Obviously, the latter fact is very important for the power system’s unique status, which will affect interests of the majority of the countries of the continent. As a result the world’s largest interconnection forming total capacity of over 930 GW and covering 12 time zones may be established. A research concerning the features of the project was initiated in 2005.

The significance of the incorporated power system is obvious. First, the electrical connection is necessary for electric power trading. The development of the trade relations meets interests of all countries all over the continent. The electricity import from the CIS countries will serve the EU energy supply diversification strategy. Though the CIS countries have been showing strong growth in power consumption for several recent years, they still obtain some spare capacity available for export.

For Russia switching to joint operation with the European power systems means integration into the European market and the possibility to provide the national power supply companies with additional markets. Russia enjoys key role in the integration process. It is determined by several factors among which are vast primary energy resources, developed energy infrastructure, historical ties with neighboring countries, and common interests in major continental power project. One of the main tasks determined by the Russian Energy strategy for the period until 2050 is to create integrated power infrastructure in the European and Asian neighboring countries.

- And how may this influence the former Soviet republics?

There is no doubt that Ukraine has special interests in such a power system interconnection because it is geographically located at the junction of two energy systems and the main transmission lines go through its territory.

Baltic States are members of the EU, but due to historical and geographical reasons their energy systems are still working within the frameworks of the Eastern synchronous zone. And the power systems interconnection is their only real opportunity to plug in to the European power systems. Russia is unable to provide the national power supply. Russia’s participation in the power system is obvious. First, the electrical connection is necessary for electric power trading. The development of the trade relations meets interests of all countries all over the continent. The advantages of the interconnection are obvious.

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NIIPT became the affiliate of JSC. The deal on acquiring 100% of registered stock of the SO-CDA UESR refersing shares of the High Voltage Russian Prime-Minister Viktor.

Brains of power industry

and viability of Russia’s UES, developing the leading Russian electric power research resources production and export. Most gaps in technological progress particularly investments into the energy field, bridging raw material base restoration, attracting used. To this end, however, a number of world explored oil reserves and about on fifth world natural gas reserves, from 6 to 13% of Indeed, our country has over a quarter of all South-Asian countries.

For example, in new fields. Supplier will have to strengthen aggressive competition among consumers of hydrocarbons will not be replaced or considerably pushed out by alternative energy sources. This will contribute to the more competitive competition among consumers of energy resources and increase in investments in new fields. Supplier will have to strengthen their cooperation. At the same time, the energy intensity of the global economy will decrease and more attention will be paid to renewable and alternative energy sources.

Agreements on the dressing, local processes are going on. For example, part of energy flaws is redirected from the West to the East towards growing economies of South-Eastern countries.

What role do you think will Russian energy industry play in the world now and will play in the future?

Russia has to consider all these factors. Indeed, our country has over a quarter of all world natural gas reserves, from 6 to 13% of world explored oil reserves and about on fifth of explored coal reserves. Russia has a great energy potential that should be efficiently used.

First and foremost, local processes are going on. For example, part of energy flaws is redirected from the West to the East towards growing economies of South-Eastern countries.

What role do you think will Russian energy industry play in the world now and will play in the future?

Third, the burnt associated oil gas would allow covering the deficit of electric power of it was used to produce. Notably, the construction of ‘large’ power plants is not renewable, as there is too little free space between them and the payback time of such projects is long.

Fourth, small sized power generation is one of the ways to reduce risks industrial emergencies run due to the infrastructure liberalization. Taking into account the abovementioned reasons, it is obvious that the small sized energy should not be considered as a kind of promising technology overshadowed by the ‘big’ power industry. The small sized energy may and must become a backbone of the Russian power industry in the future.

What role do you think will Russian energy industry playing in the world now and will play in the future?

Russia is one of the chief players on the global energy market as it has enormous natural resources. I think it will keep on playing this role increasingly integrating in the European Energy Area. Russia may become a leader in this sphere. In addition, geostrategic reasons and unique experience in boring extra-deep holes can be our advantage in producing such an alternative fuel as terrestrial heat.

What role do you think will Russian energy industry play in the world now and will play in the future?

What main trends do you think will dominate the world energy industry in the future?

The energy industry will remain one of main factors determining the economic development of all countries in the world in the foreseeable future. The main global energy trend now is the increasing consumption of hydrocarbons given that oil and gas reserves may lower in the coming 10-15 years. It is obvious that hydrocarbons will not be replaced or considerably pushed out by alternative energy sources. This will contribute to the more competitive competition among consumers of energy resources and increase in investments in new fields. Supplier will have to strengthen their cooperation. At the same time, the energy intensity of the global economy will decrease and more attention will be paid to renewable and alternative energy sources.

