Many Sides of Energy Security

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ENERGY IS ONE of the most important areas of cooperation between Russia and the European Union. The fact that their economies are mutually complementary by nature and that they cooperate on a big scale is the key to energy security of Greater Europe. The substantial differences in defining the meaning of "energy security" make it difficult to identify challenges to energy security and find appropriate answers to them. Political motivations further complicate the situation and result in disregarding the political aspects of energy security.

The proposed EU energy security policy aims to reduce vulnerability to fuel supply interruptions and focuses on the rising import dependency and political pressures the EU may face owing to its dependency on imports. The European Commission views energy security as the ability of "EU citizens and businesses to enjoy all the benefits of security of supply and lower prices" which, given an extremely high import dependency, calls for reliable and stable supplies of hydrocarbons at affordable price. The importer countries at the same time tacitly imply that the suppliers absorbs all commercial risks, which is both unfair and not conducive to security of energy supplies after all.

Security of supply is of course of great importance also for energy suppliers with respect to meeting their internal market demands. At the same time, the Energy Strategy of Russia for the period up to 2030 takes into account also security of demand: the Strategy says that energy security threats are determined by "external (geopolitical, macroeconomic, market) factors." The Strategy includes among external threats high volatility of world prices, the growing competition on traditional export markets, insufficient diversification of export, continuing dependence of Russian export on transit countries, and politicization of energy matters.

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Without a doubt, energy security is what both the consumer and supplier aim at while they very often have diverging interests. In order that energy security came to benefit everyone, it should be in the interest of the consumer, supplier and transit countries. Broadly speaking, energy security should consist in eliminating the danger where the factor of energy may impede a country's economic growth in the long term.

An analysis of energy security for Greater Europe should stress:

- stability, or predictability of energy flows based on all manner of supply and demand guarantees. Predictability, of course, does not rule out diversification, nor can it abolish technological progress which brings new players and types of energy resources in the market place;

- appropriate investments in exploration, production and transport infrastructure;

- stability of transport infrastructure in the technical sense and in the sense of political transit risks;

- energy resources pricing mechanisms that can assure low volatility of prices and fair distribution of earnings between the energy producing and energy consuming countries. Without these mechanisms, relations between the countries will inevitably become riddled with economic and political contradictions which may produce unpredictable results;

- a system for regulating global, regional and national markets and their interaction, and especially for harmonizing the operation of market mechanisms and government regulation.

Predictability of Energy Flows

ACCORDING TO THE INTERNATIONAL Energy Agency (IEA) the long-term demand for primary fuels will continue to grow. With the world's largest natural gas resources and being one of the world's leaders in oil resources, Russia is ready for a major contribution to meeting the demand of the world economy, and above all the demand of the economies of Greater Europe. Before the economic crisis, Russia was producing 665 billion cubic meters of gas and 490 million [metric] tons of oil. The Energy Strategy adopted in 2009 calls for boosting, by 2030, the production of gas to 885-940 billion cubic meters and the production of oil to 530-535 million tons. These targets indicate a very optimistic view of the future of Russia's fuel and energy complex, but these targets are achievable none the less.
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The lion’s share of Russia’s hydrocarbons is supplied to its long-standing customers in the European Union, or more than 60% of its gas and almost 70% of its oil exports. Currently, Russia supplies slightly under 30 percent of all natural gas for the EU. To be absolutely fair, the EU is more of a monopolist customer than Russia is a monopolist supplier. Even so and despite its plans to diversify supplies, Russia continues to regard Europe as the main buyer of its hydrocarbons.

In the meantime, very conflicting signals continue to come in from Russia’s European partners. To give an example, the projected amount of natural gas to be consumed in the EU keep falling every year and there is hardly any reasonable explanation for the decline. In 2005, the European Commission forecast it would consume 620 million tones of oil equivalent (TOE) in 2020, 505 million TOE in 2007 and as little as between 345 million and 400 million TOE in 2008. In contrast, the projections of the IEA and Eurogas were 517 million and 578 million TOE respectively.