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Established in August 2005 while restructuring RAO United Energy Systems (UES), TGC-11 is presently an enterprise successful in completing all the operational missions and capable of attracting large-scale investment flows to upgrade regional energy systems. Bounding generation facilities of the Omsk and Tomsk Regions, OJSC TGC-11 is considered one of the Siberia-largest heat power companies. The company manages 5 heat power plants and 2 boiler plants. OJSC TGC-11’s overall electric capacity totals 2,026 megawatt (MW), heat capacity – 8,513 Gcal/h, and the length of heating networks exceeds 800 km. The company’s plants produce 60% of electric energy and 75% of heat power in the Omsk Region and 45% of electric energy and 90% of heat power in the Tomsk Region. OJSC TGC-11 paid taxes of over RUR 1.3 billion last year.

TGC-11 is currently launching a new stage of development. The company has carried out a shift to the common share on November 1, 2007, which allowed integrating regional divisions and establishing new ones to attract investments necessary for large-scale upgrade of the energy infrastructure. Its principle directions are as follows: to mount new generating sources, to increase output of heat and electric power, reconstruct operating plants, upgrade and refresh equipment by advanced technology and develop heating networks. Demand for heat and electric power is constantly increasing: 2006 registered a 5% jump of electric energy consumption in the Omsk Region and a 4% rise in the Tomsk Region. The long-term forecast indicates the trend to persist. Meeting the demand by economy the company boosts development of the regions considerably.

OJSC RAO UES of Russia Board of Directors approved the OJSC TGC-11 investment program on October 26, 2007. The Omsk region has the two priority lines of investment program – to reconstruct and rebuild the TETs-3 (Russian acronym for Heat Power Plant No.3) and completing construction of TETs-6. The list’s share of assets necessary for carrying out of the above projects is expected to feed the company owing to IPO and an additional emission estimated at RUR 8 billion. The TETs-3 equipment in Omsk will undergo gradual upgrade by the advanced and highly efficient steam-and-gas units (combined-cycle plants) within the coming years. The first stage is to mount 2 combined-cycle plants both totaling 120 MW and 96.5 Gcal. The will enter operation in 2011. The second stage is projected to launch three power plants summing up 90 MW and 207 Gcal. The work will be complete by 2015.

The TETs-6 first power unit in Omisk, designed to be the most advanced and high-tech coal-fueled power plant behind the Urals, generating 285-335 MW and 385 Gcal, will enter service in 2012. The plant will operate the above-critical parameters of steam. Full utilization of ash and slag refuse is designed to serve in producing building materials, which is part of TGC-11’s environment protection program. The company intends to utilize ash and slag-dumps completely at the operating coal power plants, too. Two facilities are expected to process 260,000 t of ash and slag annually.

As a result of 7 months of 2007 coking coal extraction volume in coal sector increased by 8.7% as against the same period of the previous year (from 37.7 Mt in 2006 to 41.0 Mt in 2007). If coal market condition are good and there are no problems with transportation, such an increase growth rate can hold good over the whole year.

Coal index grew approximately by 15% during recent 9 months and virtually the whole growth took place in the third quarter of 2007. Inventories’ interest in the sector companies’ shares is evident – coal prices rise we can expect high income following the results of the year. End index anticipation is 20%. Domestic coal allocation volume has also increased by 9.9% for 3 quarters in 2007. Main consumers are ferrous metallurgy and chemical-recovery emergencies. Coking coal concentrate price began rising in the first and second quarter of 2007 and continued this trend in the third quarter. In comparison with 2006 average growth rate made up 7.10% and it can grow more, because of an increase in metallurgy and chemical-recovery emergencies demand. Thermal coal prices at foreign markets were up by 5% on an average as compared to the year of 2006. The main reason is the problem regarding transportation of Australian coal to foreign markets. If the situation doesn’t change, coal prices will continue rising.

Coking coal production volume in Russia made up 19.82 Mt tons as a result of 6 months. That was 5% more than for the similar period of the previous year. Russian coking and semicoke export volume in January-July of 2007 in comparison with the similar period of 2006 was multiplied by 2.3 times rising from 734.7 thousand tons to 1,841 Mt tons. Principal consumer of Russian coke (and coking coal) is Ukraine having a strong shortage of these raw materials. The demand will have been high until the end of the year, so Russian companies have a good chance to collect high export revenue.

Sakha Republic (Yakutia) coal assets auction sale became an important event in the sector. It was only one lot – 68.86% of “ElgaUgol” and 78% minus one vote of “YakutUgol” (“Mechel” already has 25% plus one vote). This lot also included 320 km of an unfinished Ulak-Elga railroad. Because of an absence of AnzorMetall - a principal rival to Mechel, the latter won the auction easily. Starting price: $25.6 million. 88% of the sale profit will be paid to the state and publicity. When the sector’s self-adjustable companies start operating those worried about the power industry future will receive an exact signal signifying that after RAO ceases to exist management of the key live-providing branch won’t suffer. Further more, I’m sure there’s no lack of mechanisms of management will open new horizons for the energy sector, ensure exact links and effective coordination of all participants in the market. Mission of the Siberian Power Association we see in such a way.2
Volga IDC OJSC

We present one of Russia's promising energy companies

By Volga Bachtyurov

The VOLGA REGIONAL DISTRIBUTION COMPANY OPEN JOINT STOCK COMPANY WAS REGISTERED IN THE CITY OF SARATOV ON JUNE 29, 2007. The new company comprised the VOLZHSKAYA IDC (the Saratov, Samara and Ulyanovsk regions), MORDOVENERGO, ORENBURGENERGO, PENZAENERGO and CHUVASHENERGO. The Volga IDC transmits electric power for almost the whole Middle Volga and Orenburg regions.

The Volga IDC operates in 7 regions with their total area equaling 412,000 sq km and a population of over 13 million. The total effective power output of all companies entering the Volga IDC reached 60 billion kWh. The total length of its power transmission lines is over 220,000 km.

The company's management structure has been already created. The Volga IDC received control over the Volzhskaya IDC, Mordovenergo, Orenburgenergo, Penzaenergo and Chuvashenergo OJSCs. A system decision was taken and implemented to subdue all regional network companies to the Volga IDC by vesting the latter with a sole executive authority. Envisaged was to done to take an inventory of DC and IDCs' rights and financial obligations as of June 30, 2007.

General meetings of shareholders of the Volzhskaya IDC, Mordovenergo, Orenburgenergo, Penzaenergo and Chuvashenergo were held. It was decided how to integrate these companies into the Volga IDC. And it is planned to finish forming the Volga IDC united operation company with regional companies as its branches by April 2008.

The operating company allows raising management efficiency and managers' responsibility for all production and economic resources. The Volga IDC has good managerial experience as the Volzhskaya IDC. It has already passed the forming stage, fully adjusted corporate procedures and methods of interaction with regions.

When the restructuring is over, shares of regional network companies will be converted into shares of the Volga IDC. This is a serious step. The Volga IDC transmits electric power for almost the whole Middle Volga and Orenburg regions.

The Volga IDC reaches the primary source, Russia has one of the highest potentials for its development. The problem is how to minimize electric power losses when transferring it from Siberian hydropower plants to the central part of Russia.

Other kinds of power generation will be developed, too. I reckon wind power generation will gain momentum by 2035. Solar and tidal generation will be developed in the local scale. By the way, the tidal power plant started its operation in the Kola Peninsula this year.

What role do you think will Russian energy industry is playing in the world now and will play in the future?

- I am certain that the major development will be the diversification of the energy business sector. Diversification will help the largest energy holdings to make their business more flexible and to remove a considerable part of the risks that emerge in the modern world energy sector.

- Without a doubt, energy plays one of the vital roles both today and tomorrow. It has to do first of all with both a great resource potential and the particular geographical position of Russia.

What are possible sources of energy in Russia that are used insufficiently and could become tomorrow one of the cornerstones of the power sector development?

- The possible sources of energy are nuclear power and hydropower.
Russian electric-power industry reform

Saakyan Yury Zavenovich
Director General
Institute of Natural Monopolies Research

Electric power industry deregulation is a difficult natural monopolies reform procedure. In view of specific features of the industry which has all production, transmission and consumption processes inseparable, its reform process is virtually an economic way of separating a whole physical process. Russia imported an electric power industry reform ideology from the western community, which had already begun a reforming process. That is why the reform model in Russia is similar to the ones in Great Britain, USA, Australia and other “western” countries. Organizational structure of Russian electric power industry before reforming and its target model are on Fig. 1 and Fig. 2 respectively. Nevertheless, the