There is some inconsistency in political statements. Running through all European Commission documents is the objective to diversify the sources of supplies, but when in Russia, EU Energy Commissioner Günter Oettinger said: "The share of Russian gas may go up to 30%-35% in the medium term.” 3 Views range even wider among EU Member States on future supplies of energy resources. Given this political uncertainty, alternative forms of demand guarantees successfully used in commerce are becoming especially important.

Work has been in progress for several years now to agree on strategies and forecasts in order to end the uncertainty among the thematic working groups of the EU-Russia Energy Dialogue. An important step was the signing in Brussels on February 24, 2011 of the "Roadmap of the EU-Russia Energy Cooperation until 2050" which, among other things, contains proposals on harmonizing the energy balance in the EU. The progress report of the bilateral expert groups published in the summer of 2011 suggests a broad range of measures with the aim "to adopt an approach [to drafting a roadmap] that concentrates on energy investments..."
planning perspective and explore optimal strategies so as to define the mutual advantages of energy cooperation.\textsuperscript{4}

\textbf{Investments}

THE OVERALL RESERVES of oil and gas in the world are sufficient to sustain the growth in demand until 2030 and for many years to come. There is, however, no certainty that existing reserves will be developed rapidly enough. Today's world is reaping the fruits of the high prices of energy resources of the 2000s, which encouraged companies to invest in exploration and production. One should remember though that the decisions to invest were made in the early and middle 2000s. Since investments in the fuel and energy sector have sharply declined over recent years, it is likely that, several years from now, demand for hydrocarbons will exceed supply to result in a physical shortage of fuels on the world market. Fluctuations in demand and supply and also volatility of prices worry both producers and consumers. The matter is that today's system of regulating the global market is unable to effectively smooth over the fluctuations of prices because there are no instruments for reconciling long-term interests of different actors and there is no rational basis for the forming of price expectations.

The idea of sharing risks is gaining special importance as the global energy resources market remains unstable. The Russian position was formulated by Deputy Premier Igor Sechin: "Naturally, in entering into new [oil and gas] regions we cannot and do not want to take on all of the risks ourselves. ... Consumer countries, too, cannot remain on the sidelines. It is hardly fair to saddle producers with all of the responsibility for meeting the growing energy needs of humanity without any interruption to supply. Consumers must share these risks with us and make a sufficient contribution to the development of deposits and the transportation infrastructure. ... We must seek out mutually beneficial forms of strategic partnership with world leaders in fuel extraction."\textsuperscript{5}

The need for long-term investments in the fuel and energy sector poses the question of foreign investments and various forms of assets swap. All over the world the countries which possess fuel and energy resources and national companies are tightening control over these resources. Foreign partners are being increasingly involved in the development of oil and gas fields as "junior partners" or "contractors." To date bigger private Western companies control approximately 44\% of oil pro-
duction in the world and slightly more than 50% of gas production; by 2030, their share is most likely to fall to 38% and 40% respectively. The concern among the experts who represent the interests of the major energy companies is understandable. It is not to be forgotten that sovereignty of nations over natural resources is a generally recognized element of international law. Thus, whereas Western oil and gas producing companies are concerned that it is becoming increasingly hard to gain access to mineral resources in other countries, the producer countries are equally concerned over the fact that foreign companies control 44% to 50% of their mineral resources.

Russia and the EC have government control over foreign investments in strategic sectors, one of which is the energy sector. Among the examples where Russian companies' activities have restrictions imposed are the Centrica case and Lukoil's attempts to acquire assets in Greece, Spain and other countries 6 resisted by the national governments. It is not to be forgotten that Russian overall investments in the EU energy sector are of times lesser in scope than European investments in Russia's energy sector. Russia's strategy does not aim to restrict but rather to attract foreign investors provided they take into account the interests of their hosts.