initial conditions, background and aims of the reform in Russia were fundamentally different so that predetermined an especial course for Russia. The first distinguishing feature of Russian electric power industry reform model in comparison with western ones is the initial structure of the sector. In as big countries as Russia (e.g. USA, Australia, Canada), electric power industry was historically built as a local monopoly. It means there were no state-integrated energy monopoly and no integrated power supply system as a consequence. Both state and private companies provided energy for fixed areas (e.g. approximately 3000 companies of that kind in the United States). Like many countries with state-planned economy USSR developed its electric power sector using a set of large-scale integrating procedures (from separate regional-level power supply systems to integrated regional systems and further to a completely integrated state power supply system). Such structure determined specific features of its future performance within the frame of vertically integrated model (state monopoly). The process of integration led to the numerous cross-system ties even between distant regions, so the result was the largest in the world power supply system which even allowed using an energy-consumption peak displacement effect in different time-zones. Such an organizational model of the sector ensured power supply reliability and cost minimization due to savings because of the system scale. Local monopoly model in power supply sector possesses fewer positive effects, than an integrated state monopoly does. First of all, cross-system ties insufficiency makes it possible to control local power generation and distribution from a central point, and an energy-consumption peak displacement effect can be achieved. Local monopolies model became the reason for the large-scale effect disappear. That’s why countries with local-monopoly shaped power supply industry set a goal to switch over to market relations in the sector by integrating local markets and increasing power-flow between regional power supply systems. In case of reforming an integrated state monopoly system disintegration and loss of advantages, that a local monopoly did not possess, are unavoidable. In other words, a large scale effect increased can be seen when switching from a local monopoly over to an integrated market, and, otherwise, the effect is lost when reforming an integrated state company. Liberalization of the sector initially built as a local monopoly in most cases is of higher effectiveness in comparison with an integrated state monopoly reforming process. Therefore countries with an integrated state monopoly (e.g. France) oppose power supply industry liberalization. Russia is the first country in the world to experience such market is able to recover losses regarding to the large-scale effect disappear. The second feature of Russian power supply industry reform is its aims and their transformation. According to the Russian Federation Government Resolution “On Restructuring the Electric Power Industry of the Russian Federation” the aims of the reform are: “priorities of the economy and social sphere, increase of stable performance and development; energy production and consumption effectiveness increase; reliable and effective power supply for consumers; cost-effective satisfaction of a solvent demand for electric and thermal power in the short and long term.” Thus the reform had its aim to successfully perform as a sector of national economy. And the reform itself should have become a condition that the sector would perform this function. The reason for such an approach was a crisis in Russian power supply industry in the 1990’s. After the collapse of USSR a demand for electricity decreased by 30% and under such circumstances the process of capacities renovation almost stopped. Year after year fixed capital depreciation had been increasing, it came up to 50-60% in the late 1990’s. When in economic crisis the sector had to live under non-payment and barrier conditions. Such situation made capacity renovation process impossible. Alongside with other natural monopolies electric power supply industry became one of stabilizing factors for Russian economy. Sector services rates grew slower than prices on manufactured products (in 1991-1997 electricity price rise index was 1.3 times lower than commodities price rise index – 11.1 and 14.3 thousand times respectively. Therewith in the mid nineteenth distributed electricity payment share sank to 50%. So, the tasks for the reform at that time were both to way out crisis and non-payment problems solving. The reform seemed to be a single solution to the problem indeed. For example: in Great Britain a main unofficial aim for the reform was to eliminate unclear price systems. Since 2000 electric power industry got stabilized. It was resulting from general economic stabilization in the country as well as anti-crisis plan implementation. In 2000-2001 JSC RAO “UES Russia” almost got non-payments back. The reform itself began in 2003. By that year Russian electric power supply industry almost overcame the crisis and nowadays the reform has some other aim. That’s why reform effectiveness evaluation is rather difficult. It was to be aimed at solving other problems initially. Today the first task is reducing power capacity deficiency through attracting third-party investments in major construction work and development. Therewith not a single country reformed its electric-power supply industry with an aim to eliminate power capacity deficiency. On the contrary, the most countries started their reforms having an excessive power capacity reserve, which was a result of waste-setting in accordance with a rate of returns. And the experience showed that a task of insufficient investment is most dangerous for the liberalization process in the sector. Results of Russian electric-power supply industry reform Now, a reforming process in Russian electric power supply industry enters a final phase: -Almost all Regional Generating Companies (Russian abbreviation ‘TGC’) and Whole Generating Companies (WGC) are formed and most of them got new private strategic investors (including such foreign companies as: E.ON, Enel, Fortum); -Federal Grid company, inter-regional grid companies and System Operator (SO) are established; -Market infrastructure is built, system service, power capacity, obligatory and derivative financing documents markets are at a pre-launch stage; -JSC RAO “UES Russia” will have been

Fig. 1 Electric-power industry organizational structure 2000.

Fig. 2 Organizational target model of Russia electric-power industry.
reorganized on 01 July, 2008.

According to the target reform model a competitive relationship system in power generating sector, distribution and service segment will shape a pricing policy in electric power supply industry to mobilize all resources needed for renovating its fundamental assets, effective sector performance and making the sector a cost-effective business to force its future development through private investing.

One of the mid-term results of the reform is the increase in investment attractiveness of the sector. It caused the rise of generating companies' capitalization and even profile investment funds appeared on the market (Fig. 3). 7 of 20 designated IPO’s were held. These attracted approximately $11 bln to implement development processes. Particularly long-pent-up demand – at the level of 10GW.

2007. Simultaneously, Minpromenergo started to implement an impetus to related branches of industry reforming process, it is necessary to point out some risks.

Supply system reforming process, it is necessary to point out some risks. The most dangerous among them are insufficient investing and monopolization risks. As mentioned above, insufficient investment risk is one of the unsolved sector liberalization problems. For example, Spain experienced power supply deficiency when implementing market relations in the sector. In Russia this risk is enhanced by power shortage. There were significant limitations for Russian consumers in "cold" winter of 2005-2006, but they were also in summer 2006 and even in "warm" winter of 2006-2007. Simultaneously, Mipromenergo evaluates "concealed" power shortage – a pent-up demand – at the level of 10GW.

That’s why JSC "RAO "UES Russia" and Mipromenergo took steps to develop some expansion plans for medium- and long-term range – Holding company investment programs until 2010 and Power supply facilities placement master plan until 2020 respectively. With all this going on, according to JSC "RAO "UES Russia" Investment program in the year of 2010 Russia is to reach a historic volume – 16GW.

Investment process forcing is a step in right direction, because otherwise the country can face decrease in power supply reliability and a long investment cycle for facilities construction is also a reason why the problem must be solved today. But such centralized investment planning contradicts the reform ideology. Investors taking part in allocation process are under Russian Federal Anti-monopoly Service control. Particularly it was impossible to solve the second problem in respect that the second direction is more important now than the first one. The reason is that voluntary energy saving and free-will energy load decrease in peak periods are the only solutions nowadays that can help solve power capacity problem in the short view.

Market monopolization risk is the second important issue. For Russia vertical monopolization is more dangerous than a horizontal one. Horizontal integration processes are under Russian Federal Antimonopoly Service control. Particularly it is forbidden to change TGC and WGC structure until the end of the reform in 2008. Now amendments to the law are being made. They will provide market for antimonopoly control within free-power flow zones (from 16 to 20 of them rough instead of two former price zones). It ensures Federal Anti-monopoly Service (FAS) for total control over mergers and possible market manipulation.

Integration risks in Russia are connected with a fuel-energy balance skew to gas using. Gas generation share in electricity production is 44%, and in thermal power plants’ fuel balance the share is 66% (80% in the European part of Russia). JSC "Gazprom" share in gas deliveries is 70% (171 BCM of 170 BCM in 2006). An absence of synchronized structural transformation process for natural monopolies (power supply system and gas sector) forces JSC "Gazprom" to buy other kind of energy assets. The problem is aggravated by the absence of competitiveness in fuel production. Gas-coal price ratio is 1:1, and competitiveness of the ratio must be 2:1. JSC "Gazprom" and JSC "SUEK" are planning to establish a merger company to solve the problem. The company will become a leader of delivery-market for the power supply system (Tab. 1).

Russian power industry is unique in its structure and has no analogues in the world. That’s why the reforming process and risks are also unique and require a non-traditional approach. Russian power supply sector reforming process hasn’t yet been finished and there is the numerous problems to be solved, including issue related to risks.

Institute of Natural Monopolies Research (INMR) - analyses current situation of Russian economy natural monopoly sectors, interaction and mutual dependences of natural monopolies activity (JSC "Gazprom", JSC "SUEK", JSC "UES of Russia", JSC "Russian Railways"); and also related branches of industry. INMR performs independent professional researches, periodic analysis reports for monopolies parties, business entities’ representatives, scientific organizations and other interested parties. The mission of the Institute is helping for natural monopolies to act in a balanced way and supporting for governmental and corporate control gain its effectiveness in principal industries.

One of the main INMR research issue is JSC "Gazprom" and JSC "SUEK" Russian railway structural reform and strategic development concepts analysis. These companies build up a base of Russian fuel and energy industry, and influence the whole process of Russian economy development greatly.

INMR experts study a number of issues in macroeconomics, specifically concerning such question as:
- Complex analysis of natural monopolies activities,
- State policy analysis with regard to natural monopolies,
- Analysis of reform processes done in Russian economy natural monopoly sectors,
- Natural monopolies competitiveness evaluation in foresight of Russia integrating in world economy.

The Institute studies both natural monopolies and related industries (railway and power engineering industry), and related economic trends in Russia, former USSR and other countries.
Aeroflot is Russia’s national carrier and largest airline.

February 9, 1923 is considered the official birth date of Russia’s civil aviation when the Labor and Defense Council issued a resolution «on empowering the Central Air Fleet Administration to handle technical supervision over airlines and on founding the Civil Aviation Council».