Russia's energy strategy suggests that it would need, before 2030, $1.8 to $2.2 trillion in investments in the country's fuel and energy sector, including $609 billion to $625 billion in the oil sector' and $565 billion to $590 billion in the gas sector. Its own resources will be obviously insufficient. The share of foreign direct investments in the fuel and energy sector is expected to rise to 8% in 2020 and to 12% in 2030. To offer to foreign investors the "semi-colonial" terms contained in production sharing agreements of the 1990s are absolutely out of the question today. In giving foreign investors access to developing natural resources, Russia's goal is more than just earning money for accessing cutting-edge foreign oil technology to develop challenging deposits (like off-shore fields); Russia is trying to get foreign investors in production interested in stable sales of hydrocarbons and guaranteed sales on their national markets. This arrangement naturally combines the interests of the producer and customer while reliably protecting energy security. For example, in August 2011 Rosneft and ExxonMobil signed a deal on cooperation on Russia's Arctic shelf. Overall investments in the project may amount to 500 billion rubles. The gas sector is also open to bidders: In March 2011, the French Total bought 12% of shares of Russia's major
independent gas producer Novatek, and even joined the highly promising Novatek-Yamal SPG project.

**Transit**

TRANSIT HAS ALWAYS BEEN one of the key components of energy security. It is vital for political and commercial quarters to realize that they both are responsible for developing transit infrastructure. This especially applies to deliveries to Europe of Russian gas whose main reserves are in Siberia. Thus, it is necessary to share both the costs and all manner of risks (technical, political, etc.). In practical terms, it is possible to use various cost sharing arrangements, the most natural of which is the co-ownership model used in the construction of the North Stream gas pipeline.

Until recently, the pipelines to Europe (excepting CIS members) could deliver around 170 billion cm of natural gas a year. The record amount of gas was delivered to Europe in 2008 – slightly more than 150 billion cm, including 146 billion cm to the EU. In other words, the pipelines were operating practically at full capacity. Now that the North Stream gas pipeline is in operation, it is critically important for meeting in the long term the growing EU demand for Russian gas which, according to optimistic expectations, could reach 230 billion c.m. in 2030. One should note that the project is unique technologically and meets the strictest ecological standards. The project became possible only through pooling financial, technical and logistic resources of the Russian and European companies. It is important that the European Commission gave the pipeline the status of a priority project.

Smooth transit of energy resources to Europe calls for harmonizing relations with transit countries. Russia has put in much effort in recent decades to put relationships with Belarus and Ukraine on a market footing (to have separate contracts for delivery and transit, introduce a free-market price system and increase transparency of relations by disposing with intermediaries). This was not an easy accomplishment for and Russia and its European partners know this very well. EU consumers, unfortunately, remain hostages to the attempts to wangle advantages as a transit country: Gazprom’s Ukrainian contractors regularly press for revising the signed contracts. It is disturbing to hear that Yulia Tymoshenko has been charged with exceeding her powers and thus to cast doubt on the legitimacy of the gas deals she signed with Russia in the winter of 2009.
Owing to the transit risks of a political nature which Russia and the EU faced more than once during the last decade, it is especially important to have alternative gas routes. The idea behind the North Stream was to boost deliveries of gas and also deliver gas for the first time from Russia to Germany and other West European countries circumventing the transit countries. This does not imply stopping gas supplies via the existing transit pipeline routes. The very presence of alternative routes will discourage the transit countries from siphoning off gas without permission or attempting to increase transit tariffs if the cost of hydrocarbons should increase.

The South Stream gas pipeline is supposed to be yet another alternative. All additional pipelines come at a cost. On top of that, bypass pipelines, similar to the Nabucco or South Stream, cost notably more than the overland pipelines. A high level of trust between the producer, transit countries and customer serves to allay risks and prevent needless costs. However, in the face of serious political risks, the projects to diversify supplies and build bypass pipelines are a paying proposition. It is up to Russia’s European partners to decide if the presumed risk of ending deliveries of gas from Russia warrants the construction of the Nabucco pipeline.

Simultaneously with building more bypass pipelines Russia is working intensively to ensure a stable transit of gas via the existing overland routes. Russia has approved the idea for a tripartite gas transit consortium with Ukraine and the European Union. Unofficial sources speak of the ongoing intensive consultations involving European companies.

The experience of the 2009 gas crisis highlighted the importance of prompt contacts and independent monitoring. Soon after the crisis, Russia and the EU put in place and updated at the beginning of 2011 an early warning mechanism for the energy sector consisting of a range of practical measures in emergency situations affecting deliveries of gas, oil and electric power. Mechanisms like this enhance mutual trust. It could be a good idea to get representatives of the transit countries involved in them.