Aeroflot is Russia’s national carrier and largest airline. Founded by the Russian government on 9th February, 1923, Aeroflot is among the world’s oldest airlines and one of Russia’s most recognized brands. Through its hub at Sheremetyevo Airport in Moscow, Aeroflot operates 302 flights per day to 93 destinations in 47 countries in Africa, Asia, Europe and North America.

Aeroflot is Russia’s largest air carrier; in 2006, it accounted for 53 per cent of international scheduled and 12 per cent of domestic traffic in Russia. Aeroflot serves one of the world’s most rapidly growing aviation markets. In 2006, the Russian aviation market increased by more than nine per cent in terms of passenger-kilometres performed, and by 2010, Aeroflot expects to serve 25 per cent of Russia’s domestic passenger market.

Today, Aeroflot is an airline with an excellent safety record, operational reliability and a reputation for industry leading customer service.

In 2006, Aeroflot flew more than seven million passengers, and with its subsidiaries, Aeroflot-Don (Rostov-on-Don) and Aeroflot-Nord (Arhangelsk), a total of nine million passengers. Its passenger load factor ran at 70.1 per cent and its revenue load factor was 57.7 per cent.

Aeroflot operates the highest aircraft utilization rate in the industry. In partnership with both Russian and international carriers, Aeroflot accounts for 51 per cent of Russia’s international scheduled flight traffic. Aeroflot operates code-sharing agreements with 34 foreign and Russian airline companies.

To meet the needs of its passengers, Aeroflot is increasing its fleet and building its own hub in Moscow. As part of its commitment to international expansion, Aeroflot is constructing Terminal 3 at Sheremetyevo Airport in Moscow, scheduled to open in early 2008, to serve its flights as well as those of its SkyTeam partners.

In addition to its existing subsidiaries, Aeroflot is planning to acquire additional airlines with international routes in the eastern region of Russia.

Aeroflot was the first Russian airline to be included in the International Air Transport Association’s International Operational Safety Audit (IOSA) Registry and is one of the few airlines to be fully ISO 9000 safety credited.

As part of its commitment to safety, Aeroflot operates the largest Centre of Flight Control (CFC) and Centre of Flight Staff Training in Eastern Europe, with nine facilities in Russia and abroad.

Aeroflot is committed to deploying the most effective information technologies to increase service quality and economic efficiency and relies on the Sabre booking system to power its Internet bookings.

In April 2006, Aeroflot became the tenth member of SkyTeam, the second-largest airline alliance in the world. Named “The Best Air Alliance” in 2005 and 2006 by readers of Global Traveler Magazine, SkyTeam now provides service to 791 destinations in 162 countries through its code-sharing agreements.

Aeroflot Cargo, Aeroflot’s wholly owned subsidiary based at Sheremetyevo Airport in Moscow, provides regular service to destinations in Europe and Asia. In 2006, Aeroflot transported more than 145 thousand tonnes of cargo.

Aeroflot’s fleet, which is among one of Europe’s most modern, youngest and fastest growing, consists of 81 aircraft, confirming the airline’s commitment to the highest ecological and noise standards.

In 2007, Aeroflot signed multi-billion US dollar deals to buy 22 Airbus A350 jets and 22 Boeing 787 Dreamliners, with deliveries in both cases to start since 2014.

In 2008, Aeroflot is scheduled to receive the new Airbus A330 and the new-generation Sukhoi SuperJet-100.

The Russian government owns 51 per cent of Aeroflot. Legal entities and individuals own the remaining 49 per cent stake.

In 1993 Aeroflot was registered as an open joint-stock company JSC Aeroflot – Russian Airlines shares are traded on the Moscow Stock Exchange (MICEX) under the symbol AFLT. According to the financial indices, Aeroflot is among the top 25 airlines globally. Today, Aeroflot is among the world’s oldest airlines and one of the most modern, youngest and fastest growing, consists of 81 aircraft, confirming the airline’s commitment to the highest ecological and noise standards.

Igor Lobovskiy, CEO of the Global Energy International Prize

- What main trends do you think will dominate the world energy industry in the future?
  - First, the world is now at the turn of two energy eras. The era of hydrocarbons will soon be over and for the first time a set of energy sources will meet energy requirements instead of a sole one. Perhaps, such a set will be differential. For example, biofuel will be designed for motor cars and nuclear, water and air energy – for power generation. Moreover, such a set will be matrix-like, e.g. in one region hydropower industry will play the main role and in another – solar energy. At the same time, it is obvious that hydrocarbons will remain the chief energy source in the short and medium run. At present, despite the wide promotion in global and national mass media, the scope of using each of renewable energy sources is just several percent.

- What role do you think will Russian energy industry is playing in the world now and will play in the future?
  - Let us remember a well-known energy joke: if oil costs $10 a barrel, Russia is a raw appendix of the West and if $100 a barrel – the West is a good-manufacturing appendix of Russia. There is a lot of truth in this joke. And it also explains energy conflicts between Russia and the EU, Ukraine and Belarus. I would like to stress another thing. High oil prices allowed Russian authorities and its most clearheaded people look at themselves and Russia’s great historical role seriously and thoughtfully.

- Perhaps, the awaken consciousness, emerging pride and responsibility are signs of the Russian national idea that has been looking for so long and in vain, aren’t they?
  - Which potentials of the Russian power industry are used insufficiently and can become one of the backbones of its development in the future?

The first thing I think about are geothermal energy sources in the Russian Far East. In 2007, Russian President Vladimir Putin awarded Professor T. Sigfusson from Iceland for the project called Icelandic Hydrogen Energy. The point is that the 50-year programme for replacing hydrocarbon fuel on Icelandic land and water transport was worked out under the leadership of Professor Sigfusson. The achievement of this goal requires some 83,000 t of hydrogen which will be converted into 4 TWh of power. Iceland has already equipped all of its buses with hydrogen engines and will have done the same with all its motor vehicles and fishing fleet by 2010. So, Iceland will be the first country to stop CO2 emissions, release from oil and natural gas thus becoming a kind of Ecoland – the country of hydrogen economy.
In terms of energy sources, it is obvious that within the next 50 years the main sources of energy will be hydrocarbons in one form or another that within the next 50 years should be in line with other countries. In fact, each country has its own nuclear power stations from the fact that these massive demands very high metal consumption and are very large in size. Today there is a demand for traditional energy technology. Moreover, more attention is being paid to the use of solid fuel as a very forward-looking theme. There are two possible options for the development of the situation. Previously mentioned is the steam-gas and facilities and is operated with solid fuel. This is very promising direction. But it is quite complex and expensive technology; therefore, one of the areas related to the use of such steam-power cycle, but in blocks with other parameters. Similar projects are being undertaken in the USA, Japan and some European countries. Using this process, it is possible to improve efficiency by more than 50%. That is practically the efficiency performed at the level of standard steam gas facilities equipped with solid fuel. This is very promising direction.

In my opinion, a national program for the development of future equipment for the long-term should be created. The European program covers the period up to 2015 and the USA program until 2030. And in this case we should be in line with other countries. The next very promising field for development is nuclear energy equipment. It is clear that without the replacement of those facilities that have already served out their life term, without the launching of new blocks, it will not be possible to close out the existing electric power deficiency. Currently there are two directions. First, since the beginning of this year the project of new generation of the nuclear power station-2006 is being realized on the basis of a modernized VVER reactor (pressurized water reactor) which provides the capacity of 1100-1200 megawatt. The initiator of the project was made by Rosatom, as a project should proceed. The next area is with the power reactors and energy facilities with fast neutron reactors. Now such program has begun in the United States, and in Russia this topic will continue to be developed: Rosatom finishes the construction of block BN-800 at Beloyarsk nuclear power plant within the framework of the development and construction of Future Power Plants state program. With regards to hydro-power engineering, first of all, it is necessary to enhance the overall performance of hydro-units through the use improved hydrodynamic solutions, as well as through the use of all types of condensing materials, which, except for high economic performance, will also conform to environmental standards. The commodity market of the power-plant industry in Russia is estimated at approximately $120 billion. Therefore, there is enormous investment interest in this sector from foreign companies. There is great potential related to both the equipment replacement that served out its life term physically and technically, and to the economy and overall rise in energy consumption. The given situation relates to the commodity sector, mining, transportation and processing. In this case it is necessary to stipulate conditions for foreign companies to participate in this process.

But the fact is that power plant industry, power and the defensive industry were only sectors in the country that were fully equipped with the domestic equipment. This has provided decreased cost, decreased maintenance and reduced dependence on external suppliers. Looking at one experience when imported production units were used, it was determined that, despite of all conveniences including: fast delivery, installation and service performance, in the end it turns out to be more expensive than cooperation with local companies. The equipment replacement, coordination and unit support in its life cycle in this case for gas turbines is 50-80 % of the initial prices. There are favorable conditions in the nuclear energy field which 1 believe will emerge by early next year. The government-supported national program financed from the budget should help this process. At this point, there is active cooperation with 80% of foreign countries and there is export of nuclear technologies to China and India. But, it is necessary to realize that this is a strategic national issue, in fact, as a result of similar cooperation, the government receives a partner for several years that is very closely connected with the national economy. Therefore, we need to create our own coalitions, it is necessary to strive for independence of external supplier, since in this case we are talking about energy security.