**Pricing**

THE EXPORTING COUNTRIES are interested in a price formation mechanism that is more acceptable to them. In fair pricing, the production of energy resources is profitable enough for expanded (enlarged) reproduction using the producer's own resources. In the latter case, the
attracting of foreign investments is not dictated by the tasks of “survival” but by comparing the cost or resources and the chances to gain access to new technologies or markets via foreign investments.

More than that, fair pricing should make it possible for producer countries to reserve a considerable proportion of oil and gas profits for developing the other sectors of the economy and community projects. This is not asking too much, it can only make for well-balanced distribution of profits. The share of taxes in the price of oil in most countries of Western Europe is higher than the import price. In other words, the French government earns in taxes imposed on one liter of fuel consumed in France more than do the foreign supplier and the government of the producer country together. According to OPEC estimates, the average annual oil taxes in G7 countries in 2004-2008 reached $684 billion, whereas OPEC revenue was slightly under $669 billion a year.

The distribution of gas revenues is a similar story. According to Gazprom figures, the average price of gas sold to the EU states and Turkey in 2009 was €166.3 per 1,000 cm. At the same time, according to Eurostat, the average price of gas in the EU was much higher: €584 per 1,000 cm for households and €345 per 1,000 cm for industrial consumers. A direct access for foreign suppliers to the end consumer in the EU market can lead – owing to growing competition among suppliers – to the lowering of prices. In all likelihood, the EU has weighty arguments for continued priority of national companies in the retail market.

Gazprom took a very flexible approach to the gas consumption slump cased by the 2008-2009 economic crisis. The company decided against fining European buyers for their failure to take contracted volumes under take-or-pay arrangements, recognizing that the consumption slump was due to objective reasons. Later, Gazprom made temporary price concessions because the difference between formula-based and spot prices put European energy companies in a difficult position. The new accords with companies in a number of EU countries provide for selling up to 15% of Russian gas at spot prices. Independent experts estimate the probable cost to Gazprom of its concessions in 2010 at around $200 million. Needless to say, the talks were so difficult that several cases have been now filed in Stockholm Arbitration Tribunal against Gazprom. This being so, the Russian gas monopoly on the whole took a flexible enough stance. By the

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* Gazprom's long-term contracts with European consumers tie the price of gas to the price of oil in accordance with a special formula. The price in spot markets is based on current supply and demand.
way, now that spot prices in Europe are lower than formula-based prices, European buyers press for and get price rebates. Meanwhile when formula-based prices were substantially below spot prices several years ago, Gazprom strictly adhered to its commitments never insisting on revising the prices in its favor.

Gas pricing in spot markets offers its inherent advantages. The Russian gas industry has gained a good deal of experience working in EU and U.S. spot markets in recent years. In particular, Gazprom's subsidiary Gazprom Marketing & Trading Ltd is trading successfully in spot trading hubs in Great Britain, Belgium, the Netherlands, and France. Notice that gas spot markets can operate efficiently only in the presence of several delivery sources, with reliance on underground gas storage facilities and a high liquidity of the market. Far from all EU countries have spot markets like this. It is therefore rather strange that Poland presses for introducing spot element into the contract price formula of Russian gas while it has no spot gas markets.

At the same time, continued existence of long-term contracts and the pegging of export prices for gas to current oil prices remain the key element of reliability in large-scale export-import deliveries. In the absence of long-term contracts, the amount of gas in the market depends on the attractiveness of its prices. If spot prices are low, plain commercial logic makes the producer to either opt for more attractive markets or withhold gas until better times. Should prices go up, the main gas pipelines could simply prove unable to cope with the peak loads. This may jeopardize supplies of energy resources to Europe. If consumers are keen on having stability, they should be prepared to pay for gas and pay extra for stability.

**Market Regulation**

DISCUSSIONS OF THE ROLE of the government and methods of regulating the sector occupy a special place in the energy security concept. Many experts regard markets as the main source of energy security because they enable supply and demand to react more promptly to shocks and imbalances than a controlled system. The question arises whether an ideal liberal energy resources market or even a comprehensive system of such markets is a practical possibility. The only liberal energy market, perhaps, is the world oil market. Nonetheless, practical experience suggests that stock exchange business mechanisms underlying it result in high volatility of prices. More than 80% of stock exchange deals on the
oil market are made by financial investors. As a result, prices are formed by a "paper market" which is out of touch with actual oil deliveries. Anyone prepared to rely on global energy markets should before that try to believe in "good will" of financial speculators.

Energy security cannot be a spontaneous result of market self-regulation even in the case of high-degree liberalization. To put it more accurately, a liberal (but not free from government regulation) energy market can exist inside one single country, or within a group of countries with the same or similar interests because they have similar supplies of resources and a similar structure of their fuel and energy sectors. A market like this can hardly unite producer and consumer countries, that is to say, it cannot become a genuinely pan-European market. We are not discussing here relationships between the EU and Russia alone: Let's not forget Norway which is completely integrated with the single internal market of the EU, with the exception of the energy and fishing sectors.

Methods for regulating energy markets are not determined by political imperatives but by characteristics of fuel and energy sectors of different countries. Russia's energy market is not as monopolized and controlled by the government as it is commonly believed. Its reforms of the in electric power sector were even more radical than those in the EU. A considerable proportion of oil companies are not owned by the state: its vertically integrated oil companies are under strict control of anti-monopoly agencies. Elements of competition are also being gradually introduced in the gas sector.

On the other hand, the EU energy market is not as liberal as Brussels bureaucrats are trying to portray it. Seven countries, out of 18 EU countries which submitted progress reports for 2008, had three major companies which controlled more than 90% of the retail gas market, in further six countries they controlled 70% to 90% of the market. The proportion of consumers which switched their suppliers (a key indicator in assessing the results of liberalization) was sizable only in three EU countries. End gas prices in EU states varied by a factor of three, electricity prices varied by a factor of more than two signaling a fragmentation of the EU market. In other words, there is, instead of a single competitive energy market in the EU at the moment, a range of national/regional oligopolistic markets which are not linked with each other very much. It is not so much market forces as the growing government regulation that maintains a competitive environment in these markets.

At the same time, EU activities are already creating an atmosphere of
uncertainty for foreign companies which either are investing or are going to invest in transport infrastructure in the EU. A number of rules in the Third Energy Package * calls for removing the present owners from control of the networks or even take away from them the right to own network assets. The use by some EU countries of the toughest EU separation of function rules of the Third Package may contravene standards of international law. In light of this, of exceptional importance is the judgment issued by the European Court of Justice in September 2011 with regard to reserving for Switzerland's ATEL the right to preferential access to high-voltage transmission line built with its financial contribution between Poland and Slovakia. Despite the European Commission's demand to recognize the contract between ATEL and Slovakia as being at variance with the EU separation of functions law, the European Court of Justice decided that the right of ATEL to run the high-voltage transmission line built with its funds was protected by the investment protection agreement between Switzerland and Slovakia and was for that reason legitimate. 11

The ruling of the European Court of Justice demonstrated the colossal potential of bilateral investment treaties for protecting the rights of foreign investors in the energy sector. Preserving bilateral treaties as effective tools for protecting the rights and interests of European companies in Russia and of Russian companies in Europe is an essential element of business stability in conditions of changing national and supranational legislation.

A matter of even greater importance is the extent to which the new liberal rules being introduced in the EU encourage the development of network infrastructure. The answer is given in the directives of the Third Energy Package. Transmission operators are required to harmonize ten-year infrastructure development plans with government agencies, following which government regulatory bodies will be strictly controlling compliance. What is this if not an indirect admission of the fact that a liberalized energy market is in no position to guarantee investments needed for the development of infrastructure?