In terms of hydro-power it is again necessary to solve financial issues. Although, already there activity presents a large potential. Suffice it to mention the joint project Bokyshar station where RAO Unified Energy System of Russia and Base Element "BasEl" participate.
Energoauditkontrol in Russian power economy

Silvian Seu: “Our advantages are integrated decisions and wide spectrum of services”

Peculiarities of Russia’s Unified Energy System – geographic, historical, and technical – in the transition period of market quotation place new demands on automated systems in electric power industry, such as information and calculation, dispatcher control, technological control, etc. Silvian Seu, General Director of the Engineering Centre “Energoauditkontrol,” it institution which is a national leader in automated systems maintenance – explains in detail the questions associated with his business.

- Mr. Seu, what are the principles of your company’s business in Russia?

These principles are the same worldwide. We start from the point that automated systems used in the power economy are complicated and include various kinds of calculation and communication equipment; each of them has its own control software. Such systems are aimed at different targets. For example, systems of commercial electric power calculation are to optimize the expenditures on energy and power used; besides, only with the help of the Automated Information and Measurement System of Electric Power Commercial Calculation (AIMS EPCC) consumers have their way to the market of wholesale electric power.

- What are the services offered by “Energoauditkontrol” in this field?

We offer whole range of services starting from creation, putting into operation and up to further maintenance of automated calculation and control systems. Integrated solutions and wide spectrum of services are among our company’s greatest competitive advantages.

In order to maintain modern information systems there is a need in exclusive professional knowledge. This is a key feature of our company – a team of high-skilled engineers, designers and financial experts who apply comprehensive approach and understanding of the peculiarities of work in the period of reforming. Is it rather difficult to find “universal specialists” able to guarantee quality maintenance of each and every element of the system. On the other hand, hiring numerous maintenance employees is extremely unprofitable for an industrial corporation. As a rule, in case of necessity people hire specialized institutions. “Energoauditkontrol” has considerable experience in offering services to companies scattered on our territory, such as energy suppliers, oil and gas enterprises, transport companies. With such geographic scale you need qualified specialists as well as modern technologies of remote equipment control in every region in order to control energy consumption.

- Could you please tell us a few words about your clients.

- Our clients are most significant Russian companies, known all over the world. Among them Gazprom, Russian Railways, Sibur, Gazprommet, and Mosenorgo. By the way, these companies are major power consumers, for example, “Russian Railways” share on national level is 6 per cent, Gazprom has about 2.5 per cent. Vast geography of their business makes it difficult to control energy consumption. For instance, Russian Railways owns thousands of facilities from Kaliningrad to Vladivostok. We have created calculation and control system which enables us to have centralized access to the information and process it on-line via modern software.

- Is your company running more large-scale projects at present?

- At present we are simultaneously running a lot of projects. It is suffice to say about the systems of commercial electric power calculation for Gazprom and Sibur. They are, of course, not so extended as the AIMS EPCC for Russian Railways but technically sophisticated anyway. It is a real challenge to create a system of the kind in places – I mean gas extraction enterprises – where even elementary analog communication is a problem. Imagine how difficult it is to maintain a steady real time signal. Now you witness the upshot of this work – the monitor witnesses the upshot of this work – the monitor

- What equipment do you use?

- We are geared to exercise world leaders’ products, such as Landys & Gyr who are number one in the world in instrument and system manufacturing for electric power calculation. We also use Echelon, Elton- and Mertonica-equipment. As for transformers, we work exclusively with Russian manufacturers – the Ekaterinburg Plant, Elektroapparat from St. Petersburg, Ramenkoe Plant, and other. We have many suppliers, since the number of equipment items we need for work is about 1,500.

- Please keep in mind that to system upgrading is endless. There are always new products that our specialists have to learn how to work with. No manufacturer offers turnkey technical solutions, ready to use. You always need some debugging in order to unite separate elements into a failure-free and smooth-working system. This is our know how.

- What are the new orientations of the company? What projects do you intend to run?

- Today we run a number of new projects – many of them are still being worked out. We want to diversify our activity. To my mind, calculation in domestic household is very promising. Earlier, in the times of tariff rates for population, it made no sense to study this question. But as the rates are growing up, the problem of precise calculation in this sector will certainly occur – and the activity will seriously develop. We have already started working on retail market AIMS EPCC – such a project is being realized for Russian Railways. It has no analog not only in Russia but in Europe as well. Russian Railways has got the most branched electric chain in our country. Due to that fact the company gives electricity to each and every consumer who has something in common with it. This function is socially important, especially in regions with no other energy supplier. Those who take advantage of Russian Railways business are schools, hospitals, households, small enterprises. Our company’s calculation system for retail clients allows keeping on-line check. This 3-year project is very important for Russia.

- In short, what is your company’s mission?

- Our main mission is to create perfect calculation systems helping our clients to become more efficient and competitive.