* The European Union's Third Energy Package aims to further open up the gas and oil markets. Adopted in 2009, it was transposed into national laws of EU countries in 2011. The Third Package, in particular, toughens the separation of energy production, transportation and sales. There are three possible unbundling options: independent system operator, independent transmission operator, and ownership unbundling. In the latter case, the network assets are to be requisitioned from the current owner and transferred to an "independent company."
At the same time, EU countries, while they have the right to order national companies to develop internal networks, cannot give national companies orders to invest in pipelines across their border. What is the incentive for Gazprom to invest in the construction of, for example, the South Stream, without getting preferential access to the pipeline so it would not be able to recover the costs? Obstacles in the path of export-import infrastructure projects are likely to deny the EU chances to meet all of its growing demand for energy resources in the long term. Premier Vladimir Putin wrote in his article for the Süddeutsche Zeitung newspaper: "For all its good intentions, it [the EU Third Energy Package] generates serious risks for Europe's energy economy. It undermines the investors' desire to inject funds into new projects. As a result, in a few years' time, in place of a competitive market we may have an outdated infrastructure, shortage of energy resources, and, as a consequence, high prices for European consumers."  

Instead of discussing the government's role in the realm of energy, it would be a good idea perhaps to discuss the ways in which to combine the more or less liberalized markets of individual countries, or groups of countries, with the fundamentally less market-oriented system of interaction between these markets based, inter alia, on the not totally market-oriented mechanisms like bilateral and multilateral treaties, long-term contracts and predictable prices. Analysis of some forecasts would show that, by the middle of the 21st century, the world market structure will represent an oligopolistic-oligopsonistic game with three major suppliers (Russia, Iran, and Qatar) and three major consumers (USA, EU, and East Asia), which would hardly be a suitable prerequisite for a global liberal gas trade regime.  

Conclusion

ODDLY ENOUGH, the strategies of Russia and the EU have much in common. Both parties intend to lessen their dependence on other countries through diversification of supplies/sales; they are trying to gain access to important external assets (reserves of hydrocarbons or markets), using the energy sector as a major source of funds. Still, both parties remain vulnerable to shocks generated by what are not quite efficient global and regional systems of regulating the energy sector.  

Interdependence between Russia and the EU in energy goes much deeper than natural differences of interests; this also shows in more than
commercial relations alone. The EU is the biggest source of foreign investments in Russia's economy, including its fuel and energy sector. EU companies have technologies essential in developing challenging oil and gas fields in Russia. Finally, they are interdependent owing to the presence of shared pipeline infrastructure and the construction of more pipelines.

It is the deepening of dialogue between the customers and producers of hydrocarbons that could help all energy market players reduce the instability-related risks. The realization of the need for this sort of dialogue in itself (not to mention the body of positive practical experience in this area gained thus far) has come to be one of the most important tendencies in energy around the world and in global energy market. Interaction between Russia and the EU is a striking instance of this tendency. The multilayer system of Russia-EU energy dialogue has been effective for more than a decade now. Under way are efforts to harmonize long-term strategies, balances and regulatory systems under the Roadmap of the EU-Russia Energy Cooperation until 2050. There is an efficient mechanism of prompt contacts in emergencies. The EU expertise gained through the energy dialogue proved very helpful in formulating Russia's strategy for raising energy efficiency. "An energy chapter" should be an important component of a new basic agreement between Russia and the EU. After a long hiatus, there came into evidence the signs of progress in the talks on an agreement on trade in nuclear fuel. Resulting from the distribution of powers between the European Union and the Member States, the bilateral contacts naturally supplement Russia-EU cooperation. Several decades of cooperation have created an atmosphere of trust on the commercial level. Energy security in Greater Europe is no zero-sum game at all: It can be protected solely on the basis of a regulatory system which aggregates the interests of all its members and assures a fair distribution of risks, commitments and revenues. It would be a good idea to make the "Unity in Diversity" (the unofficial motto of the European Union) also its own motto. It is diversity that, within the context of mutually acceptable transparent and stable rules, can assure complementarity and respect for the legitimate interests of all players in the energy market. It is the keystone of progress towards the goal defined by the joint team of experts. "Energy security in the relations between countries on this continent should no longer to be a divisive issue." 14

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8 http://www.gazprom.ru/marketing/europe/


Key words: energy security. Russia-EU relationships. Russia-EU energy dialog.